

NATIONAL CLASSIFICATION OF OCCUPATIONS

DIVISION-7

CRAFT AND RELATED TRADES WORKERS

Craft and related trades workers apply their specific knowledge and skills in the fields of mining and construction, form metal, erect metal structures, set machine tools, or make, fit, maintain and repair machinery, equipment or tools, carry out printing work as well as produce or process foodstuffs, textiles, or wooden, metal and other articles, including handicraft goods.

The work is carried out by hand and by hand powered and other tools, which are used to reduce the amount of physical effort and time required for specific tasks, as well as to improve the quality of the products. The tasks call for an understanding of all stages of the production process, the materials and tools used, and the nature and purpose of the final product. Most occupations in this division require skills at second skill level.

71 EXTRACTION AND BUILDING TRADES WORKERS

Extraction and building trades workers extract and work solid minerals from underground or surface mines or quarries, shape and finish stone for building and other purposes, or construct, maintain and repair buildings and other structures. The work carried out by hand and by hand powered and other tools, which are used to reduce the amount of physical effort and time required for specific tasks, as well as to improve the quality of the products. The tasks call for an understanding of the work organisation, the materials and tools used, and the nature and purpose of the final product.

711 MINERS, SHOTFIRERS, STONE CUTTERS AND CARVERS

Miners, shotfirers, stone cutters and carvers extract solid minerals from underground or surface mines or quarries, charge and denote explosives, or cut and shape stone for building and other purposes.

7111 MINES AND QUARRY WORKERS

Mines and quarry workers extract solid minerals from underground or surface mines or quarries.

7111.10 Pick Miner extracts coals diamond, metal ore etc. .by cutting working face of mine with pick axe where machine mining is not economical or possible . Examines working face. Cuts into seam on sides and floor using pick to loosen rock. Dresses roof and sides of working face, when blasting is complete to remove loosened rock. Breaks bigger rock lumps into smaller size fills basket with broken ore and loads ore into mine cars for transportation to haulage point. May make under cut below coal seam, clear under cut for drilling and blasting and also push loaded cars to haulage point .May be designated as **MINER PICK AXE HAND CUT MINER, HANDCUTTER, FLOOR COAL CUTTER** in case of coal

mining and **MINE DIGGER** if engaged in diamond mining .

7111.15 Miner, Metal extracts metal ores in underground or open cast mines by breaking blasted slabs, dressing roof sides and working face with crowbar, hammer, shovel and pick axe. Strikes working face with crowbar or pick-axe to loosen and drop metal ores. Cuts floor ores with pick-axe and dresses sides properly. Breaks large pieces into smaller ones with sledge hammer, shovels metal ores into baskets and empties them into Chats (large tubes) for onward transmission for processing. May drill hole in roof face using crowbar and hammer to prepare working face for blasting. May separate ore from impurities. May be designated as **MUCKER** or **MUCKING MISTRY** if engaged in copper mines.

7111.20 Miner, Mica extracts crude mica from working face in mica mine with chisel and hammer after blasting. Strikes working face

NATIONAL CLASSIFICATION OF OCCUPATIONS

with chisel and hammer to extract mica after it has been loosened by blasting. Dresses roof and sides to extract loosened mica blocks. May fill bags with mica blocks for transportation to factory. May drill holes in working face for blasting. May blast mica bearing veins with explosives during hand cutting.

7111.25 Miner. Coal; Coal Cutter; Coal Puller extracts coal from coal pillars inside mines using crowbar and pick-axe after coal pillars are blasted by Shot Firer. Strikes sides of pillar with pick-axe or crowbar to loosen and drop coal from pillars. Cuts working face with pick-axe and dresses hanging coal from roof and sides with crowbar. Breaks coal lumps to convenient sizes and shovels them into tubs. May set loaded tubs on tram lines. May be designated as C. P. MINER(Coal Pillar Mines) if does charging and blasting of shot holes as well; and as MINER DEPILLARRING if gets it done by Shot Firer.

7111.30 Quarryman, Stone; Miner Stone, extracts various kinds of stone from quarries or open pits. Removes loose soil and mud from surface and sides of blasted deposits using shovel. Removes slabs of stones from earth with crowbar, wedge or pick and breaks them into convenient size using sledge hammer Dresses rough surface of stone and granite blocks by chipping and cuts them as instructed to required shape and size .May drill shot holes in quarry face for blasting. May sort out ore and mineral according to quality.

7111.35 Quarryman, other extracts china clay, lime stone, fire clay and other non metal deposits from quarry by cutting breaking etc. using pick axe, crow bar, spade and other tools. Digs soil to reach deposits. Drills specified shot holes of required depth in rock faces for blasting by SHOT FIRER. Extracts lime stone, china clay, fire clay and other deposits from blasted quarry faces using shovel pick axe, crowbar etc. Breaks large pieces in to convenient size with hammer and gets them removed or specified place. May charge and ignite explosive. May specialise in extracting china clay using pick axe, shove land spade. May carry basket filled with china clay to specified place. May dewater

quarry with pump or bucket, remove mud and perform alike duties if required.

7111.40 Main Header, Colliery construct narrow roads for opening new works, cuts air passages and blocks old roads in coal mine. Receives instructions on dimension and location of gallery (Tunnel or passage in coal mine) to open new work. Cuts tunnel passage according to specification using mechanical devices and hand tools, inserting pipe range for pumping operations, exploring strata to know behaviour of roof, etc. Cuts air passages and blocks old roads by drilling, blasting etc. Shovels coal, rock and refuse from corners and working areas into cars to prevent interference with mining operations and circulation of air. May also be engaged in shaft sinking.

7111.45 Stone Cutter, Mines makes holes or cuts stone or rock faces in mine with machine or hand tools such as power drill, crowbar, chisel etc .for putting up support or constructing brick foundation. Marks portion of roof and footwall to be cut for insertion of prop. Cuts face of hitches underground and makes hole to desired depth according to diameter to prop, using power drill, crow bar, chisel hammer etc. Removes rubbish and erects roof supports. May drill shot holes for bringing down roof or blowing floor. May build roadways and pack walls of air ways.

7111.47 Roof Bolter, Mining operates machinery to install roof support bolts in underground mine. Drill bolt holes into roofs at specified distances from ribs or adjacent bolts. Forces bolts into holes, using hydraulic mechanisms of self-propelled bolting machines. Installs truss bolts traversing entire ceiling spans. Positions bolting machines, and insert drill bits into chucks. Positions safety jacks to support underground mine roofs until bolts can be installed. Removes drill bits from chucks after drilling holes, then inserts bolts into chucks. Rotates chucks to turn bolts and open expansion heads against rock formations. Tests bolts for specified tension, using torque wrenches. Tightens ends of anchored truss bolts, using turnbuckles.

7111.49 Mine Cutting and Channeling Machine Operator operates machinery--such as longwall shears, plows, and cutting machines--to cut or channel along the face or seams of coal mines, stone quarries, or other

NATIONAL CLASSIFICATION OF OCCUPATIONS

mining surfaces to facilitate blasting, separating, or removing minerals or materials from mines or from the earth's surface. Cuts slots along working faces of coal, salt, or other non-metal deposits in order to facilitate blasting, by moving levers to start the machine and to control the vertical reciprocating drills. Determines locations, boundaries, and depths of holes or channels to be cut. Drives mobile, truck-mounted, or track-mounted drilling or cutting machine in mines and quarries or on construction sites. Moves controls to start and position drill cutters or torches, and to advance tools into mines or quarry faces in order to complete horizontal or vertical cuts. Moves planer levers to control and adjust the movement of equipment, the speed, height, and depth of cuts, and to rotate swivel cutting booms. Observes indicator lights and gauges, and listen to machine operation in order to detect binding or stoppage of tools or other equipment problems. Repositions machines and move controls in order to make additional holes or cuts. Signals that machine plow blades are properly positioned, using electronic buzzers or two-way radios. Charges and sets off explosives in blasting holes.

7111.50 Timber man, Mines; Timber Mistry, Propping Mistry examines roof and side walls of haulage-ways, air passages, shafts, galleries, etc. inside mine and erects timber or steel props frames etc. to support them. Collects material near work site and examines roof and sidewalls of haulage-ways, air passages, shafts, galleries etc. inside mine. Takes measurements off from floor to roof to decide height of prop required. Cuts props and logs to required length. Erects props on secure foundation and tightens them against roof using rectangular blocks. Installs ladders, chutes, cribs and other frame work to support roof and walls using saw, axes, hatchet, hammer, spikes and wedges as necessary. Ensures removal of woodcuttings from work place. May also drill holes in roof and walls for timbering purposes and drive roof bolts. May remove or replace defective props.

7111.55 Creeperman Colliery; Creeper Khalasi operates creeper (endless link chain with catchers or conveyors) for raising coal tubs on surface to higher level. Sets up link

chain with conveyor at surface or from working face in mine. Joins conveyor sections on frames and connects power unit or switches on. Regulates conveyor or link chain tension by operating controls. Tends chain to transport coal or metal ore. Cleans, lubricates and makes minor repairs to conveyor and power unit as required. May supervise Loaders who shovel material into conveyor. May operate mechanical scoop to lift material on to conveyor. May keep conveyor track free from obstruction to prevent jamming and damage.

7111.60 Stowing Mistry; Boxing Mistry erects props and barricades of bamboo mattings and hessian cloth around coal depillaring areas for compactly filling them with sand, to prevent caving in and collapsing of roof. Examines area around coal pillar to erect roof support. Collects materials such as props, barricades to bamboo mattings, hessian cloth, etc. Cuts them to required sizes and erects them to support roof. Couples up sand stowing pipes and signals to sand mixing chamber on surface to release flushing of sand and water. Observes sand filling operation till vacuum is tightly packed to roof face and rendered safe from collapsing. Signals to surface sand chamber to stop release of slurry (mixture of sand and water) when filling is complete. May build stonewall packs to support roof. May recover supports.

7111.65 Packer, Rock packs waste rocks compactly against roof after extracting operations in mines to prevent it from collapsing. Sorts waste rock from broken ore manually and packs them tightly against roof in drives, iron-cuts or in stopes (working places) to prevent collapse and loosening of hanging and broken ores. May assist Mucker in copper mines.

7111.68 Sampler, Mining marks metal bearing rock faces for cutting grooves, measures sample section, chisels out minerals sample from grooves and marks them for analysis. Determines and marks sample section according to rock surface and grades of mineralisation for groove cutting. Examines grooves cut by groove cutter along mineral bearing rock faces and gets defective cutting re-cut by groove cutter along mineral bearing rock faces and gets defective cutting re-cut by groove cutter. Checks groove distances from fixed points using ladder and rope. Cuts

NATIONAL CLASSIFICATION OF OCCUPATIONS

samples from grooves and different section of mine to obtain representative samples. Bags and marks sample with details of location and sends them to laboratory for analysis .May estimate quantity and grades of deposit contained in marked position by taking necessary measurements .May plot location of samples taken from working faces on mine maps.

7111.70 Groove Cutter, Mining cuts groove of specified dimensions along marks made by sampler for extracting sample from metal bearing rock faces in mine. Marks grooves along mineralised portion of rock face and cuts grooves by chipping defective portion if necessary. Assists sampler in cutting samples. May scrub and wash grooves.

7111.72 Bratticeman; Brattice Mistry installs partitions in mine for regulating circulation of air through passages to working places. Cuts timber props to required size erects them along gallery at required place and fixes brattices (made from bamboo matting, canvas or mild steel plate) on them. May also undertake other kind of timberwork underground. May also erect masonry structure to control proper circulation of air.

7111.74 Driller, Hand makes shot holes of required depth in coal, metallic and non-metallic rock-faces using crowbar, drill rods and hammer. Examines marking for drilling on rock face. Sets crowbar against marking and gets it struck with heavy hammer by his co-worker, each taking his turn with hammer, uses water while drilling to cool drill rod and keep down dust, till hole of required depth is made. Cleans shot hole for charging with explosive. May drill shot hole using drilling machine. May drill hole singly using hand hammer and crowbar.

7111.75 Shaft Mistry maintains cages, pulleys, winding gears, etc. and ensures compliance of regulations for working of hoisting system. Examines shafts and shaft fittings, guide ropes, pulleys, cages, etc. for efficient performance. Checks safety-hooks, safety plate, governor, fencing, brakes, signal, banking lever, head gear, pulleys etc. to ensure smooth working of shaft. Locates faults and undertakes minor repairs and replacements of defective parts as necessary

and maintains their records. May perform other fitting operations of general nature.

7111.76 Banksman; Ringer Bell; Ringer controls movement cage at shaft top and directs Winding Engine Driver and Onsetter for its raising and lowering with men or material by electrical or mechanical code signal system. Adjusts catch inside cage and closes cage fencing for securing safety of men or material. Signals to Onsetter and Winding Engine Driver by means of electrical buzzer or bell system for lowering and raising cage to transport men and materials at various levels. Observes movement of cage and sets keps (Bearing up stops for supporting cage or load at beginning or end of hoisting in shaft) by operating hand lever to rest or release cage from keps. Opens cage fencing and unloads contents. Checks fencing, keps, cage-doors, guide shoes, chains, signal and reports irregularities to superiors. May be designated as **ONSETTER** if engaged at shaft bottom and as **BELLMAN** or **SIGNALMAN, MINES** if engaged, at winze (shaft sunk from one level to another in mine) or at landing.

7111.77 Jack Man; Cage Man, Mine gives signals for movement of cages used to raise and lower men, car and supplies between various levels and surface of mines and load and unload materials Directs movement of cage by signaling to banks man or hoist Driver by means of electric bell or buzzer system. Runs loaded car to position near shaft and pushes them on to cage. Pulls empty cars from cage and runs them on to station siding for distribution in mines .May pull loaded cars of cage and replace them with empties.

7111.78 Scraper Driver, Mines; Scraper Operator, Mines; Scraper Loader Hoistman; Scraper Loader Operator operates electric or compressed air scraper machine or collect and deposit blasted rocks. Moves scraper into working place and sets it up securely on timber foundation. Sets snatch blocks (pulleys over which scraper cables run to change direction) and anchors them firmly to some post or side wall. Makes power connections and starts hoists. Manipulates levers according to signal to operate cables to hoist or lower scraper hoc and drag scraper along track to collect loose one or rock and dump them at specified place or into chute or car beneath. Reverses hoists, drags scraper

NATIONAL CLASSIFICATION OF OCCUPATIONS

back for another load and repeats process. Moves machine from place to place in mine for operation as required. Repairs or replaces broken ropes, lubricates pulleys and performs minor running repairs to hoist and equipment. May work as Mining Sirdar, if experienced and qualified, when required.

7111.80 Shovel Operator, Mines, Shovel Driver; Rock Shovel Driver; Mechanical Shovel Operator operates pneumatic or electric shovel to load mine cars or tubs with wastes or mineral rocks blasted inside mine. Checks performance and safety points of shoveling equipment. Moves it to working place and advances it into pile of coal, ore or rock to be loaded for removal. Switches on and starts machine. Manipulates sets of hand levers and foot pedals to force shovel into pile, lift it and dump contents into cars or tubs placed along side. Advances machine into pile as digging progresses and repeats operation to load material into car or tub. Moves machine from place to place in mine according to requirement of work. Lubricates, adjusts, and makes minor running repairs to machines as required. May mix rocks of different sizes or wet or dry ores to prevent jamming of crusher machine.

7111.85 Trammer (Mines) Trampusher, Trolleyman pushes loaded and empty mine cars on track to specified places in mine or quarry with or without haulage engines. Sets track points and controls movement of cars or tubes using sprags (timber props or short pieces of wood, used to prevent wheels of train from revolving while pushing onward. Adjusts stop block and runway switches in track for taking safety measures May load ore or rock into cars at working faces .Is designated as **SURFACE TRAMMER** if working on surface and **UNDERGROUND TRAMMER** if engaged in underground work .

7111.90 Mines and Quarrymen and Related Workers, Other include all other workers engaged in mining, quarrying, well drilling and related activities, not elsewhere classified.

7112 SHOT FIRERS AND BLASTERS

Shot firers and blasters determine location and force of explosions required, charge and

detonate explosives to fragment or dislodge coal, ores, rock or other solid minerals in mines or quarries, or to clear building sites and similar places.

7112.10 Shot Firer; Blaster; Dynamite Man conducts blasting operations in mines and quarries by charging drilled holes with requisite amount of explosives. Examines holes and areas to be blasted. Ensures that shot holes are properly drilled and cleaned before charging. Determines quantity and type of explosive to be used; loads shot hole with cartridges of explosive. Stems hole with clay, sand or other suitable stemming to prevent shot from blowing out. Signals Shot Firer Operative nearby to take safety measures. Couples fuse or cable to detonator lead. Splits end of fuses with knife or connects cable to electric exploder. Lights fuse or operates key of exploder to ignite explosive. Follows signal and restrains entry of workers at place of explosion before exploding and until atmosphere in area is free from dust, smoke or fumes. Directs Stone Duster to spread stone dust over roof floor and sides of roadways for suppressing coal dust explosives. Takes prescribed precautions in case of misfire. Maintains logbook for recording quantity of explosive used, number of shots fired and misfired, if any. May drill shot holes in quarries and mines using pneumatic or hand drills.

7112.90 Shot Firers and Blasters, other perform variety of routine and low skilled tasks such as carrying explosive, detonator and fuses holding light or torch for Shot Firer cleaning holes and danger areas, conveying messages of accident and misfire, picking shot holes with explosives, preparing clay balls, cleaning and dressing loose stuff etc. and may be designated as **Explosive Carriers** carries explosive in rock containers.

Short Fire Helper; Blaster Helper assists shot Fire in charging holes and guarding place of work etc. Stone Duster spreads stone dust over roof, floor and sides of roadways for suppressing coal dust explosions.

NATIONAL CLASSIFICATION OF OCCUPATIONS

7113 STONE SPLITTERS, CUTTERS AND CARVERS

Stone splitters, cutters and carvers break quarried stone in to slabs or blocks, or by using hand or hand powered tools cut, shape and finish stone for building, ornamental, monumental or other purposes.

7113.10 Stone Sawyer, Hand saws large rough blocks of building or monumental lime stone, marble, granite, sandstone etc. into slabs or small blocks with hand saw. Places and adjusts block of stone in working position and marks out line for cutting. Sprinkles water and hard sand or other abrasive on it to facilitate sawing. Holds one end of saw with both hands on marked line over stone block exerting sufficient pressure to make incision on marked line and continues operation, sprinkling water and abrasive as required till stone is sawed. May roughly size and directs helper to hold other end of saw. Cuts stone block carefully by stone block before marking and sawing.

7113.20 Stone Cutter, Hand cuts and shapes building and monumental stone from rough blocks or slabs of granite, marble etc. using pneumatic and hand tools. Places rough stone blocks or slabs in working position with aid of crane, hoist or other means. Marks out dimensional lines for cutting according to specifications. Cuts block to required size, shape and other specifications by drilling, chipping, splitting and chiselling stone with pneumatic and hand tools. Checks size and shape frequently to ensure accuracy and prevent deep cutting.

7113.30 Stone Dresser, Hand chips and chisels stone to required size and shape and joins surface using hand tools. Examines and selects blocks of granite, marble or other stone according to prescribed specifications. Places it in working position, measures it with measuring instruments such as scale, caliper-compass, etc. and marks it out according to specification for cutting. Chips off unwanted portion, sprinkles water over stone to serve as coolant and gradually finishes it to required size and shape. Checks size and shape frequently while chipping. May cut decorative designs on stone surfaces. May drill holes in stone if required.

7113.40 Stone Carver carves out figures, letters and artistic designs on stone blocks, slabs or pillars to be erected or laid for construction of buildings, temples, monuments etc., using hand tools. Studies drawings, designs, models, nature of carving and artistic features to be carved on stone. Selects appropriate stone such as granite, green stone, soap stone, marble, etc. as required. Places stone in working position and lays out figures, designs, artistic features etc. on surface of stone with chalk, pencil or ochre solution by freehand sketching with drawing instruments and tracing papers or by taking measurements from model. Applies thin layer of oil, if using granite stone and carves out roughly along outline using hand hammer and chisel of different shapes and sizes. Files rough surfaces and brushes off dust as necessary while working. Sprinkles water on rough carving if working on stone other than granite and continues carving using small hammer and fine chisels. Drills holes with hand drill, as designed, using water as lubricant and smoothens object to desired finish by rubbing with stones. Checks work frequently against sketch or model while carving to ensure accuracy. May cut deep slits using saw blades. May carve out letters and figures and inlay them with lead or stone of different colours. May first make clay model of carving to be done.

7113.50 Stone Polisher, Hand; Stone Finisher polishes and finishes surface of stone by rubbing it evenly with block of stone or other abrasives. Places stone in working position on floor or working bench with aid of helpers, hoist or crane. Sprinkles water and chambal sand on surface of stone and rubs it with different kinds and grades of powder pumice or other abrasives, pours water frequently on surface thoroughly with water to remove abrasives. Rubs surface of stone with polishing powder and cloth pad after primary rubbing to obtain lustrous finish. May specialise in polishing particular kind of stone, such as marble or granite and be designated accordingly. May use portable polishing machine.

7113.90 Stone Splitters, Cutters and Carvers, other include those stone splitters, cutter and carvers not elsewhere classified.

NATIONAL CLASSIFICATION OF OCCUPATIONS

7119 MINERS, QUARRY WORKERS, SHOTFIRERS AND BLASTERS, STONE SPLITTERS, CUTTERS AND CARVERS, n.e.c.

This Family covers workers not classified in Group 711, Miners, shot firers, stonecutters and carvers. Workers in this Family separate, dress, screen and make leaves of mica; operate power driven crushing machines, stamp mills, coal washing plant, etc.; tend cyanide tanks, and precipitators for recovering silver, gold and such other metals and perform other functions related to mineral treating.

7119.10 Safety Lamp Checker checks locks and air leakages of miners safety lamps and searches persons against carrying any igniting material before going underground .Checks miners safety lamps at pithead by blowing them with compressed air jet to ensure that they are properly locked and there is no leakage .Searches persons going underground against carrying any contrabands .May keep count of number of men underground by checking number of lamps issued and checked .

7119.20 Cobber, Mica; Rifter, Mica; Shearer, Mica separates waste rock and inferior quality mica from crude mica pieces by hand or with knife. Removes waste rock from crude mica pieces by manually splitting into layers with hand or knife. Examines mica blocks visually for damages, stains etc. and removes defects by chipping them out with knife. May dress mica blocks with sickle to remove impurities and inferior mica.

7119.30 Sickle Dresser, Mica; Cutter, Mica dresses cobbled mica blocks by chipping out broken and damaged portions with sickle for further processing. Examines mica blocks visually to detect defects, stains, etc. and determines damaged and broken portions to be dressed. Riffs defective layers, if necessary, and dresses it to different sizes by chipping out broken and damaged portions with sickle. May do knife dressing and grading of mica blocks.

7119.40 Screener, Mica screens out loose split mica to desired sizes using rope-mesh-screen. Positions screen in inclined position. Drops loose split mica leaves at upper end of

screen and shakes it with attached rope to allow small sized leaves to drop through screen holes and to get larger sized leaves collected at its foot. Removes large sized mica leaves from screen frame for further processing or packing.

7119.50 Knife Dresser, Mica dresses sickle dressed mica blocks by slicing broken or damaged edges with knife. Weighs sickle dressed mica blocks. Examines them visually to detect stains, damages, etc. Dresses out blocks of desired sizes by slicing damaged edges with knife, ensuring minimum possible wastage. Weighs dressed mica blocks to determine amount of resulting wastage. May sort and grade dressed mica blocks.

7119.60 Film Splitter, Mica; Condenser, Mica splits dressed and graded mica blocks into films of desired thickness by hand or using double edged knife. Examines blocks to determine uniformity of dressing and resplits them if necessary by hand or knife into films of desired uniform thickness. Measures thickness of films with micrometer and sorts them into pliers according to thickness. Cuts films to specified shape and measures area with gauges to ensure conformity with specification. May be designated as **Loose Splitter** if engaged in splitting up loose mica blocks into leaves by hand and as **Book Form Splitter** if engaged in splitting graded mica blocks with double-edged knife.

7119.70 Deep Cell Attendant; Flotation Man controls floatation process in concentration plant to recover copper from pulp(pulverized ore mixed with water). Measures density and alkalinity of pulp using meters and indicators to ensure proper floatation. Regulates airflow into concentration plant to agitate pulp and regulates water supply into cells as guided. Records data of pulp density, reagent feed, alkalinity, airflow etc. and submits them to appropriate authority.

712 BUILDING FRAME AND RELATED WORKERS

Building frame and related workers construct, maintain and repair foundations, walls and other main parts of buildings and other constructions, both internally and externally.

NATIONAL CLASSIFICATION OF OCCUPATIONS

7121 BUILDERS, TRADITIONAL MATERIALS

Builders, traditional materials erect, maintain and repair small and large buildings and other structures by using traditional building techniques and materials such as bamboo, hay, straw, reeds, mud, planks, poles or leaves.

7121.10 Hut Maker; Cottage Maker; Shanty Maker erects huts, cabin or similar dwellings with wooden planks poles, logs, bamboos, hay, straw, reeds, dry leaves, etc., collects necessary materials required for construction. Measures ground using pegs and ropes and marks outline of hut by digging earth along lines. Digs earth at marked points using spade, shovel etc. and fixes bamboo or wooden posts securely in pits to serve as supports and pillars. Places poles horizontally on top of pillars and ties ends with strings or ropes. Fixes rafters to roof of hut in slanting position to set hay straw or leaf as roofing material. Covers sides of structure with straw, hay and plans of coconut, mango trees, or others allowing space for doors and windows. Places rafters as required to secure and strengthen structure. Levels floor by ramming it with mixture of paste of mud, water and straw dust, using hand ramming wooden blocks and makes it smooth and habitable. May thatch huts. May set tiles for roofing huts.

7121.20 Thatcher constructs roofs of huts and cottages from straw rashes, reeds or dry palm leaves using shears or trimming knife. Collects straw, dry leaves, reeds and bamboos of required length. Spreads leaves, grass or reed as roofing material over rafters or bamboos frame and securely ties them with twin rope as required. Covers openings with extra straw or leaf to make it waterproof. Trims edges uniformly to make sides look even. Places thatched frame over roof of hut with assistance of others and positions it securely by fastening it with rafters and beams. May construct straw huts and small dwellings. May do rethatching of cottage and hut roofs.

7121.90 Builders, Traditional Materials, other include all those workers who erect, maintain and repair small and large buildings and other structures by using traditional

building techniques and materials such as bamboo, hay, straw, reeds, mud, planks, poles or leaves not elsewhere classified.

7122 BRICKLAYERERS AND STONE MASONS

Bricklayerers and stone masons erect and repair foundations, walls and structures of brick, stone and similar materials.

7122.10 Stone Mason; Stone Setter; Stone Fixer builds stone walls, pillars and other structures by sizing and setting dressed or undressed stones. Receives instructions regarding nature and type of work to be done. Cuts stones to required size prior to setting by chipping with chisel and other cutting tools and gets them dressed or dresses them if necessary. Gets mortar prepared by labourers and spreads it with trowel bit by bit over area where stones are to be fixed. Fixes stones manually one by one in position and sets them by tapping with hammer. Checks vertical and horizontal alignments of set stones with plumb bob, ensures correct setting by alterations if necessary and fills in gaps in between stone slabs with stone chips and mortar. Removes excess mortar with trowel to smoothen joints and stones to raise structure as required. May dismantle masonry and reset girders if necessary. May do plastering, repairing and ornamental work. May lay stones on levelled ground to construct floors pavements, streets, etc. May erect scaffolding for construction work.

7122.20 Bricklayer, Construction; Brick Mason lays brick with mortar, and other construction material to construct and repair building-walls, arches, chimneys, floors, pillars and other structures. Receives instructions regarding nature and type of work to be done. Directs Labourers to prepare mortar in required proportions and water bricks. Spreads mortar by trowel over foundation or laid bricks and lays bricks by hand in horizontal rows or designs and shapes per approved specification. Taps bricks with trowel to embed them firmly in mortar and ensures correct vertical and horizontal alignment of brick setting by sight or with string and plumb bob. Closes gaps in between bricks by filling with half bricks and mortar and by tapping with trowel. Fixes wooden frames, lay lime concrete over roofing and sets girders in position. May dsmantle

NATIONAL CLASSIFICATION OF OCCUPATIONS

masonry for reconstruction or facility of work. May do plastering, decoration pointing and repair work. May erect scaffolding.

7122.30 Bricklayer, Refractory builds and repairs furnaces, ovens, kilns, fireboxes, fire places and other high temperature structures by laying and setting firebricks and refractory blocks, using chemical heat resistant cement, fireclay, mortar etc. with hand tools. Receives instructions from appropriate authority regarding nature and type of work to be done. Spreads minimum possible fireclay mortar evenly over furnace with trowel and lays and taps fire bricks or refractory blocks in position in correct alignment according to specification. Seals joints with fireclay mortar or chemically resistant cement to bind bricks together making provision for expansion of joints in furnace in linings. Prepares support to proper curvature to replace arched roofs of furnaces or to construct new ones as directed or specified. Patches portions of furnaces with fireclay, as necessary and removes excess of mortar. May specialise in building and repairing particular type of high temperature construction. May replace linings of ladles or tapping sports of furnaces. May build newsmoke tunnels.

7122.40 Pavior lays bricks and stone on levelled ground to make floors, pavements, streets etc. Receives instructions regarding type of pavement, floor or street to be laid and other specifications and collects materials required. Directs Labourers to level surface for laying bricks and stones for required construction. Lays stone slabs or bricks in line on levelled ground, by sizing them if necessary with brick hammer and trowel and tapes them to get set firmly in position. Checks alignment while laying using straight edge and spirit level and fills gaps in between with chips, bricks bits, cement etc.; May do prestressed and R.C. (reinforced concrete) work.

7122.50 Tar Mistry; Bitumin Mistry supervises and guides laying of asphalt (complex mixture of hydrocarbons) or other bituminous (Inflammable mineral substance) material over roads, roofs etc. for surfacing and water-proofing. Gets drums filled with asphalt and other bituminous material heated on fire and ensures proper melting and

mixing of contents. Directs workers to place "templates" (Pattern of wood, iron etc. used as guide for levelling) on road or roof for proper laying and setting of asphalt and other material. Puts on thin padding or rubber gloves to protect himself from burns, guides pouring of molten material or base and spreads it uniformly over set area with mop brush or other device. Ensures uniformity and even spreading of tar or bituminous materials on surface and applies subsequent coating if needed. Lays tar over angles and corners with special care and directs workers to apply sealing coat (spreading of gravel or sand over tar coating). Removes template and allows laid material to dry in sun before use. Is designated as **BITUMIN SPRAYER** if engaged in spraying hot liquid bitumen on road surface with spray gun connected with supply hose to tar heating tank. May use special thermometer to ensure required temperature of molten tar.

7122.90 Brick Layers, Stone Masons and Tile Setters, Other include all other workers engaged in brick laying, tile setting, stone masonry and like tasks, not elsewhere classified.

7123 CONCRETE PLACERS, CONCRETE FINISHERS AND RELATED WORKERS

Concrete placers, concrete finishers and related workers erect reinforced concrete frameworks and structures, make forms for moulding concrete, reinforce concrete surfaces, cement openings in walls or casings for wells, finish and repair cement surfaces and carry out terrazzo work.

7123.10 Concrete Moulder; Cement Block Moulder moulds and finishes cement concrete blocks of various shapes and sizes such as sills, beams, railing, flower vases and other construction and decoration articles. Examines drawings and other specifications and draws approximate estimates of material required. Selects wooden mould of required size and pattern. Mixes cement, sand, lime etc. and prepares cement concrete mortar by adding requisite quantity of water to them. Places and fixes required number of sized iron rods into mould and pours cement concrete mortar into it. Rams concrete with iron rods to make it compact. Levels surface of mould by filling with concrete and smoothens it with trowel and wooden smootheners. Allows concrete to settle

NATIONAL CLASSIFICATION OF OCCUPATIONS

for specified period in mould for hardening. Removes shuttering, soaks it in water for curing and gets it dried in shades. May cut artistic designs on cast material before it gets hard.

7123.20 Cement Finisher finishes surfaces of concrete structures and smooths surfaces of freshly poured concrete sections. Cuts ridges, bumps and projecting wire from concrete surface with chisel and hammer. Patches holes and broken corners by wetting them, spreading mortar into them and smoothing surface with trowel or float. Removes blemishes from and smooths surface by wetting or applying liquid mixture of sand, cement and water and rubbing with abrasive black. Finishes surface by wiping it with damp brush. Levels, smooths and shapes surfaces of freshly poured concrete sections with straight edge and float for fine finish and edging tool to shape corners. May specialise in particular type of concrete finishing work and be designated accordingly.

7123.90 Concrete Placers, Concrete Finishers and Related Workers, other include all other workers who erect reinforced concrete frameworks and structures, make forms for moulding concrete, reinforce concrete surfaces, cement openings in walls or casings for wells, finish and repair cement surfaces and carry out terrazzo work not elsewhere classified.

7124 CARPENTERS AND JOINERS

Carpenters and joiners cut, shape, assemble, erect, maintain and repair various types of wooden structures and fittings.

7124.10 Carpenter, General makes, assembles, alters and repairs wooden structures and articles according to sample or drawing using hand or power tools or both. Studies drawing on sample to understand type of structure or article to be made and calculates quantity of timber required. Selects timber to suit requirements. Marks them to size using square, scribber etc. Saws, chisels and planes wooden pieces to required sizes and makes necessary joints such as half lap, tenonmortice, dove-tail etc. using saws, planes, mortising, chisels, drills and other carpentry hand or power tools as required.

Checks parts frequently with square, foot rule, measuring tape etc. to ensure correctness. Assembles parts and secures them in position by screwing, nailing or doweling. Checks assembled structure with drawing or sample; rectifies defects if any, and finishes it to required specifications. Alters, repairs or replaces components in case of old structures or articles in similar manner. May glue parts together. May smoothen and finish surface with sand paper and polish. May fix metal fittings to structure and polish. May fix metal fittings to structure or article made. May calculate cost of furniture. May sharpen his own tools.

7124.20 Carpenter, Construction; Carpenter Building makes, assembles, alters and repairs doors, windows, frames and other wooden fixtures of building using hand or power tools or both. Studies drawings or samples and calculates quantity of timber required. Saws over size pieces by power or hand tools or collects lumbers for making various components. Plans two sides of above pieces, marks off dimensions using tri-square, scribber, pencil etc., and reduces them to required sizes by adzing, sawing and planing. Marks off different members, cuts them as required and shapes and makes tenon and mortise, half lap and other joints by sawing, planing, chiselling, drilling and filling. Checks pieces frequently while sizing and shaping to ensure correctness. Assembles framework step by step by gluing, cramping, dowelling, nailing and screwing as required. Examines finished article for accuracy. Fits metal rods, hinges etc., to wood work where necessary and rectifies defects in fittings if any. Sharpens his own tools. May erect scaffoldings if necessary.

7124.25 Carpenter, Structural builds, erects and repairs wooden structures such as building frames, stage and studio fixtures, roofs, walls, wooden shingles etc., using hand or power tools or both. Studies drawing or sample or receives instructions regarding structure to be built and calculates quantity of timber required. Selects required type of timber and marks them for dimension using measuring tape, square, pencil, etc. Sizes different parts from oversize pieces by sawing, adzing and planing using power or hand tools. Makes necessary joints such as tenon and mortise, scraf, half-lap etc., for joining different members. Checks pieces with square, measuring tape, foot rule etc., to

NATIONAL CLASSIFICATION OF OCCUPATIONS

ensure correctness. Assembles different parts or panels step by step to form complete structure. Sharpens his own tools. May carve designs and polish structures.

7124.30 Carpenter, Village makes and repairs country ploughs, carts, doors, windows, frames and such other agricultural and domestic articles by simple carpentry processes using hand tools. Studies sample and selects required type of timber and other materials. Cuts oversize pieces, as required by sawing, adzing, chiselling and planing. Marks with pencil, marking gauge or line and reel. Shapes different pieces and makes necessary joints by planing, drilling, chiselling etc. Assembles them part by part by nailing dowelling or screwing as necessary. Fits metal tyres to sheels, blades to ploughs, hinges and hasps and staples to doors etc., and ensures their proper functioning. Sharpens his own tools. May fit wooden wedges to tighten joints. May perform simple blacksmithy tasks.

7124.35 Joiner, Wood joins and assembles prefabricated wooden-plank boards, building-fixtures, etc. using hand or power tools or both. Collects prefabricated planks of required sizes. Joins required number of planks with double ended nails to form sides of structure. Assembles framework step by step by nailing or screwing. Sharpens his own tools. May fit strengthening band or mild steel hoop by nailing or screwing for strengthening boxes and cases, if necessary. May make crate for packing. May be designated as **WOODEN BOX MAKER; CARPENTER, PACKING CASES** if engaged in making wooden boxes or packing cases of specified dimensions.

7124.40 Loftsmen, Ship Building develops full size measurements from drawings to prepare templates for manufacture of shell plates and other parts of ship. Studies drawings, considers elevation and draws full scale drawings with chalk on scribe board (wooden board on which various measurements are marked to enable drawing of shell, shell plate, margin plate etc. for ship, to develop full scale templates to be prepared) for making templates. Draws full size lines of ship body on scribe board, ensures that plans of drawings of adjacent components agree and fit accurately and

draws them to full scale on it using scale contours, chalks etc. Instructs Carpenter in preparation of templates according to dimensions drawn on scribe board and marks instructions on them with ink for guidance of fabrication section. Issues templates to concerned section, explains details of measurements for fabrication of steel panels to form various components of ship body and receives them back after use. Stores templates in prescribed place for further use and maintains their account.

7124.45 Shipwright erects props and temporary structures to stabilize and support ship during construction and repairs in shore. Aligns ship structure according to designed centre line and angle of declivity and plots and marks reference points and lines on building dock or way to maintain alignment of vessel during construction or repairs, using transit, plumb bob, tapes and levels. Builds keel blocks, bilge blocks, cradles and shoring for supporting slip in dry dock, building docks etc. using power and hand wood-working tools. Positions and secures blocking and other structures on dock platform according to ship's blue-prints. Aligns vessel over blocks and establishes reference points and lines on ship's hull for locating machinery and other equipment in accordance with ship's alignment and shape. Fabricates and installs furring pieces (timber strips of constant width but varying depth), aprons, uprights and other wood framing in ship according to specifications and shapes and finishes them. Nails or bolts metal fittings, plates and bulk heads to wooden parts of ship using brace, drill bits, augers, spanners etc. and ensures correct alignment of hull, frame and fittings. Levels ground ways, runners wooden blocks etc., erects props, fastens standing ways by wire ropes, fits launching triggers and performs related tasks to make up and prepare entire launching ways to launch ship. Gets all material and timber salvaged after launching for use in subsequent operation.

7124.50 Lascar Stager, Ship Building erects temporary wooden structures and scaffoldings for placing staging planks inside and outside ship under construction or repairs to facilitate work. Erects steel or tubular uprights and ledgers or cross bars for resting staging planks as guided by Serang and keeps them secure from strong winds and accidents. Assists

NATIONAL CLASSIFICATION OF OCCUPATIONS

Shipwright, Wood as directed and dismantles scaffoldings and other wooden structures to arrange launching of ship. Is designated as **SERANG, SHIP BUILDING** if engaged in building and supervising erection and removal of wooden structures and scaffoldings and related tasks. May assist Shipwright in aligning ship structure and perform other tasks as guided.

7124.55 Carpenter, Ship alters, repairs and maintains structural wood work and wooden gears on board ship by various carpentry processes such as sawing, planing, fitting, railing etc. Examines nature of damages and defects on board ship and builds flows, doors, partitions etc. using saws, hammers braces and other carpentry tools. Moves controls of winch and windlass to raise or lower anchor. Greases running gear and anchor windlass and replaces defective chains or stanchions on life-lines or guard rails. May sound water tanks with tape and plum bob, compute findings and maintain log book.

7124.60 Joiner, Ship; Burmadar constructs and installs cabins, bridge shelters, steering wheel, skylights, berths, guard rails etc. in ship under construction or repairs. Receives blue prints (drawings) and necessary instructions for construction and studies them. Obtains construction materials, wood planks lumber (sawn wood of all description) etc., as specified and measures and marks them. Identifies different types of mooring and steering gears and cuts, shapes, smoothens and assembles wooden parts using hand and power tools. Lays wooden decking and linoleum and fixes light metal fittings, port glasses etc., by cutting and grinding them to size as required. May caulk seams of wooden decks. May do cold storage installation work. May read drawing and prepare simple sketches.

7124.65 Carpenter Mistry, Boat Building designs boats and guides Carpenters, Boat Building, Wood Sawyers, Hand etc. in constructing them according to specifications. Designs small boats and rafts; watches construction of templates, ribs, planking etc.; and guides construction at every stage of checks; laying of keel, setting of templates, fitting of ribs etc. and corrects them if necessary. Checks broken ribs and prescribes dimensions for fitting new ones. Examines

planks for 'grains', instructs carpenters to insert small pegs where 'knots' are found and ensures correct rivetting of planks on ribs. Draws 'mould loft' (full scale drawing) based on design on platform and guides Carpenters in engine, devit (side crane), winch and other installations, shaft alignment, rudder fitting, copper-sheet fitting, cabin fixture settings, etc. on boats. May supervise workers in saw mill attached to boat-building yard if required.

7124.70 Carpenter, Boat Building constructs and repairs boats, launches dredgers, barges etc. according to prescribed specifications by various carpentry processes. Lays keel on wooden fixtures and fits stem, stern and templates as to keel with bolts and nuts. Places cut planks on skeleton of boat to ascertain suitability and remodels their shape, if required, with hand tools. Seasons planks and ribs (wooden reapers) either with steam in masonry steam box (gutter) or by applying oil over articles, heating them on fire and bending them lightly with hand as required. Fixes planks on templates with brass screws, nails ribs on bull with copper nails and rivets planks and ribs together as specified. Fits wooden clamps, mounts and fixes stringers (thick wooden planks) knee (wooden block between wooden clamps and built joints inside hull) etc. as required. Removes templates from completed boat. Bores holes over required part of hull, fixes engine foundation, lowers engine on foundation by chain block and secures it in position with bolts and nuts. Determines propeller shaft alignment and bolts shaft to engine coupling. Hoists and fixes decks, chains, mast, booms etc. on boat as per requirements. Fits copper sheeting over outer portion of hull with copper nails and fixes rudder, rudder-shoe, exhaust pipe and such other accessories on boat as specified. Performs all wood work repairs to boats, luges etc. under guidance of Carpenter Mistry, Boat Building. May construct wooden accessories for boats such as engine foundation, templates, ribs etc.

7124.75 Caulker, Boat Building caulks seams of deck, hull and keel of boat with caulking material, using hand tools. Mixes caulking materials such as caulking cotton and cakum in coconut oil or pitch in castor oil. Makes clearances with chisel on seams and plank joints where required. Inserts caulking material by hand and blunt chisel inside clearances

NATIONAL CLASSIFICATION OF OCCUPATIONS

made and beats with hammer to push caulking material lightly into them. Observes caulked portions to ascertain defective caulking and rectifies them by inserting further layers of material, if necessary. Melts rosin and vep oil in fire and strains and mixes it (mixture) with required quantity of quick-lime to make 'Putty'. Applies putty by hand over caulked portions on boat. Examines and applies final touch as putty where necessary. May prepare putty with paint, chalk and linseed oil to apply it over portions above water level and where copper sheetings are not provided.

7124.80 Carpenter, Small Arms; Butt Maker makes butt and fore-end of small arms according to type of weapon, using power and hand tools. Studies drawings or sample and other specifications. Selects right type of seasoned wood and marks it for different dimensions. Saws, planes, drills holes and makes slots, grooves etc. as specified using power and hand tools, frequently checking it with measuring instruments to ensure desired accuracy. Fits finished butt and fore-end to barrel ensuring correct centre line, balance, weight etc. as specified and smoothens it with sand paper to required finish. May do ornamental, patching and repair work. May fix metal fixtures to butt and fore-end.

7124.90 Carpentry and Joinery Operatives, other perform variety of routine and low skilled tasks such as sawing, cleaning, rough planning, drilling etc., and may be designated as Carpenter Mate, Carpenter Helper, Joiner Helper, etc.

7129 BUILDING FRAME AND RELATED TRADES WORKERS, n.e.c.

This Family covers building frame and related trades workers, not classified elsewhere in Group 712, building frame and related trades workers. For instance in this Family those occupations should be classified which involve miscellaneous construction and building maintenance tasks.

7129.10 Well Digger digs wells to obtain water and for constructing base for structural columns and pillars. Examines earth to select digging implements such as shovel, hammer, etc. Locates area and marks outline on

ground. Digs pit by excavating earth with pick axe and shovel and bails out excavated earth using basket. Fixes tripod structure over well to facilitate digging and bailing out of mud from depth and repeats process of digging and excavating earth to required depth. Sets baked earthen or prefabricated cement concrete rings from water level upto surface in well to prevent caving of surrounding soil into it. Raises surface structure around well by securely setting some more cement or earthen rings or gets cover wall constructed around it upto suitable height to prevent accidental fall into it. May get brick wall gradually constructed and sunk around total depth of dug earth in well, particularly in areas having soft soil. May pump out water through bucket or hand pump. May blast rocks with dynamite.

7129.20 White Washer applies white or colour wash in wall ceiling etc. using hand brush. Studies colour scheme and estimates material required. Selects lime or colour according to specification and prepares colour or white lime solution mixing it with water. Strains mixture and visually tests its density and shade. Makes end of washing brush soft and uniform. Scrapes and cleans surface to be white washed and washes wall or ceiling with lime or colour using hand brush. Examines washing after drying and applies second coat on defective patches to make it look uniform. May do minor plastering repairs.

7129.90 Building Frame and Related Trades Workers, other include workers engaged in building frame and related trades tasks not elsewhere classified.

713 BUILDING FINISHERS AND RELATED TRADES WORKERS

Building finishers and related trades workers cover, apply or install, maintain and repair roofs, floors, walls, insulation systems, glass in windows or other frames, as well as plumbing, piping and electrical systems in buildings and other constructions.

7131 ROOFERS

Roofers cover, maintain and repair roof frameworks with one or more kinds of materials.

NATIONAL CLASSIFICATION OF OCCUPATIONS

7131.10 Tile Layer, Roof lays and sets tiles over rafters joining them with mortar to make roofs of buildings. Measures location for each row of tiles over rafters and estimates quality and quantity of material required. Marks guide lines with chalk. Discards defective tiles and places good tiles in position on buttons over rafters adjusting them in grooves by hand as required and cutting and shaping them wherever necessary for proper setting and alignment. Inserts nails or cement mortar in between tiles to fix and make them water tight. Fills gap between tiles or covers exposed nails with cement. Cleans surface of tiles using gunny bag and water. Ensures proper setting of tiles by observation and using alignment string and wooden level. May replace broken tiles and punch holes where required.

7131.90 Roofers, Other include all other workers engaged in roofing buildings and structures such as those setting and fixing galvanized iron, asbestos sheets, or other materials for roofing purposes, mending leakages in them by repairs or replacements, etc., not elsewhere classified.

7132 FLOOR LAYERS AND TILE SETTERS

Floor layers and tile setters install, maintain and repair parquet and other kinds of flooring, or they cover floors, walls and other surfaces with tiles or mosaic panels for decorative or other purposes.

7132.10 Tile Setter; Tile Layer fits and sets tiles to walls, floors and ceilings of buildings according to specified design using cement or other mortar and hand tools. Receives instructions regarding specifications, layout and material to be used. Soaks tiles in water to prepare them for setting. Applies mortar or cement coat over wall with trowel and lays tiles aligned in rows according to pattern. Checks alignment of tiles laid with straight edge, levelling hoard, spirit level etc., makes adjustments if necessary and taps them with trowel handle to get them set firmly. Sprinkles dry cement over freshly laid concrete for laying floor tiles and ensures proper bond between cement and tiles while laying. Cuts and shapes tiles for corner pieces, fills gaps with cement as necessary and ensures proper joining setting and

alignment. May erect scaffolding for setting ceiling tiles.

7132.20 Concrete Mixer, Mosaic Tile makes ready mix (mall) for making mosaic tiles by mixing cement, marble chips and other colouring ingredients in water. Studies requirements of customers and evolves colour pattern scheme and shades. Measures required quantity of cement, marble powder or chips and colouring powder (oxides) and places them in container. Adds prescribed quantity of water to mixture. Mixes it uniformly using hand trowel to make paste of required consistency. Places ready mix (mall) near tile presser for making mosaic tiles. Checks whether mixture conforms to required colour and shade by making sample tile and alters proportion of mixture to attain required colour combination if necessary. May operate tile pressing machine.

7132.30 Tile Presser, Mosaic makes coloured mosaic tiles for floor walls etc. according to design. Places metal mould of required size on table, cleans it with brush and applies linseed oil on it surface. Fills mould manually with prescribed quantity of cement mixture (mall) containing marble chips or powder. Levels mixture in mould using metal spreader. Sprays dry (nead) cement powder over mixture for absorbing moisture when pressed. Fills layer of cement powder with wet mixture of cement and sand and closes mould with metal lid or cover. Places filled mould under hand or hydraulic press and operates it by levers to press mixture in mould to form tiles of required shape. Removes pressed mould and dismantles frame. Removes pressed tile places it on racks for drying before curing it in water and repeats process. May repair hand or hydraulic presses.

7132.40 Planer, Mosaic Tile operates planing machine to grind surface of mosaic tiles to evenness and to expose marble chips to view. Starts machine fitted with revolving circular metal plate. Places tiles on revolving bed of machine with smooth side of tiles facing metal plate on entire area of circular bed. Fills tanks placed above machine with water and sand and opens them to allow water and sand to fall on rotating bed in prescribed ratio. Watches tiles getting ground by mixture of water and sand in metal bed for prescribed period of time and ensures required finish. Removes ground or planed tiles from bed of machine and replaces

NATIONAL CLASSIFICATION OF OCCUPATIONS

them with fresh tiles. Keeps place neat and tidy.

7132.50 Mosaic Layer; Terrazzo Layer lays mosaic surface and floors according to specified designs using stone chips cement sand etc. and gives glossy finish to surface. Examine drawings and pattern of mosaic laying and estimates material required. Selects material like stone chips of required colour, cement, sand etc. and mixes them together in water or takes up mosaic panels, mosaic tiles, stones, ceramic, opaque coloured glass and similar other material as designed. Prepares ground by setting levels and laying cement mixture or lime mortar to required thickness. Allows cement floor to set and dry. Rakes-out (clips off) cement floor with trowel or otherwise to create unevenness over surface and spreads coating of mosaic plaster material over it. Levels and smoothens it with trowel and wooden smoothener and cures it with water for specified period. Grinds surface with stones to give glossy finish. Pour noadcement (Mixture of cement and water) on surface for grouting, lays mosaic tiles and panels on it according to design, if necessary after sizing them, levels them with wooden leveller to ensure uniform height and fills gaps in between them with cement of matching colour if engaged in laying precast tiles and panels. Ensures proper setting and cures laid tiles and panel, sprinkling water as required. Cleans surface by rubbing with polishing machine or hand grinding stones and cleans it with gunny bag. May apply finishing and shining polish. May cut mosaic panels out of bigger pieces.

7132.60 Parquetry Floor Layer lays all kinds of ornamental parquetry floor designs according to lay-outs furnished by Architect. Studies design and shapes and finishes required type of wood accordingly. Covers sub-floor with building paper or other material to protect wood from moisture. Nails wood flooring according to design, if necessary by further tooling to suit dimensions. May secure floor to mastic or asphalt base without using nails. May hammer narrow strips of wood into place on asphalt-mastic base.

7132.90 Floor Layers and Tile Setters, Other include all other workers engaged in

floor laying and tile setting, like tasks, not elsewhere classified.

7133 PLASTERERS

Plasterers install and repair laths and apply plaster to walls and ceilings of buildings.

7133.10 Plasterer plasters walls, ceilings and other surface of structures with cement, lime, mud or other mortar using hand trowel, level etc. Mixes sand, cement, lime brick powder etc. in required proportion adding water to it to prepare plastering mortar. Wets structure to be plastered with water to ensure proper adherence; spreads plaster with trowel to give preliminary coating. Levels and smoothens primary coat of plaster with straight edge, shapes borders to guide second coating and scratches surface of primary coat to provide bond for subsequent coating. Plasters area to be covered with primary coat and allows it to set for sometime ensuring that it does not get dry before final coating. Applies thin layer of finish plastering coat over surface, makes out corners and angles to suit it and smoothens plastered area with straight edge and trowel. Directs and supervises sprinkling of water for curing during plastering and watches drying and final outcome of surface. May undertake ornamental plastering.

7133.90 Plasterers, other include workers who install and repair laths and apply plaster to walls and ceilings of buildings not elsewhere classified.

7134 INSULATION WORKERS

Insulation workers apply and repair insulating materials to buildings, boilers, pipes or refrigeration and air-conditioning equipment.

7134.10 Building Insulator, Hand applies slabs or bats (sheets) of insulating material, such as cork or spun glass, to walls, floors and ceilings in buildings. Examines drawings and other specifications. Nails or wires bats of insulating material, such as rock wool or spun glass to interiors of walls, on altic roots and on bottom of floors, or spreads hot asphalt on surface and embeds courses of cork slabs in it, or spreads cement mortar with trowel on slabs and sticks them to surface. Nails slabs to walls and ceilings for additional security. Saws slabs to make them fit at ends of courses and around

NATIONAL CLASSIFICATION OF OCCUPATIONS

outlets and fixtures. May construct interior insulating walls by fixing courses of compressed cork blocks one upon another with cementing substance. May finish cork surface of walls and ceilings with plaster or spread concrete over floor slabs to form wearing floor.

7134.20 Acoustical Insulator applies adhesive sound absorbing material upon ceilings and other surfaces with power driven machine to reverberation of sound. Prepares machine for operation by filling container with insulating material. Starts machine and directs hose nozzle towards surface to be covered. Applies insulating material to surface in even layer of required thickness. (Excluded are workers who fit acoustical boards by hand to surfaces).

7134.30 Insulator, Boilers and Pipes applies insulating material such as asbestos mastic, cork, felt or mineral wool to exposed hot or cold surfaces of equipment such as boilers, pipes or tanks. Cleans surface of object to be insulated. Binds heavy wires around object and attaches small tie wires to them. Applies base coating of asbestos mastic or insulating cement to surface or covers object with layer of insulating material. Covers base or coating or layer with wire netting to reinforce insulation. Fastens netting in place with small tie wires. Applies one or more coatings over wire netting and smooths final coat with trowel. May cover object with felt bound with wire or with gauze covered with plaster of paris. May cover insulated pipes, etc., with strips of canvas or sacking. May paint or whitewash insulating surface.

7134.40 Insulator, Refrigeration and Air Conditioning Equipment insulates refrigeration and air-conditioning equipment with various materials, such as cork or asbestos, to retain desired temperature. Shapes, trims and smooths insulating sheets and blocks to cover and to fit parts of equipment such as expansion chamber, condenser and piping. Applies waterproof cement to insulating material and surfaces of members to be insulated and presses them together. Secures insulating material with wire and wire netting. Applies one or more layers of asbestos plaster over wire netting with trowel. Packs walls or partly assembled

casing with sheets or loose particles of insulating material. May apply insulating material to hot or cold air ducts and pipes.

7134.90 Insulators, other include all other workers engaged in various tasks in insulating plants, buildings and equipment, not elsewhere classified.

7135 GLAZIERS

Glaziers cut, fit and set glass in windows, doors, shop fronts and other frames.

7135.10 Glazier; Glass Fitter; Glass Setter (Construction) cuts glass panes or plates to required size and shape and sets them into doors, windows, skylights, show-cases, partition of buildings etc. using hand tools. Measures frame where glass is to be fixed and selects required type of glass sheet. Marks glass according to measurements, cuts it along markings and smoothens edges using hand tools. Mixes chemical ingredients in set proportions to prepare putty for fixing glass. Cleans frame in which glass pane is to be fixed and secures it in frame with nails, metal spring or spring clips. Applies putty evenly on edges firmly to secure glass pane on frame and smoothens with blunt knife or otherwise to ensure desired finish. May fix glass in metal frames by providing rubber lining.

7135.20 Glazier, Vehicle cuts ordinary and pressurised glass or moulded cellulose acetate to correct size and fits them in frame of windows, wind-shields, and doors of automobiles, aircrafts, railways and tram coaches etc. edging them with rubber or leather packing. Measures size of door, window, wind-shield frame etc. where glass is to be fixed. Selects appropriate type of glass, cuts it with cutting tool according to requirements and smoothens edges with hand grinder. Heats pressurised and shatter proof glass panels along marked line and breaks it by pressing with hands to required size. Fixes channeling rubber, rubber-lining or leather around edges of glass and sets and secures glass firmly in groove. Oils locks and sets locking chain device while fixing glass panels in automobile doors and ensures their easy raising and lowering operations. Checks and ensures proper setting and fixing of glass by tapping it with hand to feel resistance to wind vibrations

NATIONAL CLASSIFICATION OF OCCUPATIONS

produced in running vehicles. May polish glass.

7135.30 Picture Framer; Photo Framer

Cuts glass, frame pieces and cardboard to required size and mounts pictures and photos in frame. Measures size of pictures and cuts frame pieces to required size. Cuts joints at ends of wooden frame pieces and fastens them together with nails to make frame. Places glass sheet on working bench and marks outlines according to required measurements. Cuts glass along marking with cutting tool and smoothens its edges. Cuts plywood and cardboard pieces to size using hand saw and scissors. Fixes Glass in frame, puts picture facing glass over it and places cardboard and plywood on reverse of picture. Drives small nails suitably on rear of frame to hold mounted picture compact and secure glues plain or decorative paper at back; fixes hook on frame to facilitate hanging. Is designated as MIRROR FRAMER if specialised or engaged in framing mirrors. May use only cardboard on reverse side for mounting ordinary pictures. May polish or varnish picture and mirror frames. May grind glass edges by grinding machine.

7135.90 Glaziers, other include all other workers engaged in different tasks, glazing operations in vehicles, buildings and other structures, not elsewhere classified.

7136 PLUMBERS AND PIPE FITTERS

Plumbers and pipe fitters assemble, fit, install and repair plumbing fixtures, or pipes and pipeline systems.

7136.10 Plumber, General lays out, assembles, installs and maintains sanitary fittings and fixtures, sewage and drainage systems, heating and sanitary systems, gas and water pipe lines etc. Receives instructions from Sanitary Engineer or Civil Engineer regarding lay out of pipes, gas or water mains, position of fixtures and fittings, etc. Examines drawings or other specifications regarding size and dimensions of area where sanitary fittings or pipe are to be fitted or laid. Marks points at places to indicate position for fixing brackets and laying pipes. Drills passage holes in walls or floor of premises and fixes necessary

brackets, stands, holders etc. to keep or hold fittings and fixtures in position, using nuts, bolts, clamps etc. and tightens them with hand tools. Cuts reams, threads and bends pipes as appropriate. Ensures that pipe lines are laid properly by Pipe Fitter. Joins pipes with sockets, Tees, elbow etc. or with molten lead or lead wool. Caulks joints (operation of making joint seam tight to withstand pressure) and tests them for leaks with pneumatic or hydraulic pressure. May repair and maintain sewerage and pipe lines by replacing washers on leaky faucets, mending burst pipes, opening clogged drains, etc. May do lead burning, dressing and bossing of lead pipe and sheet lead, inlaying of wooden tanks, construction of septic tanks etc.

7136.20 Pipe Layer; Sewer Pipe Layer

lays concrete, stone ware or clay pipes to form sanitary drains and sewers. Receives instructions regarding size and type of concrete, stone ware or clay pipe to be laid. Digs or gets earth dug along marked lines using spade, picks etc. to make trenches for laying pipes. Levels and smoothens bottom of trenches to proper gradient by scooping with shovels. Receives pipes of required size lowered into trench manually or by pulley and adjusts their position by hand or crow-bar for correct levelling and vertical and horizontal alignment. Joins pipes together using appropriate couplings, joints, rings etc. and closes joints by caulking with fibre and cement to prevent leakage. Tests joints by hydraulic or pneumatic pressure after sealing. Fills trench with earth to cover laid pipe and rams earth to avoid sinkage. Is designated as PIPE LAYER WATERMAINS or WATER MAINS FITTER if engaged in laying cast iron or galvanized iron water pipe mains and in caulking their joints with lead to prevent leakage. May lay pipe lines to provide water connection to houses, sanitary sewers etc. May fix meters to stopcocks, remove defects from pipe lines and replace defective ones.

7136.30 Pipe Fitter lays repairs and maintains, pipes for supply of water, gas, oil or steam in buildings, gardens, workshops, stores, ships etc., according to drawings or instructions. Examines drawings and other specifications or receives relevant instructions. Cuts passage holes for laying pipes in walls and floors. Cuts reams, threads and bends pipes according to specifications. Lays pipes in cut passage and assembles pipe sections with couplings, sockets, Tee's elbows etc. Levels position of

NATIONAL CLASSIFICATION OF OCCUPATIONS

pipes using spirit level for gravitational flow. Caulks joints, tests them for leakage with pneumatic or hydraulic pressure and secures pipe line to structure with clamps, brackets, and hangers. Fits water meters, taps etc to pipe where necessary. Repairs and replaces leaky pipe lines, taps and joints and provides connections to overhead water tanks. Helps Plumber, General in fittings sanitary fittings to buildings. May join pipe sections and fittings.

7136.40 Straightening Machine Operator, Iron and steel operates hydraulic, mechanical or pneumatic straightening machine to straighten girders, bars, tubes, joints, plates, angle irons, rails, etc., to required accuracy. Sets metal to be straightened between fixed supports on machine bed using crane and with assistance of helpers as necessary. Locates bent portion of metal to be straightened, by sight, scale or level. Starts machine. Manipulates hand wheel of machine to lower or raise moving ram of machine over metal object to be straightened. Adjusts stroke of ram to required pressure according to nature and extend of bend. Changes position of metal object either by turning or shifting it by hand or moving it to position by hoist for removing bend to required accuracy. Checks object by sight or with straight edge, scale or level to ensure that curves or bends are straightened to required accuracy. Removes straightened metal object from table with assistance of helpers or using hoisting equipment. May oil and clean machine. May do minor repairs to machine.

7136.50 Puncher, Metal punches, drills and countersinks holes in strip-plates, boiler frames and other metal parts by machine or hand tools. Studies drawings and other specifications to understand nature of punching operation required. Selects proper size punch and screws it into upper jaw of machine. Hoists and places plate to be punched between die and punch. Aligns hole mark on metal part accurately under punch. Starts machine and releases foot pedal to cause punch descend through plate and cut hole over marked area. Changes position of metal and repeats punching operation. May oil and clean machine.

7136.60 Pneumatic Chipper operates pneumatic chipper and removes excess metal

and scrapings from metal products and fixtures such as castings, fixtures, girders, joints etc. Examines metal objects and other structural assemblies and marks areas with chalk requiring chipping of excess metal or burrs to give smooth finish. Connects air nozzle of pneumatic chipper to high pressure air supply pipe. Fits cutting chisel or tool to chuck or spindle or chipper as appropriate. Starts chipper to rotate chisel or cutting tool at high speed and chips off excess metal and burrs from castings, rivetting points, joints, angles etc., by pressing it over marked area. Manipulates machine as necessary and observes metal getting smooth finish. Stops machine and examines chipped area for finish and accuracy by feel of hand or by using tools. Cleans and oils machine periodically.

7136.90 Plumbers and Pipe Fitters, other perform number of routine and low skilled tasks such as assisting in laying pipes, making water tight joints, fitting sockets and reducers, threading pipes with taps and dies, removing leakages, etc., and are designated as Plumber Mate or Pipe Fitter Helper according to type of work done.

7137 BUILDING AND RELATED ELECTRICIANS

Building and related electricians install, maintain and repair electrical wiring systems and related equipment.

7137.10 Electrician, General installs, maintains and repairs electrical machinery equipment and fittings in factories, workshops power house, business and residential premises etc., Studies drawings and other specifications to determine electrical circuit, installation details, etc. Positions and installs electrical motors, transformers, switchgears. Switchboards, Microphones, loud-speakers and other electrical equipment, fittings and lighting fixtures. Makes connections and solders terminals. Tests electrical installations and equipment and locates faults using megger, test lamps etc. Repairs or replaces defective wiring, burnt out fuses and defective parts and keeps fittings and fixtures in working order. May do armature winding, draw wires and cables and do simple cable jointing. May operate, attend and maintain electrical motors, pumps etc.

NATIONAL CLASSIFICATION OF OCCUPATIONS

7137.15 Electrician (Mines) studies the details of the mines and relevant drawing, etc. to determine the electrical circuits, installation details, etc. Installs in mines, lights and switches, motors, transformers, switchgears, switch board fittings and lighting fixtures whether flame proof or not within the mine or relating to the mines. Maintains and repairs the electrical machinery equipment, caplamps, other fittings in mines, etc. Tests the electrical installations and equipments as prescribed under the mines regulations and Indian Electricity Rules. Locates the faults using megger, test lamp, etc. Repairs defective wiring, burnt out fuses and defective parts and keeps fittings and fixtures in working order. Operates or maintains electrical motors, pumps, etc. including those which are in flame proof fitting, intrinsically safe apparatus, etc. Conversant with general rules of maintenance of the electrical equipment and wiring as per the mines regulations and Indian Electricity Rules. Knows how to test for methane gas and able to switch off electricity from the concerned part of the mine where percentage of methane gas is more than 1.25%. Observes all safety precautions on the switching side avoiding sparking. Knows conversion of AC and DC; conversant with the electrical hazards within the mines. He is also responsible for thorough examination of all apparatus (including the testing of conductors and metallic coverings for continuity) as often as may be necessary to prevent danger, examination and testing of all apparatus erected or re-erected in the Mine before it is put into service in a new position. He is personally responsible for the maintenance at the mine of a log-book made up of daily log sheets prepared in the prescribed form.

7137.20 Wireman, Light and Power installs various kinds of electrical wiring such as cleat, conduit, casing, concealed etc. in houses, factories, workshops and other establishments for light and power supply. Studies diagram and plan of wiring and marks light, power and other points accordingly. Fixes wooden pegs, sizes tubes, saws casings, etc. by common carpentry fitting and other processes, according to type of wiring needed. Erects switch boards and fixes switch box casings cleats, conduits ceiling roses, switches, meters etc. according

to type and plan of wiring. Draws wire in two way or three-way wiring system as prescribed and makes electrical connections through plugs and switches to different points exercising great care for safety and avoiding short circuit and earthing at any stage of wiring. Fixes fuses and covers as per diagram and insulates all naked wires at diversions and junctions to eliminate chances of short circuit and earthing. Fits light brackets, holders, shades, tube and mercury lights, fans etc, and makes electrical connection as necessary. Tests checks installed wiring for leakage and continuity using megger, removes faults if any and certifies wiring as correct for connecting mains. Checks existing wiring for defects and restores current supply by replacing defective switches, plug sockets, blown fuse etc. or removing short circuits and faulty wiring as necessary. May repair simple electrical domestic appliances.

7137.30 Fuseman replaces blown out fuses to restore supply of electric current. Receives instructions from superior regarding place, location and nature of breakdown to current supply. Visits consumers' premises, street lighting junctions or points to examine fuse box for replacement of fuse wire. Climbs line-posts with safety belts where necessary, pulls out fuse switches from fuse box using shock-proof hand gloves and checks whether fuse wire is burnt out or blown off. Replaces blown out fuse by fixing new fuse wire to terminals of fuse switch. Fixes fuse-switch to fuse box and restores current supply. Breaks seal of meters in private premises, replaces blown out fuses and re-seals meter using sealing plier, wire and lead. May attend to telephone calls and minor breakdown to supply lines.

7137.35 Meter Sealer, Electrical seals electrical meters, main switch boards and consumers cut outs using special sealing plier, wire and lead to prevent tampering and pilferage of current. Visits consumers premises, industrial places etc., connected with electric supply. Checks current supply equipment such as meters, fuse boxes, cut outs etc. for proper fixing. Seals meters main switch cover and cut outs where necessary using wire lead and sealing plier, to ensure that no one can open or tamper with without breaking their respective seals. Makes periodical visits to premises to check whether meter seals and switches are in tact and are not tampered with for illegal use of electric current.

NATIONAL CLASSIFICATION OF OCCUPATIONS

Reports to superiors of illegal tapping from supply lines. May attend calls to replace fuses.

7137.40 Electrician, Stage and Studio controls lighting equipment, such as flood lamps, strip lights, and spotlights from projection room and front or backstage areas of theater to cast spotlight on stage performers: Places spotlights in specified locations in theater and connects wiring for lighting. Moves spotlight to follow movements of performers with beam of light, according to instructions on prepared cue sheet. Turns colour wheel, causing light to be diffused through varicoloured gelatin disks to change colour of light. Cleans and adjusts light, replacing carbons or bulbs as needed. May insert varicoloured gelatin sheets in frame to assemble colour wheel.

7137.90 Building and Related Electricians, other include all other electricians engaged in installation, maintenance and repairing of electrical wiring systems and related equipment not elsewhere classified.

7138 SUPERVISORS IN BUILDING FINISHING AND RELATED TRADES WORKERS

Workers in this Family supervise and guide workers engaged in pipefittings, plumbing, welding, flame cutting, insulating, wiring and sheet and structural metal working operations.

7138.10 Work Supervisor, Construction supervises construction and repairs of buildings, hutments, and other structures and ensures working to required specifications. Receives instructions from Building Overseer regarding sizes and specifications of structure to be built, composition of mortar and other materials to be used and instructs Masons and other workers accordingly. Gets bricks, sand, cement, mosaic chips, etc., stacked in proper order and ensures security against loss and wastage. Keeps watch on construction being built, ensures use of proper materials and mortar and measures it periodically or at end of day to calculate wages earned by workers. Ensures building according to plan and gets defects removed or reconstructed as directed by Overseer. Maintains material, attendance and other records as necessary, calculates wages of workers engaged and ensures proper

use of men and material. May prepare bills, arrange for **MASONS, CARPENTERS, LABOURERS** and other workers and arrange for their payment, if necessary.

7138.20 Supervisor and Foreman, Insulation supervises application of insulating materials in buildings, refrigeration and air-conditioning equipment, boilers, steam pipes, etc., to maintain or pressure stipulated temperature, prevent reverberation of sound and like purposes. Studies drawings and specifications of insulation to be done. Arranges to draw or procure required quantity of insulating materials and accessories such as mineral wool, shredded or sheets of cork; asbestos etc., and hands them over to workers as required, with necessary instructions for their application. Supervises work, ensures correct application of required type and thickness of insulating material and gets defects removed, if any, to achieve desired result. Maintains necessary records and ensures proper use of men and material. May check insulation done with gauges and meters and report results achieved.

7138.30 Supervisor and Foreman, Plumbing and Pipe Fitting supervises workers engaged in pipe fitting and plumbing operations and guides them as necessary to ensure correct laying and fitting of pipes, drainage system, etc. Studies lay out drawings of pipelines or sanitary fittings depending on tasks to be performed and instruct workers accordingly. Supervises laying and joining of pipes, making connections with soak pit, fitting, sanitary appliances, cleaning blocked drain pipes, removing leakages, etc. and ensures proper installation and repairs done. Checks pipe lines and sewerage systems under his charge periodically or as required and maintains them in proper working order. Maintains records and registers and submits reports as required. May guide workers in installation of gas and hume pipes, making water and gas tight joints, removing water pipe leakages by lead burning, etc., if necessary.

7138.40 Electrical Supervisor, Wiring plans prepares estimates and supervises installation of commercial, industrial and domestic wiring in factories, establishments and residential buildings. Visits site, decides number of points to be fixed and estimates costs according to type of wiring to be installed. Plans and prepares wiring diagram according to building layout, power and light points to be fixed, equal distribution of load, minimum exposure to

NATIONAL CLASSIFICATION OF OCCUPATIONS

weather, easy access for repairs and other factors as necessary to suit customer's requirements. Marks location of points, cut-outs, ceiling roses junction boxes etc., and explains circuit to be drawn to Wireman. Arranges for materials, supervises installation of wiring and guides workers as necessary to ensure conformity with safety and electricity rules. Tests whole wiring systems with merger on completion of work to ensure continuity and proper installation. Connects to main switch fixed at convenient place and certifies on prescribed form that there is no leakage and wiring has been done in accordance with electricity act. May supervise installation of temporary wiring. May supervise installation of geyser, air-conditioners, booster pumps and other domestic appliances.

7138.90 Supervisors in Building Finishing and Related Trades Workers, other include workers who supervise and guide workers engaged in pipefittings, plumbing, welding, flame cutting, insulating, wiring and sheet and structural metal working operations not elsewhere classified.

714 PAINTERS, BUILDING STRUCTURE CLEANERS AND RELATED TRADES WORKERS

Painters, building structure cleaners and related trades workers prepare surfaces, apply paint and similar materials to buildings and other structures, vehicles, or various manufactured articles, cover interior walls and ceilings with wallpapers, clean chimneys and exterior surfaces of buildings and other structures.

7141 PAINTERS AND RELATED WORKERS

Painters and related workers prepare surfaces of buildings and other structures for painting, apply protective and decorative coats of paints or similar materials or cover interior walls and ceilings of buildings with wallpapers, silk or other fabrics.

7141.10 Painter, Building; Painter, House applies coats of paint, varnish and other similar material to protect or decorate exterior and interior surface of buildings using spray gun, hand brush, etc. Selects paint materials. Mixes paints and matches colours by stirring together proper proportions of pigment, oil,

thinner etc. and drying substances. Erects working scaffolding with bamboo poles and wooden planks or positions ladders at required height or places to be painted. Cleans surface packs, cracks and holes with mud fillers or mortar to prepare it for painting. Applies prime coat and allows it to dry. Brushes or sprays one or more coats of paint on surface to required finish. May finish and decorate surfaces with marble or brick and tile effects or by building silvering, stenciling etc.

7141.20 Painter, Steel Structure applies lead oxide, bituminous and other protective or decorative paints on steel framework of buildings, hangers, girders, bridges and other steel structures with hand brush or spray gun. Rigs up scaffolding, cradles, ladders and other equipment as necessary. Rubs and cleans metal surfaces to be painted with wire brush, coir or other abrasive material to provide clean smooth surface for painting. Stirrs ready made paints in containers, mixes turpentine with it for thinning and applies it on metal surfaces with hand brush or spray gun as provided. May mix paint with linseed oil, colouring matter or other substances to obtain proper colour consistency. May burn off old paint with blow lamp and scrap surfaces before painting with sand paper.

7141.25 Painter, Industrial applies paint, varnish and similar materials to building and other structure. Chooses the right paint or finish for the surface to be covered taking in to account durability, ease of handling, method of application and customers' wishes. Prepares surface to be covered using scrappers, abrasives, and chemical removers so that paint adheres properly. Removes old coat by stripping, sanding, wire brushing, burning or watering and abrasive blasting. May wash surfaces and do trimming to remove dirt and grease from surfaces; fills holes and cracks; welds; sandpapers rough spots and brushes off dust. Applies primer on new surfaces for the finish coat. Mixes paint and matches colours by stirring together proper portions of pigments, oil, thinner etc. and other substances relying on knowledge of paint composition and colour harmony. Chooses the right paint applicator for each job, depending on the surface to be covered; characteristics of the finish and other factors. May use brush with soft tapered edge, or paint sprayer. Puts coating liquid in to spray gun tank, couples gun to air hose and adjusts air pressure valves and nozzles when working with sprayer.

NATIONAL CLASSIFICATION OF OCCUPATIONS

7141.30 Distemperer, Building applies distempers on surfaces of lime, cement etc., to required colour and shade, using hand brush. Scrapes old paints etc. and smoothens surface using edge-scrapers, brushes, chemical removers, abrasives, etc. Erects scaffolding or positions ladder where necessary, adjusting it to heights or places to be painted. Moistens surface to be distempered before applying first coat of paint. Prepares distemper solution of required density, colour and shade. Applies distemper on surface, using hand brush and giving one or more coatings. Ensures uniform shade of colour all over distempered surface. May finish and decorate surface. Is designated as OIL PAINTER, BUILDING, if engaged in oil painting of walls and ceilings, using special types of readymade paints and brush.

7141.40 Paper Hanger; Wall Paper Decorator cuts wall paper to proper lengths, applies glue paste on its back and covers walls and ceilings with them for decorative purposes. Selects wall paper of suitable colour, design and size and cuts it into suitable lengths. Erects scaffolding or positions ladder wherever necessary to reach surface to be decorated. Applies coat of glue on back of paper and pastes it on surface to be covered. Trims edges and runs hard rubber over painted paper to smoothen it. May apply sticking material on surface with roller or brush.

7141.90 Painters and Related Workers, other include those who prepare surfaces of buildings and other structures for painting, apply protective and decorative coats of paints or similar materials or cover interior walls and ceilings of buildings with wallpapers, silk or other fabrics not elsewhere classified.

7142 VARNISHERS AND RELATED PAINTERS

Varnishers and related painters paint vehicles such as cars, buses or trucks, or apply protective coats of enamel or varnish on metal, wooden and other manufactured articles, usually with a hand-spraying device.

7142.10 Painter, General applies decorative or protective coats of paint, varnish, shellack, enamel, lacquer or other materials on exterior or interior surfaces, trimming and fixtures of glass, metal, wood, plaster concrete brick, building boards or other objects using brush,

spray gun, roller, stencils etc. Receives work order and selects correct type of paint materials with the consideration to suitability, durability, ease of application and estimated cost. Mixes pigments, oils and other ingredients to material where required by manual or mechanical mixing device using paddle or electric mixer to obtain desired colour, shade and consistency. Removes dirt, grease or rough spots and irregularities by scrapers, chemicals and abrasives and patches cracks and holes with putty or other filler. Covers surface with appropriate prime coat or sealer to have suitable surface or base for paint. Brushes, sprays or stencils one or more coats of material on surfaces. May finish or decorate surfaces by gilding, silvering or painting over stencils. May be designated according to object coated or material used. May mix paint with linseed oil, colouring matter of materials, labour, etc. May erect scaffolds to facilitate work.

7142.20 Painter Spray; Duco Painter applies decorative or protective materials such as paint, enamel or lacquer including synthetic paint on articles of wood, metal etc., using spray painting equipment. Selects and mixes paints to produce desired colour consistency, strains and puts coating liquid into spray-gun tank, couples gun to air-hose and adjusts air-pressure valves and nozzle. Presses trigger and directs spray of prime and finish coats of paint over surfaces and ensures smooth and even finish. Covers with tape areas not to be painted or where painting is to be done in second colouring. Cleans gun and hose with solvent before changing colour and on completion of work. May prepare surfaces for painting, using scrapers, abrasives, chemical removers or other means. May be designated according to article coated or material used.

7142.25 Metal Sprayer controls portable flame spray equipment to spray corrosion-resistant coatings, such as zinc or aluminum, on objects, such as plates, tanks, and structural shapes according to specifications: Cleans and roughens surface of object to be coated, using sandblasting equipment. Selects nozzle to accommodate size of wire to be melted and sprayed and screws nozzle into place on metallising gun. Inserts wire into rear of gun and through feed rollers and nozzle. Connects hoses from gun to air compressor and tanks of oxygen and fuel gas, such as acetylene. Turns knobs to synchronize speed of wire feed, air pressure, and flow of oxygen and fuel indicated on dials to specifications computed from data

NATIONAL CLASSIFICATION OF OCCUPATIONS

charts. Ignites gases to melt wire and presses button or trigger to release compressed air, which atomises and sprays molten metal onto work piece. Directs spray over surface of work piece in specified pattern to obtain coating of required thickness as indicated by electromagnetic gauge or amount of wire used. May spray or brush paint or apply sealing material on coated surface for decoration or further protection. May flame-spray nonmetallic objects, such as glass or plastics.

7142.30 Painter, Sign or Letter; Letter Writer; Sign Writer plans, lays out and paints in one or more languages letters, signs, figures and monograms on wooden boards, metal plates, walls etc. using pencil brushes and palette. Prepares layout for sign writing, coats back-ground with paint, using paint brushes and allows it to dry. Sketches out lines with free hand in chalk or pencil or gets them marked by dusting on stencils. Mixes paints and pigments to get desired colour consistency and fills in marked out lines of letters and designs with paint using pencil brushes of various sizes. May make signs by cutting out and sticking gold lead lettering to surfaces. May cut stencils and paint signs by brushing and spraying paint over them. May make signs of metal or wood. May transfer designs and monograms and to gliding, silvering, graining etc.

7142.40 Painter, Brush applies decorative or protective materials such as paint, enamel, varnish, lacquer etc., on metal articles, wood, building boards and other materials using hand brush. Selects correct type of paint and brush, taking into consideration suitability, durability, ease of application and cost or mixes pigments, oils and other ingredients to paint material, as required, to obtain desired colour, shade and consistency. Cleans surfaces with brush, cloth or abrasive material. Removes dirt, grease or rough spots and irregularities by scrapers, chemicals etc. and patches cracks and holes with putty or filler to provide smooth clean surface. Rubs or covers surfaces with appropriate prime coat to have suitable base or surface for painting. Brushes with hand one or more coats of paint material on it to required finish. Cleans brushes on completion of work and maintains them. May be designated according to object painted or material used.

7142.50 Painter, Wood Work and Furniture polishes wood and applies decorative or protective coats of materials such as paints, enamel, varnish, lacquer etc., on pieces of furniture, mirror and picture frames, building fixtures and other types of wood work to desired shade and colour using hand brushes. Selects correct type of paint materials or mixes pigment, oils and other ingredients in proper proportions to obtain desired colour, shade and consistency. Prepares surface by scrapping with hand tools, rubbing with abrasive papers such as sand paper, steel wool or by applying chemicals to remove dirt, grease stains and old paint. Fills cracks and holes with putty, honey wax or filler and smoothens surface by rubbing with cloth, brush or abrasives. Covers surface with enamel, lacquer, paint, stain or varnish as required using hand brush and allows coat to dry. Applies wax or other polishing material with cloth and rubs it to shin finish. May paint decorative designs and mix finishing materials to get desired effect.

7142.60 Painter, Glass paints ornamental and decorative designs on window glass and other glass articles using paints of required colours and painting brushes. Studies design or ornamental features and draws free hand out lines in chalk, pencil or with special brush on glass planes or other glass wares to be painted. Paints on objects required design, using paints of different colour to match design or pattern. Paints details and shade on coloured glass previously waxed up according to original pattern to complete design of windows used in churches, memorials and residences utilising knowledge of art, portraiture and effect of light and shade on glass. Cleans brushes in oil or solvent after painting. May estimate cost of work. May paint walls, roof etc., of buildings. May stain back of painted glass pieces with silver chloride to achieve gold effect.

7142.70 Paint Mixer prepares paints, varnishes and other protective and decorative materials by mixing ingredients according to specifications and matching them with samples. Pours pigments, oils, thinner and other ingredients in proper proportions into can and stirs mixer manually or by mechanical device. Checks mixed liquid with desired colour sample and ensures that it matches and has correct consistency. May blend colours to get desired shades. May test specific gravity of mixture using hydrometer.

NATIONAL CLASSIFICATION OF OCCUPATIONS

7142.80 Painter Mate; Painter Helper assists painters in their work by performing routine tasks such as cleaning and preparing surfaces, mixing paints or colours under instructions, carrying tools and other equipment from one place to another, supplying material to painters and assisting them in their work. Cleans surfaces of object to be painted with brush, cloth or abrasive material and removes grease and dirt with chemical solvents, patches cracks and holes with putty or other filling and assists painter in his work by supplying paint, brushes etc. as required. Keeps brushes and other painting equipment clean. May do brush painting for ordinary purposes. May cover surfaces with appropriate prime coat to have suitable base for paint.

7142.90 Varnishers and Related Painters, other include all those who paint vehicles such as cars, buses or trucks, or apply protective coats of enamel or varnish on metal, wooden and other manufactured articles, usually with a hand-spraying device not elsewhere classified.

7143 BUILDING STRUCTURE CLEANERS

Building structure cleaners removes soot from chimneys, or clean exterior surfaces of buildings and other structures.

7148 SUPERVISORS AND FOREMEN AND RELATED TRADES WORKERS IN PAINTING, BUILDING STRUCTURE CLEANING, OTHER

Supervisors and foremen and related trades workers in painting, building structure cleaning, other supervise sign writing and application of paint, varnish, distemper or lacquer on metal, wood, building, glass and other surfaces.

7148.10 Supervisor and Foreman, Painting supervises sign writing and application of paint, varnish, distemper or lacquer on metal, wood, building, glass and other surfaces and ensures correct finish. Examines surface of structure or article to be worked upon and decides shade and type of paint, mixture or varnish to be used according to specifications or customers' requirements. Directs workers to smoothen surface to be painted or

varnished to required finish by scrubbing chemical treatment or by polishing with emery or glass paper as necessary. Supervises preparation of base for spray and high class painting by application of putty on surface and its smoothening for applying first coat of paint. Guides workers in mixing, straining of paints and varnish to required shade and consistency and supervises painting, smoothening and final polishing operations to ensure required gloss and finish desired. Maintains prescribed records and keeps tools and equipment in working order. May design stencils for brush and screen-printing.

7148.90 Supervisors and Foremen and Related Trades Workers, in Painting, Building Structure Cleaning, other include supervisory workers engaged in painting, building structure cleaning not elsewhere classified.

72 METAL MACHINERY AND RELATED TRADES WORKERS

Metal machinery and related trades workers cast, weld, forge and, by other methods, form metal, erect, maintain and repair heavy metal structures, engage in machine tool setting as well as in fitting, maintaining and repairing machinery, including engine vehicles, electrical and electronic equipment, or they produce tools and various non-precious-metal articles.

721 METAL MOULDERS, WELDERS, SHEET-METAL WORKERS, STRUCTURAL-METAL PREPARERS AND RELATED TRADES WORKERS

Metal moulders, welders, sheet-metal workers, structural-metal preparers and related trades workers make moulds and cores for casting metal, weld and cut metal parts, make and repair articles of sheet metal, install, erect, maintain and repair heavy metal structures, tackle, cable-cars and related equipment, or carry out similar work under water.

7211 METAL MOULDERS AND COREMAKERS

Metal moulders and coremakers make moulds and cores for casting metal.

7211.10 Moulder, General prepares mould from foundry sand using pattern for casting

NATIONAL CLASSIFICATION OF OCCUPATIONS

metal parts. Places pattern on mould plate (Wooden plate with arrangements to hold pattern). Makes mould in two halves (top and bottom) by ramming foundry sand around pattern. Removes pattern carefully and mends two halves of mould by trowel and smoothers. Makes vent holes by wire for escape of gas and other holes on top box for pouring metal into mould and for escape of excess molten metal (runners and risers). Fixes dried 'cores' in proper position to have designed holes in casting. May prepare bottom half of mould in floor instead of in bottom box. May dry moulds by fire in case of heavy castings. May do additions and alternations in mould from drawing, using foot rule, knife and trowel. May be known as PIPE MOULDER if engaged in pipe moulding.

7211.20 Moulder, Machine makes moulds for use in forming molten metal into castings of various sizes, using auxiliary machines, patterns, hand tools and sand or loam. Places plate to which lower half of pattern is attached on machine table. Fixes frame having sides and cross-bars but no top or bottom to plate. Packs sand or loam around pattern. Fills frame with coarser material from chute or by shoveling, and operates machine to ram material. Turns frame over by hand or machine and dusts surface of sand with powder. Fits upper half of pattern to half and pins them together. Fixes another frame on top of frame. Positions channels through which molten metal will be poured and observed. Repeats packing, filling and ramming tasks and pierces holes to allow gases to escape during and after pouring. Loosens frames and turns top frame over and removes halves of pattern. Fits cores in place. Repairs damaged surfaces and treats all surfaces to prevent crumbling of molten metal. Rejoins frames. Shapes channel tops and fits bushes to protect them. May use only one frame and work as member of team in preparing top or bottom frames. May specialize in casting any particular type of metal and be designated accordingly.

7211.30 Moulder, Vertical Pipe prepares mould for vertical casting heavy pipes. Sets bottom socket in moulding box (casing) by operating crane hoist. Gets ramming done, removes socket pattern and repairs mould after withdrawal of body pattern.

Blackwashes mould and gets it dried up. Sets socket core at bottom and gets main and top core lowered and placed securely in concentric position. Is designated as TOP MOULDER or BOTTEM MOULDER according to location of work.

7211.40 Rammer, Vertical Pipe Moulding rams foundry sand around body pattern and sets core for preparation of vertical pipe moulds. Directs other workers in lowering and fitting it into bottom socket. Fills and rams foundry sand in casing around body pattern. Signals Crane Driver to lower spigot pattern on top; adjusts and sets pattern with help of gauges and completes ramming around spigot with pin rammers. Removes spigot and body patterns carefully.

7211.50 Core Maker, Moulding (Hand) prepares cores with core sand (foundry sand mixed with some bonding agent such as molasses) for casting cavities in metal parts. Sprays ash, silica or other non-adhering powder on sides of core box, partially fills box with core sand, and inserts metal strengthening pins, wires (grid bars). Fills in and compacts more sand until core box is full. Makes vent holes in core with wire. Removes core from core box, mends it if necessary and places it in oven for drying. May apply plumbago mixed with molasses and water to obtain smooth finish on finished castings.

7211.60 Coremaker, Vertical Pipe prepares cores for casting vertical pipes by repeated process of loam application. Applies splash loam uniformly on metal body and covers it with straw roll mechanically. Applies protective loam over it, gets it dried up in gas fixed stoves and mechanically revolves it against core board to get coating of fine loam. Sizes core by mechanically scrapping off extra material after drying. Cuts off bottom portion of core to prevent crushing during operations. Repairs defects if any, applies thick coating of blackwash and gets it dried up again before use.

7211.90 Moulding and Core Making Operatives perform number of routine and low skilled tasks such as ramming foundry sand into mould by rammers (metal bars having flat and round bottom), setting body pattern with help of crane in centre of mould, fixing and removing of sockets for pipe castings, setting pullers for withdrawing machine castings,

NATIONAL CLASSIFICATION OF OCCUPATIONS

coating moulds with refractory or insulating powder, assisting in preparation of foundry sand, making bed for moulds, checking conditions of moulds, skimming dirt and slag from molten metal, cleaning and blackening trough, guiding and assisting Crane Driver in stripping castings from metal moulds, etc., and may be designated as Rammer, Socket Putter, Moulder Mates, Moulder Helpers, Pitman, Skimmer, Troughman, Stripper, etc.

7212 WELDERS AND FLAMECUTTERS

Welders and flamecutters weld and cut metal parts using gas flame, or an electric arc and other sources of heat to melt and cut, or to melt and fuse metal.

7212.10 Welder, Gas fuses metal parts together using welding rod and oxygenacetylene flame. Examines parts to be welded, cleans portion to be joined, holds them together by some suitable device and if necessary makes narrow groove to direct flow of molten metal to strengthen joint. Selects correct type and size of welding rod, nozzle etc. and tests welding, torch. Wears dark glasses and other protective devices while welding. Releases and regulates valves of oxygen and acetylene cylinders to control their flow into torch. Ignites torch and regulates flame gradually. Guides flame along joint and heats it to melting point, simultaneously melting welding rod and spreading molten metal along joint shape, size etc. and rectifies defects if any. May join part at various spots to prevent distortion of shape, form dimension etc. May preheat materials like cast iron prior to welding. May also weld by other gases such as argon coal etc.

7212.20 Welder, Electric Arc Welder fuses metals using arc-welding apparatus and electrodes (welding material). Examines parts to be welded, cleans them and sets joints together with clamps or any other suitable device. Starts generator or transformer (welding apparatus and regulates current according to material and thickness of welding. Clamps one lead (insulated wire carrying current from generator) to part to be welded, selects required type of electrode and clamps it to holder connected with other lead). Generates sparks between electrode and joint, simultaneously guiding and

depositing uniformly melting electrode to weld. Takes precautionary measures such as wearing rubber gloves, holding welding screen of dark glass etc. May join parts first at various points for holding at specified angles, shape, form and dimension.

7212.30 Welder, Machine operates gas or electric welding machine to joint metal parts by fusion. Sets machine for operation by igniting burners and adjusting flames or by switching on current. Regulates flow of gas or current and adjusts machine according to material to be welded. Checks cooling system and adjusts movement of conveyor, if any. Feeds material to be welded with either one by one or in batch according to type of machine and welds them by pressing paddle, or by automatic arrangements. May use fixtures or other suitable devices for mass production work. Is designated as SPOT WELDER, FLASH WELDER, etc. according to machine and type of work done.

7212.40 Gas Cutter; Flame Cutter cuts metal to required shape and size by gas flame either manually or by machine. Examines material to be cut and marks it according to instruction of specification. Mounts template and sets machine to cut to specifications. Makes necessary connections and fits required size of nozzle or burner in welding torch. Releases and regulates flow of gas in nozzle or burner, ignites and adjusts flame. Guides flame by hand or machine along cutting line at required speed and cuts metal to required size. May use oxyacetylene or any other appropriate gas flame.

7212.50 Brazer fuses metal parts by heating using flux and fillings. Cleans and fastens parts to be joined face to face by wire, by seaming or by any other suitable means and prepares paste of flux and fillings. Applies it to joint and heats in furnace or by torch to melt filling into joint. Allows it to cool down. Examines joint and cleans them by filing, buffing etc.

7212.60 Lead Burner installs and repairs lead tanks, tank lining, pipes, floors and other fixtures and equipment of lead, using blow lamp and hand tools. Cuts section of sheet lead or pipe to size. Scrapes and levels edges of sections to be joined. Fits section into place and fuses section together by moving flame of lamp along joints or by heating joints with lamp and adding lead from rod or ladle.

NATIONAL CLASSIFICATION OF OCCUPATIONS

Makes lead fittings and pipes by cutting, shaping and joining. May fuse, cut or make lead parts of storage battery, tanks, etc. by operating bad burning machine, or using oxyacetylene or oxyhydrogen torch.

7212.65 Welder, Resistance sets up and operates resistance welding machine to join metal parts, according to blueprints, work orders, or oral instructions. Turns machine dials to set air and hydraulic pressure, amperage, and joining time, according to specified type of metal, weld, and assembly. May select, install, and adjust electrodes. Aligns workpieces, using square and rule. May hold pieces together manually, fasten into jigs, or secure with clamps to align in specified assembly position. Holds part between electrodes or positions on machine worktable. Depresses pedal or pulls trigger to close electrodes and form weld at point of contact. Releases pedal or trigger after specified welding time. Cleans electrodes, using file, tip dresser, emery cloth. May operate machine which automatically releases electrodes from metal after welding cycle. May devise and build fixtures to hold pieces. May inspect finished work. May operate machine equipped with two or more electrodes which weld at several points simultaneously. Important variations include types of joints welded (seam, spot, butt) and types of materials welded (aluminum, steel).

7212.90 Welders and Flame Cutters, other perform number of routine and low skilled tasks such as cleaning joints, fitting electrodes, relieving welder and flame cutters in minor operations, fitting nozzle or burner, fitting templates etc. and is designated as Welder Helper, Gas Cutter Helper, etc.

7213 SHEET-METAL WORKERS

Sheet-metal workers make, install and repair articles and parts of articles of sheet metal such as sheet steel, copper, tin, brass, aluminium, zinc or galvanized iron.

7213.10 Sheet Metal Worker, General makes sheet metal articles according to drawing or sample. Studies drawing or sample and records measurements if necessary. Selects sheet of required type, thickness (gauge) and size and marks it with scribe, square, divider, foot rule etc., according to drawing or sample. Shears wherever necessary by machine or hand

shears and makes it to required shape and size by bending, seaming, forming, rivetting, soldering etc., using mallets, hammers, formers, sets, stakes, etc., or by various machines such as shearing, bending, beading, channelling, circle cutting. Checks work at stages during operations and does soldering, brazing as necessary. May undertake pneumatic and hydraulic tests. May also undertake repair work. May specialise in different metal sheets such as tin, copper, brass.

7213.20 Sheet Metal Worker, Structural assembles, alters and repairs prefabricated sheet metal sections according to specifications by various mechanical processes such as drilling, rivetting, trimming, soldering etc. to form body structures of motor vehicles, aircraft, water tanks etc. Studies drawings and other specifications. Selects prefabricated metal sheet of required size, shape, form and thickness, measures them and marks outline and positions to indicate joints, bends etc. Punches or drills holes in metal sheets at marked points with hand or tools and joins various parts together by rivetting, soldering, welding or with nuts and bolts. Bends metal sheet to required shape and covers it by joining it with frame at suitable places with nuts and bolts. Trims ends of bent metallic sheet by filing, sawing, bending etc. as appropriate. May install assembled body structure on frames for having wooden parts fitted to it. May heat and bend metallic parts of frame. May do spot welding.

7213.30 Dent Remover; Panel Beater removes dents from sheet metal parts such as mudguards, body panels, tanks, containers, trunks by beating with mallets, smoothens surface for painting and other operations. Gets parts dismantled, examines dents caused by stress or accidents and starts beating from highest point on inner side with mallet to bring it back to original shape. Supports outer surface with soft metal-piece, wood or broader mallet to avoid distortion in reverse direction. Manipulates support and uniformly beats inner portion till damaged portion is reformed to original shape. May engage an assistant to hold support and guide him in manipulating it. May also scrape or lightly file outer surface to remove further defects, if any, for obtaining finer finish.

NATIONAL CLASSIFICATION OF OCCUPATIONS

7213.40 Tinsmith makes and repairs cart-lamps. Containers, funnels, oil cans, siphons etc., from thin mild steel, galvanized or other sheets according to samples or instructions for commercial and domestic use. Measures sample with foot rule and callipers, selects required type of metal sheet, marks and cuts it accordingly with hand scissors. Develops sheet to required shape by beating and bending using mallet, rods, patterns, rails, stakes, etc., and solders joints as required. Secures joints by seaming or rivetting and tests them for leakage. May be designated as COPPER-SMITH, BRASS-SMITH etc., according to material in which worked.

7213.50 Tin Coater; Kalaigare applies thin coating of tin on brass and copper utensils for domestic use. Makes small charcoal fire, cleans (degreases) utensils by scribbling with dry sand or any other such abrasive, heats up utensils on fire, sprinkles powdered ammonium chloride and tin stick or powdered tin on it, allows tin to melt and spreads melted tin over entire required surface with cotton or wool pad. Repeats and again rubs coated surface to ensure smooth finish.

7213.60 Machine Feeder and Offbearer feeds materials into or removes materials from machines or equipment that is automatic or tended by other workers. Feeds materials into machines and equipment to process and manufacture products. Off bears materials and products from machines and equipment, using hand tools. Cleans and maintains machinery, equipment, and work areas to ensure proper functioning and safe working conditions. Moves controls to start, stop, or adjust machinery and equipment. Modifies materials and products during manufacturing process to meet requirements. Records production and operational information and data on specified forms. Identifies and marks materials, products, and samples, following instructions. Weighs or measures materials or products to ensure conformance to specifications. Inspects materials and products for defects and to ensure conformance to specifications. Fastens, packages, or stacks materials and products, using hand tools and fastening equipment.

7213.90 Sheet Metal Workers, Other perform number of routine and low skilled

tasks, such as doing primary development of sheet metal, cutting sheets to sizes, assisting in operating sheet metal machines, applying brazing compound on joints to be brazed, heating rivets for assembly etc. and are designated as:

Sheet Metal Helper if assists **Sheet Metal Worker** by performing simple flanging, punching, shearing soldering etc. for fabrication of sheet metal products, Tin Smith Helper if cuts tin sheets according to drawing or sample using foot rule, callipers and compass and assists Tin Smith in bending, shaping and joining various component parts.

Sheet Metal Machine Helper if assists **Sheet Metal Machine Operator** in setting and operating sheet metal working machines such as bending machine, channeling machine, shearing machine etc.

7214 STRUCTURAL-METAL PREPARERS AND ERECTORS

Structural-metal preparers and erectors shape, assemble and erect heavy metal girders and plates to form structures and frame-works.

7214.10 Plater shapes and finishes plates by rolling, bending etc. for structural work. Sets and starts rolling and bending machines, feeds already marked plates one by one and rolls them to required shape. Forms plates, according to specification on bending machine for fire box, water reservoir ship structure, etc. Checks and finishes plates correct to templates patterns for erection work. May chip, grind and drill plates with pneumatic tools. May be designated as BOILER PLATER if engaged in forming boiler plates.

7214.20 Plate Setter sets plates of ship structure, boilers, water reservoirs etc. to specified curves (profiles) by heating and hammering. Heats plates in furnace to required temperature and hammers them to specified shapes. Checks plates frequently with templates and gauges while setting and repeats process as necessary. Scrafies (makes thin by striking) ends of plates for assembling. May reset twisted and damaged plate. Is designated as BOILER SMITH if engaged in setting plates of boilers.

NATIONAL CLASSIFICATION OF OCCUPATIONS

7214.30 Boiler Fitter sizes and fits various components and mountings to boilers and assists Boiler Maker in preparing boilers for steam and hydraulic tests. Marks components according to drawings and sizes them accurately by chipping, filing, drilling, reaming, tapping, scrapping etc. to required specifications, checking frequently with precision measuring instruments. Locates carefully position of different mountings such as regulator, super heater, header, pressure gauge, seatings, safety valve by measuring instruments and gauges and fits them on boiler. Fits external water and lubrication pipes. Performs various duties as instructed by Boiler Maker such as cleaning of pipes, connecting pump, sealing etc. and assists him in preparing boiler for hydraulic and steam tests. May also undertake rivetting, caulking, replacing of worn out and defective parts.

7214.40 Tubesmith, Boiler forms, repairs and maintains boiler tubes, cuts tubes to required length, grinds surfaces, reams holes, expands or reduces ends and swages them as required. Repairs or replaces defective or worn out tubes and tests for leakage by hydraulic pressure. May do descaling and cleaning of boiler tubes.

7214.50 Boiler Maker makes layout of boiler from drawings, fits and assembles different parts, adjusts valves, prepares boiler for steam and hydraulic tests and undertakes repairs of boilers. Studies drawing, sets barrel of boiler in position, marks out locations and fits different units such as stays, flue tubes with super heater, header, thermo-siphon, injection and external pipes, fire grate, ash pan, smoke box tube plate, junction rings, etc. Repairs and replaces tubes, stays, grates etc. as and when required. Expands tubes and adjusts valves and other functional parts of boiler. Does rivetting, caulking reaming, beading etc. as required by pneumatic, hydraulic and mechanical devices. Checks components, fittings, mountings etc. and prepares boiler for inspection at different stages and also for hydraulic and steam tests. May assemble tanks, vats and other heavy steel vessels with prefabricated parts. May also alter boiler parts and repair pumps, pipe lines etc.

7214.60 Erector, Structural; Erection Fitter, Structural erects iron and steel

framework at site for construction of buildings, bridges, chimneys, drilling rise, ropeways, etc., under guidance of structural Engineer. Examines drawings, site facilities and other specifications to determine kinds of lifting tackles, men, etc., required. Collects steel members such as truss, rafter, posts, etc., sets up hoisting equipment for raising and placing them and erects scaffolding. Aligns and bolts members in position for rivetting. Drills, reams or enlarges holes and smoothens rough surfaces using pneumatic or electric tools, gets fabricated members slinged and lifted using lifting tackles, ropes, chains, crane etc. as necessary, structural steel places them according to specifications and joins them permanently in order of sequence to form completed structure or its frame work. May rivet or weld members together.

7214.65 Fitter Structural assembles and fits together various parts of heavy structures such as bridges, overhead cranes, hoists, ship etc. in workshop according to drawings under instructions of structural Engineer, and dismantles them for transporting to site for final construction. Examines drawings and other specifications. Checks parts to be fitted together. Cuts steel plates and angle iron using power shear or flame cutting equipment. Drills holes for bolts and rivets. Aligns members in position with connecting pins to ensure that members fit together properly preparatory to permanent erection of structures at site. Checks alignment of members with spirit level, etc., to ensure accuracy of fit. Dismantles parts of assembled structures to facilitate transportation to site. May bend or otherwise shape plates and assemble structural members by fitting, forging, drilling, rivetting, bolting, or welding.

7214.70 Fitter, Construction erects columns, trusses and general fabrication work at site for construction of buildings, heavy foundations, hangars, sheds, etc. under guidance of Civil Engineer or Overseer. Examines drawings and other specifications. Selects rods and cuts them to required length. Bends rods using hand tools or bending machine and joins them together with wires or fasteners. Places rods in forms and fixes them in position. May reinforce concrete with wire mesh.

7214.80 Riveter joins permanently metal parts, plates etc. with rivets either manually or by

NATIONAL CLASSIFICATION OF OCCUPATIONS

pneumatic or hydraulic machines. Selects correct size and type of rivets. Ensures by sight or calculation that rivets are of correct length including allowances for rivetting and cuts them if required, to correct length. Gets them heated up by Riveter Helper if necessary. Sets parts or plates in correct position, aligns holes and inserts rivets. Directs Dolly Man to hold dolly in position or holds it by suitable mechanical device and snaps other end to required shape by manual or mechanical process. Checks and ensures that rivets are not loose or bent and heads have been correctly formed. May detect faulty rivets, and drive them out after chipping or sawing rivetheads. Reams rivet holes manually or by drilling machine, if necessary, and fixes new rivets. Is designated as CAULKER if engaged in caulking seams, stays, rivets etc. with caulking tools. May also do beading.

7214.82 Riveter (Railroad Equipment)

rivets structural members, assemblies, and parts of railroad cars, using portable riveting, dimpling, and drilling machines and handtools: Reads work orders, blueprints, and operation sheets to determine sequence of operations and type size and hole pattern of rivets. Removes temporary bolts or fasteners and inserts rivets in predrilled holes. Places drive head of rivet gun against rivet shank and pulls trigger to actuate hammer that spreads rivet, or spreads rivet, using rivet set and hammer. Rivets together adjoining edges of parts and assemblies, using portable rivet squeezer. Places two dies of rivet squeezer over head and shank of rivet, and presses trigger to activate dies that flatten shank of rivet. Drills and reams rivet holes and drills out defective rivets. Forms dimples around rivet holes, using portable dimpling gun or stationary dimpling machine. May align and assemble parts to be riveted, using jigs, holding fixtures, pins, clamps, and fasteners. May buck rivets.

7214.90 Structural-metal Preparers and Erectors, other include workers who shape, assemble and erect heavy metal girders and plates to form structures and frame-works not elsewhere classified.

7215 RIGGERS AND CABLE SPLICERS

Riggers and cable splicers erect tackle for lifting and hauling, or install and maintain cables, ropes and wires on construction sites, oil and gas- well drilling sites, or in ships, aircraft, and other places.

7215.10 Rigger erects lifting and hauling tackles, pulleys, wire ropes, etc. to lift, move or lower heavy articles such as girders, beams, roofing sheets, machinery, logs, etc. for building, erection, construction or similar purposes. Selects cables, ropes, pulleys, winches, blocks, and sheaves, according to weight and size of load to be moved; attaches pulley and blocks to fixed overhead structures, such as beams, ceilings and pole booms, with bolts and clamps; attaches load with grappling devices, such as loops, wires, ropes and chains, to crane hook; gives directions to Electric Bridge or Gantry Crane Operator or other Hoist Operator engaged in hoisting and moving loads to insure safety of workmen and material handled using hand signals, loud speaker, or telephone. May splice rope and wire cables to make or repair slings and tackle. May direct workers engaged in hoisting machinery and equipment into ships and be designated MACHINERY ERECTOR (Ship and boat building and repair). When hoisting and moving construction machinery onto truck beds, may be designated as MACHINE MOVER (Construction).

7215.20 Slinger Crane Hooker assists workers engaged in operating power shovels or cranes used to lift and move machinery equipment or materials such as concrete, castings, millrolls, scrap metal, pipe, dirt and logs from one place to another. Affixes rope, cable, chain, sling or other grappling equipment or attachments to object being lifted or to lifting mechanism; places blocking or screw jacks in position to hold crane or shovel upright when lifting heavy loads; signals operator, vocally or with hand signals, to guide operator in lifting and moving loads when view from crane or shovel cab is obstructed; pushes or pulls load as it is lowered until it is deposited in desired place; removes grappling attachments or pulls lever crane or shovel with grease gun or oil can. May be designated according to equipment used, attachments made or area worked, as **CONCRETE BUCKET HOOKER (CONSTRUCTION) LOG**

NATIONAL CLASSIFICATION OF OCCUPATIONS

HOOKERS (SAWMILL), MAGNET PLACER (IRON AND STEEL).

7215.30 Splicer (Rope and Cables) joins, repairs or fits attachments to wire or hemp ropes or cables by splicing. Cuts parts of damaged cables; joins cables by opening up ends and interweaving strands, fits cables around hooks, eyes or other attachments and splices end of cable back into itself; binds joints and ends of cables. May be designated according to type of cables spliced.

7215.90 Riggers and Cable Splicers, Other include all other workers engaged in splicing cables and rigging and material handling equipment, not elsewhere classified.

7216 UNDERWATER WORKERS

Underwater workers work under water, dressed in scuba gear or diving suit, to inspect, install, repair, and remove equipment and structures.

7216.10 Dress Diver dives and works below surface of water, using scuba gear (self-contained under water breathing apparatus) or in diving suit with airline extending to surface, to inspect, repair, remove and install equipment and structures. Puts on diving suit with airline extending to surface or equips with scuba gear and descends into water with aid of helper; inspects docks, and bottoms and propellers of ships; communicates with surface by signal line or telephone; repairs vessels below waterline, replacing missing or leaking rivets with bolts; caulk leaks in ships; cleans debris from intake and discharge strainers; assists in salvage of parts of wrecked ships and lost articles under-water. May cut and weld steel using oxyacetylene cutting torch and arc-welding equipment.

7216.20 Skin Diver dives into sea water for underwater examination of keel of ship, propellers, pipes, sandpipes and hopper doors of dredges etc., for suspected breakage or leakage and reports defects. Receives order from supervisors and goes to spot where diving is required, on launch. Ascertain depth of water by putting sounding lines and judges whether skin diving is feasible. Dives into water by holding on rope attached with heavy weight (sinker) and lowered into bottom of water and reports defects to

supervisors. Rectifies minor defects and removes obstructions while under water, if possible.

7216.90 Underwater Workers, other include workers who work under water, dressed in scuba gear or diving suit, to inspect, install, repair, and remove equipment and structures not elsewhere classified.

7218 SUPERVISORS, FOREMEN AND RELATED WORKERS IN METAL MOULDING, WELDING, SHEET METAL WORK, STRUCTURAL METAL PREPARATION AND RELATED TRADES

Supervisors, foremen and related workers in metal moulding, welding, sheet metal work, structural metal preparation and related trades supervise and guide workers engaged in pipe fitting, plumbing, welding, flame cutting and sheet and structural metal working operations.

7218.10 Supervisor and Foreman, Welding and Flame Cutting supervises welding and flame cutting operation in workshop and ensures correct working. Studies drawings and other details regarding welding or cuttings to be done and arranges for jigs and fixtures, if required. Explains joints to be made, precautions necessary to retain form or avoid cracking and burning, type of welding to be done, electrodes or welding rods to be used, flux to be applied, etc., to workers to ensure correct wiring. Supervises work, enforces adaptation of prescribed precautionary measures regarding placement of gas cylinders, use of rubber gloves, welding shields, etc., and guides workers as necessary to achieve desired finish, size strengths, shape and other factors as specified. Checks welded or cut part with appropriate testing and measuring instruments and gets defects removed or rectified, if possible. Ensures maintenance of welding sets, torches, gas cylinders etc., and maintains scheduled production and discipline in section. May maintain production and material records and registers.

7218.20 Supervisor and Foreman, Sheet and Structural Metal Working supervises performance of sheet and structural metal workers, guides them as necessary and ensures production to required specifications. Studies drawings and related specifications of sheet and structural metal work to be done and plans

NATIONAL CLASSIFICATION OF OCCUPATIONS

machine, bench and hand tool operations to suit working. Explains tasks to be performed to workers, guides setting of shearing, handing, rolling, profiling other machines, sizes required, forming and development to be made, etc., and working tolerances (limit) to specified finish at every stage of work. Supervises and guides workers as required. Checks lay out joints, forming, profiling, development, fittings riveting, etc., both visually and with appropriate testing and measuring instruments during stages of production as well as finish, gets defects removed and ensures correct working. May get soldering, brazing, welding and other related operations done, if necessary. May be designated as **SUPERVISOR, TINSMITHS; SUPERVISOR BOILER MAKING; SUPERVISOR STRUCTURAL AND CONSTRUCTION WORK** etc. according to specialisation or type of work done.

7218.90 Supervisors, Foremen and Related Workers in Metal Moulding, Welding, Sheet Metal Work, Structural Metal Preparation and Related Trades, other include workers who supervise and guide workers engaged in pipe fitting, plumbing, welding, flame cutting and sheet and structural metal working operations not elsewhere classified.

722 BLACKSMITHS, TOOL-MAKERS AND RELATED TRADES WORKERS

Blacksmiths, tool-makers and related trades workers hammer and forge bars, rods or ingots of iron, steel and other metals to make and repair various kinds of tools, equipment and other articles, set for operators or set and operate various machine tools, and polish and sharpen metal surfaces.

7221 BLACKSMITHS, HAMMERSMITHS AND FORGING-PRESS WORKERS

Blacksmiths, hammer-smiths and forging-press workers draw wire, hammer and forge bars, rods, ingots and plates of iron, steel or other metals to make and repair various kinds of tools, metal articles, pieces of equipment, agricultural and related implements.

7221.10 Blacksmith; Lohar forges metal to required shape and size by processes of heating, bending, hammering etc. Heats metal in furnace to required degree of temperature. Places it on anvil holding it with tongs and forges it to required shape and size by hammering either himself or by Hammerman. May use swages, sets from tools, jigs, etc. according to shape required. May weld by forging (joining two pieces with brass and borax by heating), and work by cold process. Is designated as **ANGLESMITH OR SPRING SMITH** if specialised in working on angle iron or in making springs.

7221.20 Village Blacksmith forges domestic and agricultural articles, used in villages, by repeated heating and hammering. Examines sample for shape and size. Heats specified type and length of metal in furnace to required degree of temperature. Places and holds it on anvil with tongs and gets it hammered or hammers it himself to desired shape and size using sets, swages, etc. Punches holes by heating and hammering. Joins pieces of ferrous metal by forge-welding (heating two pieces of steel or iron and hammering them together). Heats articles frequently and checks it by sight or with scale, callipers etc., while forging. May fit metal tyres on cart wheels. May do simple heat treatment operations. May also make articles according to instructions.

7221.30 Power Hammer Operator; Forging Machine Operator forges iron or steel to required dimensions by heating and hammering with power hammer. Heats metal red hot and adjusts it below hammer on anvil with tongs. Holds it firmly with tongs and operates hammer by paddle or signals to Leverman to operate power hammer with required force and momentum. Turns sides of metal by tongs for hammering according to requirements. May heat or get metal heated number of times according to necessity. May finish article by himself striking it with hand hammer.

7221.40 Hammerman; Striker hammers iron and steel to required dimension with sledges according to direction of Blacksmith. Selects sledge according to nature of forging and strikes hot metal hard or light as per direction of Blacksmith. May also work by cold process.

7221.50 Stamper; Drop Forger shapes articles from metal pieces by using dies and

NATIONAL CLASSIFICATION OF OCCUPATIONS

drop forging or stamping machine. Sets required die and punch securely in machine, heats metal to red hot and firmly places it on die holding it with long tongs. Signals Stamper, Helper to bring punch down with force. Checks formation by sight and adjusts position of material every time before strike. Applies oil, saw dust or powdered coal on die before stamping. May reheat and handle more than one set of die for completing article. May also work by cold process in case of hammer dies and metal sheets.

7221.60 Farrier fits iron shoes to hoofs of animals such as bullocks, horses, etc., to protect them from injury and excessive wear and tear. Removes old shoes and nails from hoofs of animals and dresses them (hoofs) by mending and filing. Selects shoes of required size, rectifies defects if any, and fits them in hoofs with special types of nails. Ensures that shoes are not loose and animal does not get injured in process of fitting shoes. Ties and immobilises animal before fitting shoes if necessary. May also make shoes by common blacksmithy process.

7221.70 Wire Drawer; Block Stripper, Metal Drawing draws wire through dies to required specification by operating wire drawing machine. Selects required die and fits it in die box. Sets height and alignment of block. Points one end of wire, feed it into die, starts machine and watches drawing and coiling at other end. Rectifies defects in case of faulty drawing or breakage.

7221.80 Metal Spinner; Spinning Lathe Operator fashions metal sheet on spinning lathe into hollow-ware, utensils, and fancy articles using patterns and spinning tools studies drawings and other specifications of article to be made. Selects appropriate mandrels. Wooden chuck or mould to make article. Fastens mould to spindle or lathe. Measures, marks, and cuts discs from sheet metal stock and drills hole in each disc using marking devices, shear and drill press. Clamps disc to spinning form mounted on head stock spindle of lathe by forcing follow block against disc with tail stock (movable part of lathe). Starts machine. Coats outside of rotating disc, forcing it to shape of spinning form, removes completed article from lathe and repeats process. Smooths and trims spun piece with hand tools. May

oil and clean machine. May work on wood turning lathe and make wooden chucks or moulds. May cut and prepare appropriate sizes of metal blanks on machine for use of spinning lathe. May be designated as **ALUMINUM SPINNER, BRASS SPINNER, and COPPER SPINNER**, according to type of metal handled.

7221.90 Blacksmiths, Hammer-smiths and Forging-press Workers, other perform variety of routine and low skilled tasks not elsewhere classified, in smithy section such as operating levers of power hammer, pulling string of drop forging machine, assisting Forging Machine Operator in placing material on anvil or carrying it off and are designated according to nature of work done such as Leverman, Stamper Helper, Blacksmith Helper, etc.

7222 TOOLMAKERS AND RELATED WORKERS

Toolmakers and related workers make and repair tools, sports guns, locks, dies, patterns and other metal articles, as well as make engines or machinery components, and parts thereof, using hand and machine tools to work metal to fine tolerances.

7222.10 Maker Metal ; Layoutman marks metal according to drawing or sample for filing, machining, grinding, drilling, forming, erecting, etc. Studies drawings, sketches, samples, etc., to determine nature of work. Selects metal such as sheet, blocks, angles, rods, etc. according to requirement and specification and applies chalk or copper sulphate solution on finished surface. Calculates and marks outline with centre punch marks on finished surface of metal, indicating lines, curves or points as per dimensions and other specifications given in drawing for fitting, cutting, grinding, drilling, developing, etc., using surface plate, angle plates, vernier height gauge, divider, marking block and other devices. Checks markings by calculating dimensions to ensure accuracy of size, distances etc., using scales, divider, square and other tools. May use template for making standard sizes of metal products. May mark metal components with drawing numbers for final assembly and erection. May be designated as **SHEET METAL MARKER, STRUCTURAL MARKER, TOOL ROOM**

NATIONAL CLASSIFICATION OF OCCUPATIONS

MARKER, MACHINE SHOP MARKER, etc., according to shop and nature of work done.

7222.20 Tool Maker makes cutting and press tools, gauges, simple jigs, fixtures, etc. mainly for use in machines. Studies drawings, samples and other specifications of tool or gauge to be made. Selects required type of metal or alloy and marks it for various operations, using vernier height gauges, sine plate, vee blocks, etc. Cuts, files, grinds, scrapes or otherwise shapes metal to specified dimensions frequently decking it while working with measuring instruments such as micrometre, vernier, gauges, face plate etc. as necessary. Anneals, shapes, hardens and tempers cutting tools ensuring correct cutting angles, clearances, etc. according to standard or prescribed specifications. Assembles part, finishes object. Checks accuracy with precision measuring instruments and shadow graph if necessary to ensure desired performance. Calibrates and adjusts tools and gauges where required and maintains them in good working order. Guides brazing of tips to stalks and finishes them to make tip tools. Is designated as GAUGE MAKER if engaged in making or reconditioning gauges. May repair and recondition tools for further use. May design tools, jigs and fixtures and braze and weld metal parts.

7222.30 Jig and Fixture Maker makes and repairs jigs and fixtures (device for holding metal and guiding cutting tools) for mass production work. Studies drawing and checks dimensions and other specifications of sample to calculate working details. Collects material, gets surfaces finished by filing or machining and marks them off. Makes different parts of required jig or fixture by cutting, filing, machining, grinding, scraping, drilling, screwing, etc. and finishes them to required dimensions. Hardens and tempers necessary parts or gets them done ensuring that they do not get demored. Assembles parts in proper sequence, fits hardened bushes or parts where specified to guide cutting tools and checks easy fixing and removing of part to be machined to ensure operational efficiency of jig or fixture made. Checks fitting of jig and fixture at each stage while assembling to conform to specifications. Tests completed jig or fixture by trial

operations to ensure operational efficiency and accuracy in production work. May make adaptors, pullers etc. for specific purposes. May machine and grind jig and fixture parts himself.

7222.40 Jig Borer; Jig Boring Machine Operator sets and operates precision jig boring machine for making highly accurate holes in jigs, fixtures, castings, etc. Studies drawings and other specifications and calculates locations and sizes of holes to be drilled, pitch centre distances, etc. Marks or gets metal or object marked accurately to indicate exact position of holes to be bored. Sets machine table and fastens metal or object on it in perfect level and correct alignment with clamps, fixtures, jigs, etc., using dial indicators, slip gauges, optical scale of machine if provided, sine bars and other precision devices. Fits centring tool in chuck in machine spindle. Moves table across and side ways according to machine reading, locks movements of machine table taking bearing from finished side of metal or object, lowers spindle to bring centring tool exactly over centre of hole to be drilled, notes table readings, starts machine and drills hole centre. Raises spindle, replaces centring tool with pilot drill, sets machine feed and speed, operates machine spindle and drills, pilot hole. Changes pilot drill with slightly less than hole size drill. Drills metal or object and checks hole with plug gauge for alignment, angle, size, etc. Fixes dead size (exactly of size of hole to be made) reamer or boring tool in machine spindle. Sets feed and speed as necessary and bores hole to finished size ensuring absolute accuracy of hole made. Stops and starts machine and keeps coolant on as required while working. Unlocks table movement, moves table sideways and across according to calculated pitch centre distances of holes, taking bearing from hole drilled and drills other holes in similar manner. May drill more than one hole in same surface in one setting. May grind tools and oil and clean machine.

7222.50 Die Maker; Die Fitter; Press Tool Fitter makes metal dies to prescribed dimension for punching, cutting, forging and forming of metal or synthetic components for mass production. Studies drawing and specifications of dies to be made. Selects required type of metal or rough cast metal block. Machines or grinds one surface and marks it with template or otherwise to indicate

NATIONAL CLASSIFICATION OF OCCUPATIONS

dimensions and other working details. Cuts shapes, drill holes and mills metal according to marking on various machines. Checks dimensions while working with gauges and other measuring tools. Finishes made die (punch) by filing to required dimension and fits female to it. Files cutting angle and clearance accurately in female die and checks for sizes. Drills holes and cuts thread in female die for driving guide pin and fitting guide plates. Gets male and female dies tempered and grinds them to finish ensuring correct shear, cutting angle, clearances, etc. Sets finished dies in press and cuts or forms some trial pieces to ensure accuracy and correct production. May shape female die block to required angle for fitting it in bolster. May repair used dies and grind them to desired finish. May operate lathe, milling and shaping machines and harden and temper dies.

7222.60 Die Sinker, Hand makes metal dies in two halves for manufacture of metal and synthetic components using fine chisels, hand tools, machine, etc. Studies samples or drawings of dies to be made. Selects right type of metal or alloy rough cast blocks. Gets one surface of each block ground finished. Marks one block to indicate position, size and shape of die to be cut. Follows marking and removes metal with different types of chisels, scrapers, etc. to form one half of die to be made. Measures amount of metal removed frequently while working with depth gauge, template, foot rule etc. to ensure correct forming. Transfers markings to other die block and (forms) and shapes it in similar manner to form other half of die. Takes lead casting of complete die formed and measures it (casting) with calipers, micrometre, etc. for dimensions. Makes alternations in die halves if required checks with further lead castings and ensures that product formed conforms to prescribed specifications. Gets die halves tempered and finishes them by grinding. Sets them in machine and stamps or forges some trial pieces to ensure correct formation. May anneal, grind and sink dies again if necessary. May do primary sinking of dies in vertical milling machine.

7222.70 Locksmith fits assembles and repairs locks with finished parts by accurately sizing components, setting levers rivetting etc. studies design, sketch or model of lock to be

made. Collects various finished components or parts and checks for accuracy of fit by supplementary tooling to remove defects. Assembles and fits parts in frame and riverts body to make complete lock. Tests completed lock for locking and unlocking with appropriate key. Dismantles defective locks, repairs or replaces damaged parts and sets them right by setting or filing levers, rivetting etc. Opens jammed locks using special scriber to release levers and springs. May install locks. May make parts of locks by hand.

7222.80 Pattern Maker Metal, Foundry makes and repairs metal patterns for making moulds for casting metals. Studies drawings and other specification of pattern to be made and calculates shrinkage allowances. Takes metal cast roughly to shape or selects metal from stock and marks it off. Grinds, smooths and other wise shapes metal to required dimensions keeping shrinkage allowances in view. Measures object (pattern) frequently while working with calipers, foot rule, gauges etc. to ensure correct shape and size. Assembles pattern parts by screwing, soldering or otherwise fixing them together. Checks completed pattern for accuracy using gauges, micrometre, calipers, etc. and makes alterations if necessary. May repair broken or damaged patterns.

7222.85 Armourer; Gunsmith; Fitter Arms assembles, replaces parts and repairs guns, rifles, pistols etc, by further tooling as necessary. Checks complete small arm (gun, rifle, pistol etc.) or its components such as stock, barrel, sight, trigger mechanism, firing pins, ejector etc, for alignment, proper fittings, grooving, functional operations, condition and serviceability and locates defects if any. Dismantles complete arm or defective portion as necessary and removes dents and defects by further tooling, brazing etc, or by replacement of broken or worn out parts. Selects seasoned walnut, shisam or any other type of appropriate timber, marks it and makes butt of respective small arms, if defective, in correct alignment with sights and barrel by various carpentry processes. Removes rust if any and cleans barrel and other parts thoroughly. Assembles parts one by one in order of sequence with hand tools ensuring stipulated performance, correct setting, alignment, rigidity etc. sets back and fore sights in perfect alignment with muzzle and stock for different ranges of shooting and adjusts it correctly by trial shooting at firing

NATIONAL CLASSIFICATION OF OCCUPATIONS

range. Scrapes and polishes outer surface of barrel, trigger, trigger guard etc. and colours it by hot or cold gun bluing process. May personally test arms by trial firing at range to observe performance and accuracy.

7222.90 Toolmakers and Related Workers, other include all other Tool Makers engaged in making special or other types of tools such as fly cutters, capstan, form tools, etc., by performing one or more combination of tasks, not elsewhere classified.

7223 MACHINE TOOL SETTERS AND SETTER- OPERATORS

Machine tool setters and setter- operators set for operators, or set and operate, various machine tools working to fine tolerances.

7223.10 Tool Setter, General sets various types of precision metal cutting and grinding machines for machine operators. Studies drawings and other specifications of parts to be made. Fixes metal and cutting tool accurately in position on machine using chucks, jigs and other fixtures as required. Adjusts machine table, guides, stops and other controls by manual operations ensures that tool will cut or grind metal according to specifications. Starts and operates machine to cut or grind sample product. Checks progress and accuracy of cutting or grinding with precision measuring instruments such as micrometer, vernier, gauges, etc. and makes necessary adjustments to ensure accuracy of final product and hands machine over to operator for production. Charges tools and resets machine as necessary. May be designated as **BROACHING MACHINE SETTER; MILLING MACHINE SETTER; PROFILING MACHINE SETTER; SHAPING MACHINE SETTER; SETTER LATHE**, etc. according to type of machine set. May do minor repairs to machine. May supervise work of machine operators.

7223.20 Tool Setter, Press sets press tools (die and punch) in power and hand press for manufacture of sheet metal products. Examines sample or studies drawings and specifications of item for production. Selects appropriate pair of die and punch and examines them for sharpness, cutting angle, clearance, etc. Fits punch in punch holder of

machine and securely screws it in position. Places die on machine table and lowers punch to fit in die. Adjusts position of die in relation to punch. Clamps die securely on machine table with holders, plates, bolts and nuts and manually operate punch few times to ensure that it passes clearly through die set. Starts machine and feeds metal to cut or form trial pieces. Examines them for correctness in all respects, resets die if necessary, and hands press over to operator for production work. May grind press tools on surface grinder. May fit guide pin in die to avoid wastage of material. May fit die in bolster (holding device) before setting. May supervise operators.

7223.30 Setter, Drop Forging Machine; Drop Forge Setter sets dies in forging machine for blacksmithy work to cut or form heated metal parts to desired shape. Studies drawing or part to be made and selects required pair of dies. Fits top die securely in sliding hammer head of machine and places bottom die on anvil (base platform of machine). Lowers top die by lever or otherwise slowly on bottom die and adjusts position of bottom die in relation to top die to have equal clearance on all sides. Sets bottom die securely on anvil with bolts, clamps, nuts, plates, etc. and checks for correct setting. Heats or gets blank or material heated to required temperature and forges some (two or three) trial pieces to ensure correct production and minimum wastage of material. Resets dies if necessary and hands forge (machine) over to operator with necessary instructions. May set rope or belting to lifting device of hammer head. May be designated as **DROP HAMMER SETTER, PNEUMATIC HAMMER SETTER, STEAM HAMMER SETTER** etc. according to type of hammer or forging machine set.

7223.40 Setter Automatic Machine sets various types of precision metal cutting tools in automatic machines for specific repetitive operations for mass production of metal articles or components. Studies drawings and other specifications of metal parts or articles to be made. Selects appropriate tools and securely fixes them in automatic machines in order of sequence of operations. Fastens metal accurately in position in machine using chuck, jig or fixture as required. Starts machine. Operates different tools manually in order of sequence to cut metal to required

NATIONAL CLASSIFICATION OF OCCUPATIONS

specifications. Checks metal frequently while cutting with precision measuring instruments to ensure accuracy and regulates feed of metal, travel and movement of tools, etc. by setting locking devices, guides, automatic and other controls after each completed operation. Cuts trial piece according to settings done to check accuracy of each operation and cutting of metal to prescribed dimensions. Resets controls, guides, etc. where necessary to ensure accuracy. Sets machine feed and speed, adjusts flow of coolant and hands over machine to operator with required instructions for tool manipulations and operations as necessary. Visits machines under his charge frequently, checks production and ensures that products of each machine are interchangeable and are manufactured to required specifications. Guides and resets tools where necessary. May develop and form new tools for specific operations and harden and temper them. May suggest form and type of jig and fixture required.

7223.90 Machine Tool Setters and Setter Operators, Other include all other Machine Tools Setters engaged in setting machines and tools for specific operation or production work, not elsewhere classified.

7224 METAL WHEEL GRINDERS, POLISHERS AND TOOL SHARPENERS

Metal wheel grinders, polishers and tool sharpeners grind and polish metal surfaces and sharpen tools.

7224.10 Grinder General grinds and smoothens metal surfaces to specified accuracy using one or more type of grinding machine. Examines drawings and other specifications of part to be ground. Selects grinding wheel of appropriate size, shape and abrasive quality and fastens it on spindle of machine. Mounts metal part accurately in position on machine using chucks, jigs, fixtures or between centres of head and tail stock of machine as required and sets it accurately either parallel or at angle in relation to grinding wheel as specified using appropriate devices and instruments necessary. Adjusts machine table, guides, stops and other controls to determine direction and limit of metal and grinding

wheel movements. Selects grinding wheel speed and starts machine for grinding. Manipulates hand wheel or sets and starts automatic controls to bring grinding wheel in contact with work. Checks progress of grinding with measuring instruments and gauges for accuracy. May balance dress or change grinding wheel, stone or abrasive. May oil and clean machine.

7224.20 Grinder, Crankshaft grinds crank pins and journals of crankshaft accurately to uniform diameters by special grinding machine and attachments. Studies drawings and other specifications of parts to be ground. Fastens crankshaft accurately in position on machine using chucks, fixtures, and other devices and sets portion to be ground, using dial indicator, marking block or otherwise. Selects appropriate type and quality of grinding wheel and fits it on machine spindle. Adjusts guides stops and other controls to determine limit of work and grinding wheel movements. Selects rotation speed of wheel and starts machine. Manipulates hand wheels of machine and brings rotating grinding wheel in touch with crankshaft journal or area to be ground. Regulates flow of coolant over ground portion. Observes progress of grinding to prescribed accuracy and finish. Stops machine periodically and checks for accuracy using micrometer or set gauges. Removes crankshaft when grinding is over and repeats operations on other portions as required. May make simple adjustments to machine. May clean and oil machine.

7224.25 Roll Grinder grinds shafts, rollers, commutator etc., to accurate finish for various mechanical purposes by centreless, cylindrical or universal grinding machine. Studies drawing and other specifications of parts to be ground. Selects and mounts appropriate abrasive wheels on machine. Turns hand wheel to adjust gap between rims of wheels according to diameter of part to be ground. Moves levers to select appropriate speeds for each wheel. Sets feed guide to guide work into position between two wheel rims and clamps coil guide properly to receive work from between wheel rims. Starts machine and feeds work on to feed guide or keeps hopper filled with objects that are automatically fed between wheels. Observes progress of work and checks periodically ground parts with micrometer or gauge to ensure that they conform to prescribed

NATIONAL CLASSIFICATION OF OCCUPATIONS

specifications. May do cylindrical grinding of parallel, step and taper shafts and internal bores set between centres or otherwise by processes of traverse plunge or angular grinding and be designated as **CYLINDRICAL GRINDER or INTERNAL GRINDER** as appropriate. May set or adjust grinding wheel distance for different operations. May clean and oil machine.

7224.30 Surface Grinder grinds flat surfaces of machined metal objects to required finish and thickness by surface grinding machine. Studies drawings and other specifications for nature of grinding operations required. Selects appropriate grinding wheel and fits it on machine spindle. Places work in position on magnetic chuck on the machine. Sets required speed of grinding wheel and feed of machine and adjust guides and stops to control to and fro travel of machine table. Starts machine and brings grinding wheel into contact with work. Applies cut and observes progress of operation. Stops machine and measure work as necessary to ensure required accuracy. Removes work from machine when grinding completed. May operate horizontal or vertical spindle surface grinding machine. May oil and clean machine.

7224.35 Thread Grinder finishes accurately threads of precision bolts, taps etc, by thread grinding machine. Studies blue print for pitch and other specifications of threads to be ground. Adjusts wheel of grinding machine and dresses grinding wheel to required pitch and cross-sectional shape of thread to be ground. Checks ground wheel with gauges to ensure accuracy. Mounts grinding wheel on spindle of machine and sets it to required, grinding operation. Mounts threaded work piece to be ground on machine and fastens it securely. Adjusts proper gears in feed mechanism of machine to give threads specified pitch. Sets prescribed speed and feed of machine. Starts machine, and applies cut by matching ground wheel and thread on work piece perfectly. Observes operation as first cut is completed. Stops machine and returns wheel to original position. Checks dimensions of finished threads using measuring instruments and gauges. Makes adjustments, if necessary, and repeats

operation until thread is properly ground. May clean and oil machines.

7224.40 Honer grinds internal surface of bores and cylinders to accurate mirror like finish with honing machine. Mounts ground cylinder accurately in position on machine, using clamps, jigs and other fixtures. Selects appropriate honing stick (abrasive tool) and clamps it on spindle of machine. Aligns cylinder accurately so that honing tool goes smoothly inside cylinder bore. Sets machine to feed and rotate hone at appropriate speed and starts machine. Expands tool to required diameter and manipulates hand wheel to feed tool into cylinder. Engages automatic feed that oscillates hone within cylinder and regulates supply of cutting lubricant over honing tool. Checks progress of honing as required with measuring instruments and makes necessary adjustments to ensure accuracy. Removes work when honing is completed. May do internal grinding of cylinders and bores. May oil and clean machine.

7224.45 Lapper smoothens hardend flat, cylindrical, spherical or other metal surfaces mechanically or manually to glossy finish by rubbing surfaces with fine abrasives. Examines drawings and other specifications of part to be lapped and selects appropriate abrasive dust. Fits lapping wheel and sets object to be lapped on machine. Applies abrasive dust on metal surface and wheel and starts machine. Brings metal objects in contact with lapping wheel or holds work by hand over lapping wheel and polishes surface to required finish. Applies abrasive compound where necessary to attain high degree of finish. Smoothens or polishes surface for set period. Removes metal and cleans it in special liquids. May do hand lapping by enclosing object in container and vigorously rubbing by hand top plate of container with abrasive compound on metal surface to attain high degree of polish and accurate finish.

7224.55 Polisher polishes metal articles such as household utensils, vases etc. to high finish on polishing spindle with abrasives and polishing tools. Fixes article on suitable adapter screwed to spindle. Starts motor to rotate spindle and adjusts article on adapter to run concentric. Presses fine emery paper on article to glossen surface. Improves texture and attains high polish by manipulating polishing

NATIONAL CLASSIFICATION OF OCCUPATIONS

tool against article. May also polish silver and costly wares with buff for still higher finish.

7224.65 Saw Grinder, Hand sharpens teeth of different kinds of saws by filing and slightly bending them in required direction. Examines dull saw blade and determines extent of grinding and mending of saw teeth required. Fixes saw blade of wooden cramp and grinds each saw tooth individually with triangular file. Feels sharpness by touch and bends saw teeth alternately or as designed using hammer and sawage or special pliers. May make saws by cutting fresh teeth and fixing handle in new or used blades.

7224.70 Card Grinder; Top Grinder (Textile) sharpens and evens wire bristles on drums (cylinders and doffers) of carding machine by using grinding rollers. Places and sets grinding roller on card machine, puts belts on pulley of grinding roller, connects it with driving mechanism and starts machine. Adjusts screws and regulates pressure of grinding wheels to evenly grind wire bristles on drum to required sharpness.

7224.80 Metal Bluer imparts blue finish to metal object to make them resistant and to improve their appearance. Packs metal objects in bone or chemical and places them in furnace. Regulates heat to bring furnace to desired temperature and ascertains it by means of pyrometer or otherwise. Removes metal object from furnace when they have attained required heat and places them in vats of prepared chemical solution. Removes metal objects from chemical bath when bluing is completed and washes them in oil.

7224.90 Metal Wheel Grinders, Polishers and Tool Sharpeners, Other include all other Metal Grinders, Polishers and Tool Sharpeners engaged in grinding and polishing knives, cutlery, choppers, domestic appliances and such other items and tools, not elsewhere classified.

7228 SUPERVISORS, FOREMEN AND RELATED WORKERS IN BLACKSMITHY, TOOL MAKING AND RELATED TRADES

Supervisors, foremen and related workers in blacksmithy, tool making and related trades

supervise workers engaged in blacksmithy, tool making and machine tool operations and guide workers as necessary to achieve correct production.

7228.10 Supervisor and Foreman, Blacksmithy supervises general or mechanised blacksmithy shop and ensures correct production. Studies samples or drawing of metal to be forged or item to be made. Selects metal as specified and instructs workers on heating and forging temperatures, sizes to be made, blocks and dies to be used, etc., as required. Observes heating, stamping, machine forging, hand forging and other blacksmithy operations and guides workers as necessary. Ensures correct working, sizes forged and gets defects removed as noticed. Gets furnaces and machines overhauled and repaired as necessary and maintains them in proper working order. Prevents wastage of materials, enforces discipline and safety measures and serves as liaison between workers and management. Maintains prescribed records and registers and replenishes tools and shop material stock as scheduled. May supervise normalising, tempering and other heat treating operations.

7228.20 Supervisor and Foreman, Tool Making supervises manufactures of jigs, fixtures, form, cutters, (special type of cutting tools), dies, gauges and other tools and ensures production within prescribed finish and tolerance. Studies drawings, consults Tool Engineer, if necessary, and plans lay out of work. Details workers according to prescribed tolerance and type of tool to be made and instructs them on specifications and standard of work required. Checks marking, filing, drilling, machining, grinding, and other operations according to type of tool being made and guides workers as necessary. Measures work at every stage of production with precision instruments. Suggests operations and gets defects removed wherever noticed. Checks completed tool and satisfies himself by trial operations. Conducts reconditioning and repairs of used tool and puts them on production after trial run. Keeps tools, machines, equipment and instruments in perfect working order and checks their efficiency for precision working from time to time. Maintains log book and other records and suggests design or operational modifications where desired. May design simple tools.

NATIONAL CLASSIFICATION OF OCCUPATIONS

7228.90 Supervisors, Foremen and Related Workers in Blacksmithy, Tool Making and Related Trades, other include workers who supervise workers engaged in blacksmithy, tool making and machine tool operations and guide workers as necessary to achieve correct production not elsewhere classified.

7229 BLACKSMITHS, TOOL MAKERS AND RELATED WORKERS n.e.c.

This Family covers occupations not classified else where in the Group 722 Blacksmiths, toolmakers and related trades workers.

7229.90 Blacksmiths, Tool Makers and Related Workers, other perform work by hand or hand powered machines to bring metals in to required shape and size by heating, bending, hammering, etc., and also shape and fit iron shoes on hooves of animals not elsewhere classified.

723 MACHINERY MECHANICS AND FITTERS

Machinery mechanics and fitters fit, install, maintain and repair engines, vehicles, agricultural or industrial machinery, and mechanical equipment.

7231 MOTOR VEHICLE MECHANICS AND FITTERS

Motor vehicle mechanics and fitters fit, install, maintain, service and repair engines and the mechanical and related equipment of motorcycles, passenger cars and delivery trucks and motor vehicles.

7231.10 Mechanic, Automobile repairs overhauls and services motor vehicles to keep them in good running condition. Examines vehicle to ascertain nature and location of defects either by running engine or driving vehicle on road. Dismantles partially or completely defective unit or parts of vehicle such as engine, gear box, rear axle, front axle, steering assembly, radiator, etc. according to nature of repairs to be done, using hoist, jack, pullers, hand tools and other devices. Measures essential parts like cylinder, bores piston, sizes crank pins etc. using gauges, micrometer and other precision tools and gets cylinders rebored, liners filled, valve seats refaced, bearings remetalled etc. as

necessary. Repairs or overhauls and assembles engine by performing tasks similar to those of Mechanic Petrol or Diesel Engine such as replacing defective parts, scrapping bearings, grinding valves, setting timing, cleaning injectors, tuning carburettor etc. according to maker's specification. Replaces or repairs defective parts of gear box, rear axle, steering mechanism etc. and sets them right ensuring correct alignment, clearance, meshing of gears, specified movements and operations. Relines and builds brakes, sets wheel alignment, adjust, steering, clutch, hand brakes etc fits new or repaired accessories and body parts, makes electrical connection, and performs other tasks to effect repairs. Lubricates, joints, tightens loose parts, tests performance of vehicle by driving on road and makes necessary adjustments to attain desired standard. May assemble complete vehicle from finished components.

7231.20 Engine Tester, Automobile; Test Bed Mechanic, Automobile tests performance of newly assembled automobile engines before fitting them on chassis. Mounts motor on test bed with hoist and clamps it securely in position with nuts and bolts. Connects dynamometer/ alternator to crankshaft of engine, oil and fuel line, controls, and other accessories adjusts tappets, starts engine, sets air-fuel ratio and performs precise tune up operations. Runs engine for specified period at different speed and observes performance, unusual noises knocks, etc. reads and records temperature, fuel consumption, oil pressure, compression and power developed at certain speed and other specification and calculates torque, B.H.P thermal efficiency etc. Passes engine to assembly line or reject, it for return to disassembly. May rectify minor faults or report faults noticed.

7231.30 Tractor Mechanic repairs and overhauls tractors by various mechanical processes for agriculture, constructional and other heavy duties. Examines and drives vehicle on road or runs engine in stationary position to diagnose troubles and defects. Dismantles part or complete engine or unit according to nature of defects. Repairs or replaces defective parts, reassembles them with prescribed settings, clearances, timings and adjustments by further tooling as necessary and ensures accuracy of fit. Installs assembled or repaired engine securely in position on vehicle

NATIONAL CLASSIFICATION OF OCCUPATIONS

chassis and connects oil and fuel lines, controls and other accessories. Starts engine and observes performance for any unusual noise and knocks. Adjusts carburettor, fuel pump (Carburettor for petrol engine and fuel pump for diesel engine), sets clearance between tappets and valves, tunes engine, adjusts brakes, makes electrical connections and performs other tasks to ensure stipulated performance. May repair and overhaul electric motors, fuel pump, carburettor etc. of engine. May weld, braze or solder parts. May repair other agricultural machinery for ploughing, leveling, harvesting etc. and be designated as **MECHANIC, AGRICULTURAL MACHINES.**

7231.40 Fitter, Automobile attends to minor repairs to motor vehicles under guidance of Mechanic Automobile. Receives instructions from Mechanic, Automobile about tasks to attend. Jacks up vehicle to required height for repair in convenient position where necessary. Removes nuts and bolts to dismantle parts such as water pump assembly, fuel pumps assembly, distributor, carburettor, sparking plugs, starter motors, generator, steering gear, brakes, clutch, transmission and suspension systems, etc. Grinds valve and decarbonises cylinder head under guidance of mechanic and changes oil of engines and transmission system. Tightens loose parts, lubricates joints, does minor repairs, replacements and adjustments and performs simple fitting operations such as filing, chipping, grinding etc. May work in workshops or garage. May drive vehicle on road. May be designated as **SERVICE MECHANIC** if engaged in cleaning, polishing, oiling and greasing vehicles and do minor routine adjustments as included in servicing.

7231.50 Mechanic, Motor Cycle repairs, services and overhauls motor cycles, auto-rickshaws, scooters; etc., to make and keep them roadworthy. Examines motor cycle or scooter to locate faults by running engine in stationary position or by driving it on road. Dismantles parts such as engine, ignition system, dynamo forks, shock absorbers, gear box etc., as necessary. Grinds valves, sets timings, relines brakes, rebushes steering mechanism, replaces worn out parts, assembles gear box clutch etc. and performs other tasks to effect repair, cleans and sets

carburettor, fits driving chain, wheels silencer, kick, gear, clutch and brake levers and other accessories. Adjusts control cables for brake, clutch and accelerator, sets tappets and wheel alignment, tightens loose parts and makes necessary fittings and connections. Changes engine and gear box oil, starts engine and tunes it up. Tests performance of vehicle by driving on road and makes further adjustments to remove defects noticed if any. May assemble motor cycle or auto-rickshaws from assembled parts.

7231.60 Cleaner, Motor Vehicle cleans and lubricates moving parts of motor cars, trucks and other automatic vehicles and performs various other related tasks. Fills oil cans, grease guns with required type of lubricant. Lubricates vehicles according to charts, instructions, own judgement or knowledge of type of vehicle to be lubricated. Injects oil or grease into various parts of engine or chassis. Inspects transmission, differential and rear axle casing and fills them with grease and oil. Cleans or replaces clogged or damaged lubricators. Examines oil levels in gear box, crankcase, steering box etc., and drains out old oil and refills them with good oil as required. Reports apparent defects to Mechanic. May fill radiator with water/coolant, check and fill distilled water in battery, tighten loose parts such as bolts and nuts, repair flat tyres, mount tyres on wheel rims, inflate tyres and perform other related duties as assigned.

7231.90 Motor Vehicle Mechanics, other perform number of routine and low skilled tasks in repairing and overhauling motor vehicles such as removing mudguards, bonnets etc. to facilitate working, adjusting alternator and fan belt, assist in bleeding of brakes, draining gear box and oil pump, removing and resetting road spring, etc., and are designated as **Motor Mechanic Helper, or Garage Boy** according to nature of work done.

7232 AIRCRAFT ENGINE MECHANICS AND FITTERS

Aircraft engine mechanics and fitters fit, service, repair and overhaul aircraft engines.

7232.10 Airframe Erector assembles fuselage, tail, wings, under carriage, fuel tanks, doors etc. and installs plumbing pulley, pulley brackets and other airframe structural members

NATIONAL CLASSIFICATION OF OCCUPATIONS

according to approved schedules. Studies blue print and approved assembly schedules. Assembles airframe components, by supplementary tooling where necessary using jigs, fixtures and other devices. Ensures correct fits, assembly, alignment and clearance according to schedule, using feeler gauges, micrometer etc. Secures members temporarily with fasteners, screws or by tack welding and marks locations for rivet holes. Drills and countersinks holes in members for subsequent rivetting, checks operation of pneumatic and hydraulic systems, locates defects and rectifies faults. Tests rigging and satisfactory operation of aircraft control and ensures airworthiness. Is designated as **MECHANIC AIRCRAFT AIRFRAME OVERHAULING** if engaged in disassembling above parts and reassembling them after necessary repairs. May rivet parts together. May replace, repair and modify passenger galley and toilet structural parts. May maintain record of parts examined.

7232.20 Mechanic Aircraft Propeller installs, repairs and sets aircraft propellers according to design for specified displacement of air. Checks propeller used on aircraft and ensures recommended combinations, mandatory modifications and compliance with Directorate General of Civil Aviation's requirements. Strips or dismantles propeller assembly, gets them properly cleaned and checks them for size, shape, wear and tear, cracks and fatigue using precision instruments and other devices according to set procedure. Assembles propeller with spares, where necessary, according to instructions and approved schedules. Checks fits, clearance, alignment of propeller blades etc. and carries out balancing of components of propeller assembly. Gets balancing done checked and approved by appropriate authority and installs propeller assembly on test rig to administer tests and functional checks such as blade angle, leak check, microswitch setting etc. as prescribed. May do complete over-hauling of constant speed units and get parts repaired or rectified in appropriate sections.

7232.30 Engine Tester, Aircraft tests performance of aeroplane engines by operating them under controlled conditions, keeping record of various meter readings taken at periodical intervals and interpreting

data thus obtained. Prepares engine for tests run. Dresses and installs engine on tests bed, using chain hoist and fastens it securely to bed with clamps and other fixtures. Connects oil and fuel lines, instruments, controls, and accessories. Connects propeller or dynamometer to crankshaft preoils, primes starts engine according to test run procedure. Runs it for prescribed period at different specified speeds, locates defects and rectifies them. Reads and records speed, temperature, fuel level, oil pressure, manifold pressure and other data in log sheet. Calculates performance of engine at different speeds using slide rule, standard formula and curves and maintains data. Makes minor repairs or adjustments to set engine to required perfection. Maintains test house equipment and calibrates tests fans. Slushes engine and preserves for storage.

7232.40 Engine Tester Helper, Aircraft assists Engine Tester in preparing and mounting aircraft engine on test bed, and in starting engine for performance test. Assists Engine Tester in removing engine to test room and mounting it on test bed, using hand tools, trucks, and hoists, connects oil and fuel line, instruments, controls and accessories. Cleans tools, performs other duties as directed and maintains test bed. May assist in rectifying defects, making adjustments and recording various test data.

7232.50 Mechanic Aircraft Engine, Field Service, checks and detects faults, removes defective parts, engines etc. from aeroplane by disconnecting wiring and accessories, installs new or repaired engines and parts and does final adjustments to prepare plane for test flights. Inspects and checks engine to locate defects. Disassembles engine and accessories such as carburetor, fuel pump starters generators, ignition hammers, sparking plugs and other hydraulic and electrical systems. Removes engine for overhauling by disconnecting tubing, wiring and accessories, embolting engine and lifting it from plane with chain hoist. Replaces or repairs defective or worn parts and makes necessary accessories and makes final inspection to ensure they are in proper operating order. Performs miscellaneous duties to service engine such as flushing crankcase, clearing strainer screens and greasing moving parts etc. Installs new or overhauled engine in airplane, connects all part and wiring, checks and removes snags as

NATIONAL CLASSIFICATION OF OCCUPATIONS

scheduled and prepares plane for test flight. May assist Aircraft Maintenance Engineer in carrying out routine maintenance as per approved inspection schedule.

7232.60 Mechanic Aircraft, Engine Overhauling repairs and overhauls aeroplane engines. Examines engine mounted on aeroplane and listens to its idle running sound to detect malfunctioning. Removes engine from airplane using hoist, necessary tools and equipment. Mounts it on work bench. Disassembles engine, cleans parts and examines them to ascertain repairs needed. Repairs or replaces defective parts and reassembles engine by setting timings, clearance, etc. according to manufacturers' specifications. Balances impellers and incorporates modifications as suggested. Runs engine to test performance, makes necessary adjustments to carburettor, and tunes it up precisely using feeler gauge, timing discs and other special tool, performs other talks to service engine, such as flushing crank case, cleaning strainer screens, greasing moving parts etc. May specialise in servicing and overhauling specific aircraft parts or unit such as carburettor, propellers, landing gears, wings, fuselage, etc. May operate workshop machine for drilling, grinding, milling etc. May keep record of parts examined, repaired and replaced.

7232.70 Field Mechanic, Aircraft; Field Technician, Aircraft test engine performance after aircraft had been repaired in shed and does final settings and adjustments before and after scheduled hours of flight. Examines external appearance of engine and listens to engine sound to detect malfunctioning. Times and adjusts engine and replaces parts, such as tyres, wiring, instruments etc. using necessary tools. Inflates tyres, fills gasoline tanks and oil reservoirs, greases moving parts and wipes motors clean with rags. Starts and warms up motors and taxis aeroplane into position for servicing and loading, checks aeroplane thoroughly before flight according to schedule, trying brakes, operating controls, reading instruments, checking vital parts etc. and ensures that it is absolutely fit for flight. Undertakes similar checking of aeroplanes after scheduled hours of flight to assess airworthiness or necessary repairs. May

disconnect and remove engine from aeroplane for overhaul.

7232.90 Aircraft Mechanics, other include all other workers engaged in assembling and repairing gliders and aircrafts either in workshop or airport, not elsewhere classified.

7233 AGRICULTURAL OR INDUSTRIAL MACHINERY MECHANICS AND FITTERS

Agricultural or industrial machinery mechanics and fitters fit, install, examine, service and repair engines (except motor vehicle and aircraft engines), agricultural or industrial machinery and mechanical equipment.

7233.10 Fitter General sizes metal parts to close tolerances and fits and assembles them using hand tools for production or repairs of machines, or other metal products. Studies drawings to understand specification of different parts, fittings or assemblies to be made and their functions. Cuts and shapes required parts dimensions and specifications by processes of sawing, clipping, filing, grinding, drilling holes, screw cutting, scrapping etc., Assembles parts by revetting, screwing, pinning etc. So as to make complete unit according to drawing. Dismantles or removes worn out, broken or defective parts using hand tools and replaces them by repaired or new ones. Tests completed article to ensure correct performance. May do simple turning, planning and shaping of parts on machines and perform welding, brazing, annealing, hardening, tempering and, like operations. May specialise in particular type of machine or product and be designated accordingly. May suggest alterations.

7233.20 Fitter, Bench; Viceman sizes metal accurately to required dimension by sawing, chipping, filing, etc. using hand tools for making specimens or finished components. Studies drawing or measures sample to record dimensions of part to be made. Holds specified material in vice and sizes it by processes of sawing, chipping and filing. Measures object while working using foot rule, calipers, gauges etc. and checks for correct filing with square. Gets half finished object marked or marks it himself using face plate, marking block scribe, vernier, height gauges, vice-blocks, angle plate, sine plate, slip gauges, combination set, etc.

NATIONAL CLASSIFICATION OF OCCUPATIONS

depending on accuracies required, to indicate guide lines for finished sizes, holes to be drilled and pitch centres, threads to be cut and other working details as specified in drawing or sample. Clamps object securely in correct position in vice and files it to required dimensions according to punch marks and guide lines frequently measuring it with clippers, micrometer, vernier, gauges etc.. Drills holes with hand drill, cuts threads with taps and dies ensuring that they are square or at required angle to base. Measure finished article with dial indicator, micrometer, vernier, height gauges, screw gauges, plug gauges, sine plate slip gauge, etc according to prescribed accuracies. May make parts separately and assemble them screws, rivets, pins, etc. as specified. May check dimension with shadow graph. May be designated as FITTER TOOL ROOM or Filer according to nature of work done.

7233.22 Mechanic, Petrol Engine; Petrol Engine Fitter, locates defects, repairs, and overhauls stationary petrol engines for correct performance to drive pumps, generators, propulsion shafts, etc., checks engine to locate defects. Dismantles or partly dismantles it according to nature of defects and measures essential parts such as cylinder bore, crank pins, pistons etc., using cylinder gauge, micrometer and other appropriate tools. Gets cylinders rebored, valve seats refaced and liners filled if necessary. Fits and taps pistons in cylinders, decarbonises cylinder head and grinds valves using appropriate abrasives. Replaces or repairs worn out or damaged parts and assembles them, doing supplementary tooling as necessary to ensure accuracy of fit. Installs assembled or repaired engine in position, sets timings, fits accessories, adjusts tappets, carburettor, fan belt etc. and connects it to propulsion drive. Starts engine, tunes it precisely and runs it at prescribed or set standard making necessary adjustments. Observes different readings such as temperature, fuel level, oil pressure etc. for optimum performance. Checks, adjusts and lubricates equipment periodically and performs other operations to keep engine in good working order. May rebore engine, reface valve seats, anneal pipes, braze or solder parts etc.

7233.24 Mechanic, Diesel Engine; Oil Engine Fitter repairs services and overhauls diesel or oil engines for efficient performance as prime mover to drive machinery and equipment. Examines engine to locate defects, using various tools and instruments. Dismantles or partly dismantles it to remove damaged or worn out parts and replaces or repairs them. Grinds valve and assembles parts, doing supplementary tooling and other functions as necessary to ensure accuracy of fit. Installs assembled or repaired engine in position and connects pulley or wheel to propulsion system. Starts engine, tunes it up and observes performance noting different meter readings such as temperature, fuel level, oil pressure, etc. and sets it to specified standard for optimum performance. Checks, adjusts and lubricates engine periodically and performs such other functions to keep engine in good working order. May solder or braze parts and service diesel fuel pumps and injectors.

7233.25 Mechanic Marine (Diesel Engine) executes works to sufficiently accurate requirements on board of vessel and able to do all the hand fitting jobs which otherwise require machinery etc., in a workshop. Repairs, services and overhauls engines and accessories, boats, ships, etc., fitted with diesel engine upto 150 H.P. himself and above 150 H.P. under the guidance of the Marine engineer. Examines marine diesel engines to locate defects, using various tools and instruments, dismantling of the marine engines partly or fully to remove the damaged or worn out parts and replacing or repairing the worn out parts, doing supplementary cooling and other functions as necessary to ensure accuracy of fit. Installs, assembles or repairs marine diesel engines in position and connects the auxiliary and attached machinery like propulsion system, pulley or winch or gear box. Separates the engine, tuning in to, observe the parts, records the temperature, fuel level, oil pressure, etc. and reads instruments like micro meter, vernier, pyrometer, etc., and takes readings of the wear in shaft bearings, piston rings, etc., can apply chock fast, araldite, epoxy resin and metalistic compounds on board the vessel for aligning the engine shaft, mounting, etc. Executes emergency repairs, routine maintenance, periodic checks, assemble and dismantle turbo charges including exhaust driven high speed turbo charges. Able to identify, rectify defects of the lagging. Attends to the minor defects and

NATIONAL CLASSIFICATION OF OCCUPATIONS

adjustments of sea water, fresh water, lubricating oil transit pumps in the engine rooms. Attends to repairs of heat exchanges and setting them all to optimum working condition. Performs duties like checking and adjusting the lubricating system, alongwith lubricating of oil cooling system. Lubricates the engine, identifies critical conditions and emergency requirements and also performs such other functions to keep the engines and allied accessories in good working condition, knows the servicing of diesel pumps and injectors, etc.

7233.26 Mechanic, Gas Engine checks, adjusts, repairs and overhauls gas engines to ensure desired performance. Examines engine to check supply of gas, ignition system, exhaust pipe, crank bearings etc., to locate causes of defective operation. Dismantles part or complete engine according to nature of defects, repairs or replaces defective and worn out parts and reassembles engine with prescribed settings, timing and adjustments by further tooling as necessary, checks entire lubrication system, ensure requisite flow of oil and lubricates all points. Turns engine to check compressions, ensures correct operation of compression release lever and starts engine. Observes performance and makes further settings and adjustments if necessary to ensure correct operation. May repair air or gas compressors and gas producer plant.

7233.28 Mechanic, Earth Moving Machinery repairs, services and overhauls earth moving machines such as Bull-dozers, scraper, dumpier, power-shovel, dredger, dragline, etc., studies manufacturers instructions for dismantling and repair work. Examines and drives vehicle to locate defects. Sets right minor defects by cleaning, resetting and adjusting carburettor, fuel pump, injector, plugs, fuel line, electrical circuits etc. Dismantles part or complete engine or defective unit according to nature of defects and replaces or repairs damaged and worn out parts. Assembles repaired unit or engine, sets timings, clearances etc. and makes necessary adjustments according to specifications by doing supplementary tooling as necessary to ensure accuracy of it. Fits accessories, components and frame to vehicle.

7233.30 Mechanic, Road-Roller repairs and overhauls engine transmission system, chassis components and accessories of light or heavy road roller to ensure efficient performance. Inspects and tests road rollers to locate defects. Dismantles engine and other sub-assemblies, partly or completely according to nature of defects. Repairs or replaces damaged parts of different sub-assemblies fuel injections performing simple machine and fitting operations where required. Checks condition of engine parts such as piston, rings, valves, steam whistle, reversing gear, auto-positive injector in steam engine or plunger, governor, atomiser etc. in case of diesel engine and replaces damaged parts. Refits or assembles components or unit, sets timings, fuel injection, clearances etc. and tests performance. Changes oil in engines and transmission systems and lubricates running parts and joints. Tightens loose parts, makes necessary adjustments and performs other tasks to keep vehicle in good working condition. Runs engine or drives vehicle on yard to check and ensure that all mechanical systems are functioning properly. May braze, solder and weld parts. May drives vehicle on road. May specialise in diesel or steam road rollers.

7233.32 Mechanic, Turbine; Fitter, Turbine reports irregularities, removes defects and overhauls turbines under guidance of Electrical Engineer or Mechanical engineer Maintenance Dismantles turbines and their components according to manufacturer's instructions using hoisting equipment under guidance of Electrical/Mechanical Engineer, examines parts for any damaged or defects and repairs or replaces damage parts by filing, chipping, drilling, grinding, scraping etc., as necessary. Checks level, alignment etc, and changes bearings, shafts and related parts of generator where necessary. Refits parts ensuring correct adjustments, clearance, function level alignment, etc., as per manufacturer's instructions. Starts turbine and observes performance by watching and listening to unusual sounds, leakage, knowks etc. and reports defects to superiors for rectification. May connect water/steam channel from penstock/steam pine to turbine for flow of water/stream at high pressure to drive turbine blades. May operate turbine. May repair and service mechanical equipment in power house. May oil and grease lubricating points of plant (turbo alternator or turbo-generator) and equipment. May erect turbine alternators or

NATIONAL CLASSIFICATION OF OCCUPATIONS

generators under guidance of Mechanical or Electrical Engineer in power houses.

7233.34 Mechanic, Stationary Steam Engine repairs, services and overhauls steam engine for correct performance. Examines steam pipes, joints, valves etc. to ascertain nature and location of defects and dismantles them partly or wholly as necessary to remove damaged or worn out parts. Replaces or repairs damaged and worn part by remitting, filling, grinding and scraping etc, and measures them for size to ensure functional accuracy. Checks alignments with gauges and spirit level and assembles parts and complete unit doing supplementary tooling as necessary to ensure accuracy of fit. Tests reassembled equipment, sets valves, adjusts control and makes necessary adjustments. Starts engine, observes gauges and meters to ascertain engine performance, balances etc. and makes further adjustments if necessary. Checks, adjusts lubricates working parts, tightens loose parts and performs other servicing tasks periodically to keep engine in good running condition. Reports to Mechanical Engineer of any service defects noticed for rectification. May keep record of parts examined and engine performance. May erect and install equipment. May operate or drive steam engine.

7233.36 Mechanic Maintenance (Chemical Plant); repairs and overhauls chemical plant, machinery and equipment periodically and on break downs to maintain them in efficient operating condition. Studies methods of processing of raw material to finished products. Examines plant and equipment to locate faults and removes minor defects on spot. Reports major defects and break downs to Chemical Engineer and dismantles defective unit as directed with necessary precaution, using hand tools, adopter, twists etc, as necessary. Replaces or repairs defective parts and components by remetalling, filling, drilling, grinding, scraping, soldering, berazing, etc. as required and reassembles unit according to specifications with prescribed precautions particularly for explosive, gas acid and other chemical plants, ensuring correct alignment clearance, valve operations, adjustments, flow of material operational functions and other necessary details. Tests assembled unit for proper performance, makes further adjustments, if necessary and gets

assembled if examined by appropriate authority before handing over to production. Checks, adjusts and lubricates equipment periodically or gets it done and performs other tasks to maintain plant in proper working order. May maintain records of parts examined, repairs done, replacements made and plant performance. May erect and install equipment under guidance of chemical engineer.

7233.38 Mill Wright; Mechanic Maintenance, General repairs and overhauls workshop machines and equipment periodically and on break downs to maintain them in working condition. Examines machines and equipment to ascertain nature and location of defects. Dismantles unit partly or completely using hand tools, adopters, twists, dollies, roller etc., as necessary, at spot or after shifting to mill wright section according to nature of defects and removes damaged and worn out parts, Obtains replacements or repairs defective parts by remetalling, chipping, machining, filing, scraping, drilling, screwing, grinding etc and assembles them with supplementary tolling as necessary ensuring accuracy of fit, alignments, prescribed clearances and functional efficiency. Tests reassembled equipment and makes necessary adjustments. Installs machines and equipment in correct position and aligns power shifting and pulleys using plumbs bobs, thread line spirit level etc, as necessary. Checks, adjusts and lubricates equipment periodically or directs helper to do so and maintains them in working order. May work in various industries on plant and equipment peculiar to those industries. May specialise in repairing particular types of machines or equipments in premises.

7233.40 Mechanic Pump repairs all types of pumps such as centrifugal, plunger types etc., according to specifications for pumping water, oil, air etc., Dismantles pump using hand tools and examines mechanism to locate faults or damage, Repairs defective parts or obtains replacements, sets them in position and assembles pump. Tests reassembled or repaired unit for pressure, leakage etc., makes necessary adjustment and observes performance for appropriate yield of air, oil or water. May erect and install pumps at site and connect to motor power. May locate faults to electric system motor repaired such as rewinding of field coils or armatures by Electrician or Armature Winder. May specialise in repairing centrifugal or reciprocating pumps.

NATIONAL CLASSIFICATION OF OCCUPATIONS

7233.42 Mechanic, Dairy Maintenance repairs and services dairy equipment to maintain them in working condition. Repairs and services bottle and can-washers, soakers, butter and cheese packing and sealing equipment, pasteurizers milk evaporators, etc. replaces defective wiring, burnt fuses, worn switches and connects electric motors. Repairs and installs pumps, fits water and gas pipes and repairs leaky joints by general fitting operation, using hand tools or by simple welding, as necessary. May clean and re-assemble refrigeration units, regulate boiler supply pressure and mend leaky steam pipes and joints by simple welding.

7233.44 Mechanic, Mining Machinery repairs services and overhauls drilling, scraping, cutting, winding, hoisting and other mining machinery for correct performance. Get, defective machine or equipment removed from surface or underground working place to repair section, using slippers, roller, hoists etc. as necessary. Examines faulty equipment to ascertain nature and location of defects. Dismantles equipment partly or completely to remove damaged and worn out parts. Repairs parts by various mechanical processes such as remetalling, filing, chipping, scraping, grinding etc. or obtains replacements. Assembles parts, doing supplementary tooling as necessary and ensures correct fit, movement, clearance, adjustments, functional operations etc, as specified. Tests reassembled equipment making necessary adjustments for optimum performance. Checks, adjusts and lubricates equipment periodically or gets it done and performs other tasks to keep equipment in good working order. May undertake minor repairs at working place. May weld, braze or solder parts.

7233.46 Mechanic, Textile Machinery repairs services and overhauls weaving, spinning, hosiery and other textile machines and equipment to maintain them in working order and ensure correct performance. Examines equipment to locate defects. Dismantles equipment partly or completely according to nature of defects and removes damaged or worn out parts. Repairs defective parts, if possible, by various mechanical processes such as remetalling, rivetting, filing, grinding, scraping etc. or obtains replacements. Assembles parts doing supplementary tooling as required to ensure

accuracy of fit and specified functions. Tests reassembled equipment and makes necessary adjustments for required performance. Checks, adjusts and lubricates equipment periodically or gets it done and performs such other tasks to keep machinery in good working order. May keep record of parts examined and equipment performance. May weld, braze and solder parts. May erect and install textile machinery and equipment. May operate lathes, milling and planing machines and perform general fitting work. May specialise in particular type of textile machinery such as carding, spinning, weaving, sizing etc.

7233.48 Mechanic, Printing Machinery repairs, services and overhauls printing machinery such as linotype, monotype, rotary, letter press etc, for efficient performance. Examines faulty equipment to ascertain nature and location of defects. Dismantles equipment partly or completely to remove damaged or worn out parts using hand tools, hoist etc. as necessary. Repairs parts by filing, grinding etc. or obtaining replacement. Assemble parts, doing supplementary tooling such as filing, drilling, grinding etc. as necessary and ensures accuracy of fit. Operates and tests reassembled machine, makes necessary adjustments and ensured that types are uniform and it is running to specified accuracy. Checks, adjusts and lubricates equipment periodically or gets it done and performs other tasks to keep it in good working condition. Ensures that lead casting chamber, type casting unit and plunger mechanism of unit are functioning properly to cast type of required specification. May remove heavy machines and machine units from assembly line using hoisting equipment for heavy repair. May operate printing machines on job work. May specialise in servicing particular type of printing machines such as mono-casting, line casting, rotary press, treadles, binding machines etc. May keep record of parts examined and equipment performance. May be designated according to machine on which engaged such as **MONOTYPE, LINOTYPE, INTER-TYPE, LITHO-BINDRY MACHINE.**

7233.50 Mechanic Refrigeration and Air Conditioning Unit installs and repairs refrigeration or air conditioning plant by replacing defective parts, re-seating valves, refitting coils, insulating, requiring electrical connections, soldering etc. Installs at site

NATIONAL CLASSIFICATION OF OCCUPATIONS

assembled air conditioning unit and refrigerators giving necessary power connections and making changes to units as necessary to attain desired results. Examines faulty equipment to ascertain nature and location of defects. Dismantles equipment partly or completely according to nature of defects to remove damaged or worn out parts. Replaces or repairs defective parts. Replaces or repairs defective parts to units by re-seating valves, refitting coils, reinsulating system, etc. over hauls units and reassembles them after cleaning components and replacing defective or worn out parts of pumps, compressors, motors, etc., Removes faulty sealed units or sub-units of refrigerators or air conditioning plants and obtains replacements. Conducts vacuum and pressure test of pipe lines and charges system with fresh refrigerant. Sets plant to desired cooling conditions, prevents leakage and ensures attainment and maintenance of required temperature. Gets burnt out motors or generators repaired by Electrician or Electrical Winder and installs repaired ones to plant giving necessary electrical connections. May work in ice factory, cold storage plants, specialised air conditioning units or domestic refrigerators.

7233.52 Mechanic Sewing Machine; Sewing Machine, Repairman examines, adjusts repairs and services sewing machines for proper performance. Examines faulty machines to ascertain nature and location of defects. Dismantles machine partly or completely to remove damaged and worn out parts. Repairs defective parts or obtains replacements. Assembles parts and tests machine for desired performance by making necessary adjustments of position of screws, nuts, levers, needle bar, rockers, etc. Stitches, trial piece of cloth and makes further adjustments, if necessary. Cleans and oils machine periodically for smooth performance. May specialise in overhauling and repairing domestic and power driven commercial and industrial sewing machines. May visit residences or premises to repair domestic sewing machines at spot.

7233.55 Lamp Repairman, Mines Lamp Cleaner/ Mines; Lamp Fitter, repairs, tests, cleans and changes safety lamp used underground by miners. Checks safety lamp parts such as gauge, chimney, glass, wick, asbestos washer and fuse, head ring, cables,

etc., in case of electric safety lamp for defects. Repairs or replaces parts and tests lighted lamp for safety by blowing round top and bottom of gauge and glass to ensure that flame is not exposed. Cleans safety lamps by holding them against felt lined rotating wheel, adds chemicals and changes small batteries after each shift. Issues lamps locked and lighted to miners and receives them back on return. May keep record of number of men underground by number of lamps issued.

7233.58 Mechanic, Repairman, Domestic Appliances services and repairs all types of small machinery and mechanical appliances generally in domestic use by replacement and repairs of worn or damaged parts to ensure correct performance. Examines small machines and appliances such as heaters, gysers, coffee grinders, gramophones, pressure cookers, stoves etc. to ascertain nature & location of defects. Dismantles equipment partly or completely to remove or replace damaged or worn out parts. Repairs defective parts by setting washers, filing, soldering, rivetting etc. or obtains replacements. Assembles parts to make complete unit ensuring accuracy of fit by supplementary tooling as necessary. Tests reassembled equipment and adjusts nuts, screws etc. as necessary to ensure its correct performance, fits assembly frames or structures, installs appliances in premises and gives power or water connections. Checks, cleans, adjusts and services equipment periodically to maintain them in working order. May specialise in repairing particular type of machine or equipment. May work in workshop, factory, outdoor station or at customer's residence.

7233.60 Fitter, Stationary Steam Engine fits and assembles parts according to manufacturer's instructions and assists Mechanic steam Engine in his work. Examines drawings and other specifications, checks parts for flaws and accuracy of fit using gauges, micrometers and other measuring instruments and removes defects by chipping, filling, scraping, grinding, drilling and other supplementary tooling as necessary. Assembles parts as directed using screw drivers, pliers, spanners etc. tests completed equipment and makes necessary adjustments under guidance of Mechanic Steam Engine. May oil and lubricate engine parts. May braze and solder parts and assist in installing equipment.

NATIONAL CLASSIFICATION OF OCCUPATIONS

7233.62 Fitter, Marine repairs, services and overhauls engines and accessories of ships, boats etc., under guidance of MARINE ENGINEER. Examines drawings and other specifications. Checks and measures parts for flaws and other accuracy of fit using gauges, micrometers etc., and removes defect by chipping, filing, scraping, grinding and does other supplementary tooling as necessary. Assembles engines and auxiliary machinery in position using hoisting equipments and other tools. Tests completed assembly and makes necessary adjustments, Dismantles partly or completely such machinery in ship as propelling machinery, steam diesel or electric auxiliaries, pumps, cargo-handling machinery anchore-handling gear, ventilating and fire fighting equipment, steering gear etc., removes and replaces worn or damaged parts and reassembles them as per drawings under guidance of Marine Engineer using hand and portable tools. Instals below deck auxiliaries such as evaporators, stills, heaters, pumps, condensers and boilers and connects them to steam pipe systems. Tests and inspects installed machinery and equipment during dock and sea trials and removes defects, if any. May attend to minor electrical defects. May assist in keeping watch on engine, boiler and other machinery and assist in their operation.

7233.63 Fitter Railway, Carriage and Wagon checks repairs and sets various metal parts and units of railway coaches and wagons to locate damage or worn out parts. Strips off wooden and metal fixtures, removes outer shell or coach and places it on wooden block using hoisting equipment. Removes under-carriage frame, bogey, wheel assembly, vacuum units, springs, buffers etc, as required. Gets bogey completely cleaned by Khalasis, examines it for damages, cracks etc. and replaces cross members damaged and worn out parts of body using hand tools. Checks pivot pins, side bearings, etc. to set and maintain necessary clearances. Checks condition of springs, brake fittings, buffers, etc. and repairs or replaces worn out and damaged ones. Tests vacuum unit for vaccum pressure over testing machine, changes defective parts and resets them. Cleans and inspects wheel bearing and replaces them where necessary. Gets wheel machined, faced and tyre set and refits wheel assembly using new parts such as keyways, guides, space bars,

etc. Examines condition of coach work and replaces worn or corroded frames with new ones. Fits various fittings to coaches such as doors, windows, lamp and fan brackets, locker, water closet fittings, places repaired or overhauled coach over bogey using overhead crane, fastens and fits bogey to coach by tightening bolts, nuts space bar, connecting rods etc. and aligns and fits metal frame and doors to wagons. May specialise in erection of new coaches or wagons or in conducting their periodical overhauling. May attend to repairs of coach and wagon buffers, vacuum brakes etc. May keep record of parts examined.

7233.64 Fitter, Loco repairs locomotives and sets them to working condition according to instruction and guidance of Loco Foreman Examines drawings and other specification, checks parts for defects and accuracy of fit, using gauges, micrometers and other measuring instruments, Dismantles units and components partly or completely to remove damaged or worn out parts and repairs them or obtains replacements. Assembles parts, doing supplementary tooling as necessary to ensure accuracy of fit. Uncouples all parts and mechanism from wheel assembly fitted to engine chassis or frame to get boilers mounted on frame free from wheels. Directs Crane Operator to lift and places engine frame along with boiler over wooden stand or blocks. Sends wheel assembly and connected parts to machine shop for repairs or reconditioning of wheels, cross bars etc. Unscrews nuts and bolts and removes all boiler mounting such as safety valve, gland steam fountains, whistle pipes, smoke box fittings etc. Unscrews nuts and bolts and removes all boiler mounting such as safety valve, gland stem fountains, whistle pipes, smokes box fittings etc, Lifts boiler from frame by crane and sends it to boiler section for repairs and servicing. Examines engine frame for damage, cracks and other defects and marks area for welding, rivetting etc. as required. Checks piston, valves, cylinder etc. and gets cylinder bored to specific accuracy. Repairs valve assembly, fits new rings and assembles all parts and units according to specifications under guidance of Loco Supervisor/Foreman . Tests reassembled parts, units for components and makes necessary adjustments. Checks, adjusts and lubricates parts and joints periodically or directs helpers to do so and performs other tasks under guidance of Loco Foreman to keep loco engine and equipment in good working order.

NATIONAL CLASSIFICATION OF OCCUPATIONS

May keep record of parts examined and equipment performance. May specialise in steam or diesel engine. May specialise in repairing, servicing and overhauling of particular units or components.

7233.65 Loco Cleaner; Cleaner Railway cleans loco engines and performs allied tasks in loco-shed. Cleans engine and its parts using waste cotton and kerosene oil. Applies white chalk or lime stone solution on cleaned parts and strikes with hammer to check cracks if any. Moves engine backward or forward with help of crow-bars and turns it by pushing it on mechanical device when required. Lights up firebox, shovels coke in it. Drops fire by shaking handle of fire-grate or operating lever in engine and performs other tasks as guided. May oil and lubricate engine parts. May be designated as **ENGINE LIGHTER** if engaged only in lighting up engine boiler and as **FIRE-DROPPER, ENGINE** if engaged in dropping fire from firebox of engine after completion of journey.

7233.66 Fitter, Bicycle: Cycle Repairer repairs and overhauls pedal cycles, perambulators etc. by replacements, setting and adjusting parts to keep them in good working condition. Examines bicycle to ascertain nature and location of faults. Dismantles bicycle partly or completely to remove damaged and worn out parts. Repairs defective parts or obtains replacements and refits components in order of sequence. Adjusts brakes, driving chain mechanism, wheels, handle bars etc. for correct alignment. Fixes attachments such as saddle, bells, luggage carrier and lamp to assembled cycle and tests performance on road. Cleans, oils and greases moving parts; patches punctures in tubes and repairs tyres. May cut threads where necessary with taps and dies.

7233.70 Fitter, Signal: Mechanical and Electrical Signal Maintainer (Railways) tests, over hauls and installs all mechanical and electrical signal equipment other than interlocking and station master's slide control frames and maintains them in working order to prevent failure and detention of rail traffic. Issues disconnection notices, as prescribed for repairs and adjustments. Attends to all failures of signal mechanism, locates and rectifies defects expeditiously, removes jamming of locking device by oiling, taping or other

external means without opening cover and takes appropriate measure to prevent recurrence. Tests facing point, locks detectors, electrical points and signal mechanism regularly while on maintenance rounds and ensures that cover, of locking boxes of station masters slide control room are not removed except in presence of Signal Inspector. Cleans signal glasses, checks focus of signal and colour lights periodically, sets and keeps them correctly focussed and ensures that they are properly maintained, batteries cleaned and charged periodically at regular intervals and no one does any repairs or adjustments without his guidance. Undertakes new installation and carries out alterations and modification under guidance of Signal Inspector. Submits fortnightly reports, intimates programmes to Station Masters concerned, and maintains necessary records such as failure book, inspection book, muster roll attendance register, material indented and received etc. Prevents wastage and guides and controls men placed under him. May specialise in electrical or mechanical and signal equipment.

7233.80 Agriculture Engineering Technician maintains, services, repairs or overhauls different farm equipment such as Tractors, Power tillers, Sprayers, Drillers, etc. Receives instructions from Senior Engineers. Studies standing duty chart, sketches, blue prints, etc. and decides methods of work to be adopted. Draws necessary stores, examines their suitability, issues them to respective workers. Instructs and guides his subordinates on machines and tools to be used, accuracy required, process of work and other details to ensure correct repairs or overhauling. Checks completed work, makes necessary adjustments or replacements. Guides farmers in proper use and upkeep of farm equipments. Lends machines on hire to farmers. Sells spare parts of farm machinery and implements. Prepares contour maps by taking levels and plane table surveying. Examines land and prepares estimates for reforming the land to make it suitable for cultivation. Prepares plans for field channels for surface and sub-surface drainage. Provides bench terraces in hill areas and guides installation of sprinkler irrigation equipments and accessories. May design and fabricate agricultural machinery. May also sell pesticides and fertilisers.

7233.90 Machinery Mechanics and Fitters, other perform number of routine and low skilled

NATIONAL CLASSIFICATION OF OCCUPATIONS

tasks in overhauling and repairing engines, pumps machines, etc., (other than Electrical and Precision Instruments) such as dismantling defective parts, cleaning components, adjusting parts and are designated as Refrigeration Mechanic Helper, Maintenance Mechanic Helper, etc. according to type of work done.

7238 SUPERVISORS AND FOREMEN AND RELATED WORKERS IN MACHINERY REPAIR AND FITTING

Supervisors and foremen and related workers in machinery repair and fitting supervise and guide workers engaged in fitting, assembling, overhauling and repairing of precision instruments (except electrical), type writers, motor vehicles, aircrafts etc., and ensure their efficient performance.

7238.10 Supervisor and Foreman, Machinery Fitting and Repairing supervises fitting, assembling, overhauling and repairing of workshop and other machines and equipment and ensures stipulated performance. Examines machine, if necessary, by actual operation, and locates defects. Studies part of assembly drawings and explains details of assembly or repair work to be done to workers, conducts work step by step, gets defective and unserviceable parts repaired to replaced as necessary and ensures proper performance of each unit assembled or repaired. Checks performance of completed machine or equipment for work efficiency, accuracy, rigidity, etc., and gets operational snags removed, if any. Undertakes periodical repairs and overhauling of machines as scheduled and maintains them in working condition. Takes necessary steps during breakdown to get machine repaired or removed within least possible time ensuring minimum dislocation of work. Maintains repairing, overhauling and breakdown registers as prescribed. May install machine and undertake structural work.

7238.20 Supervisor and Foreman, Motor Vehicle Repairing takes charge of fleet of vehicles and maintains them in road running order. Organises work and details of workers according to nature of repairs, overhauling or servicing to be done. Gets vehicles removed dismantled and examined in respective areas and determines faults and repairs to be done. Prepares replacement and repair estimates and

gets them approved, if necessary. Conducts repairs or replacements of defective parts, either personally or through other agencies as required. Supervises fitting, assembling, tuning, brakes bleeding, servicing and related tasks unit by unit as appropriate and ensure correct engine and road performance by actual tests. Gets upholstery, body fitting, painting, polishing, and like tasks done, if desired. Maintains necessary records and registers and submits prescribed returns and accounts. May supervise repairs and overhauling of particular assembly (part) or complete vehicle. May be designated as GARAGE SUPERVISOR if engaged in supervising only servicing and running repairs of vehicles.

7238.30 Supervisor and Foreman, Aircraft Repairing supervises repairing and overhauling of aircrafts and ensures them to be airworthy. Examines aircraft before and after flight and determines nature of repairs and adjustments to be done. Details aeromechanics to carry out necessary repairs under his guidance and ensures airworthiness of repaired aircraft before handing over for further flight. Gets aircraft removed to hanger after scheduled hours of flight or on major breakdown for dismantling, thorough checking, complete overhauling, replacement of worn out and defective parts, necessary adjustments, etc. according to prescribed schedule. Guides repairs of engines, fuselage, landing gears and other major units and electrical systems according to specialisation, tasks entrusted or section in which posted and ensures their stipulated performance and airworthiness before reassembling. Calculates data, checks engine horse power, prepares sketches and performs other tasks as may be required to ensure correct working. Maintains records and registers and submits prescribed returns. May train workers. May be designated according to nature of work done or section supervised.

7238.90 Supervisors and Foremen and Related Workers in Machinery Repair and Fitting, Other include workers who supervise and guide workers engaged in fitting, assembling, overhauling and repairing of precision instruments (except electrical), type writers, motor vehicles, aircrafts etc., and ensure their efficient performance not elsewhere classified.

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NATIONAL CLASSIFICATION OF OCCUPATIONS

724 ELECTRICAL AND ELECTRONIC EQUIPMENT MECHANICS AND FITTERS

Electrical and electronic equipment mechanics and fitters fit, adjust, install and repair electrical and electronic equipment such as computer hardware, sound and image recording and telecommunications systems, and construct, install and repair electrical lines and joint cables.

7241 ELECTRICAL MECHANICS AND FITTERS

Electrical mechanics and fitters fit, adjust, install and repair electrical machinery and other electrical apparatus and equipment in buildings, factories, workshops, or other places.

7241.10 Mechanic Precision Instrument Electrical; Meter Repairer, Electrical repairs and sets electrical parts of precision instruments such as megger, voltmeter, ammeter, condensers, galvanometers, etc., to high accuracy for recording correct readings by reviving, replacements and necessary adjustments. Studies drawings, circuit diagrams and other specifications and examines instrument visually to locate any apparent loose connection, short circuits etc. Dismantles instrument using insulated screw drivers, pliers, special spanners etc., and checks components, insulation wiring, fittings and other features with precision mechanical and electrical measuring instruments to locate wear and tear, short circuits and other defects. Cleans necessary or any fluid used in instrument and their various parts using special brushes. Checks gear shell, bearing jewels and other operating parts and repairs or replaces worn out and damaged ones. Assembles parts, replaces insulation and makes electrical wiring and connections according to diagram and prescribed specification. Examines assembled or repaired instrument by standard tests, makes necessary adjustments and ensures correct reading and desired performance within prescribed limits. Seals cut-outs, meters etc to avoid manipulation. May wind coils, set new resistance and perform other electrical functions, if required.

7241.20 Electrical Fitter fits and assembles electrical machinery and equipment such as motors, transformers, generators, switchgears, fans etc., Studies drawings and wiring diagrams of fittings, wiring and assemblies to be made. Collects prefabricated electrical and mechanical components according to drawing and wiring diagrams and checks them with gauges, megger etc, to ensure proper function and accuracy. Fits mechanical components, resistance, insulators, etc., as per specifications, doing supplementary tooling where necessary. Follows wiring diagrams, makes electrical connections and solders points as specified. Checks for continuity, resistance, circuit shorting, leakage, earthing, etc, at each stage of assembly using megger, ammeter, voltmeter and other appliances and ensures stipulated performance of both mechanical and electrical components filled in assembly. Erects various equipments such as bus bars, panel boards, electrical posts, fuse boxes switch gears, meters, relays etc, using non-conductors, insulation hoisting equipment as necessary for receipt and distribution of electrical current to feeder lines. Installs motors, generators, transformer etc, as per drawings using lifting and hoisting equipment as necessary, does prescribed electrical wiring, and connects to supply line. Locates faults in case of breakdown and replaces blown out fuse, burnt coils, switches, conductors etc, as required. Checks, dismantles, repairs and overhauls electrical units periodically or as required according to scheduled procedure. May test coils. May specialise in repairs of particular equipment manufacturing, installation or power house work and be designated accordingly.

7241.30 Adjuster, Relays tests and adjusts relays (electrical equipment) used for controlling flow of electric current. Sets relay on testing table, checks flow of current, insulation and condition of various components and repairs or replaces defective parts. Cleans, aligns and measures gap between contact points and sets clearance to specified standard by tightening or loosening adjustment screws, nuts and bolts, sets tension of relay springs, and connects new or adjusted relay to test board. Switches on, records flow of current by meter reading and adjusts spring tension and gap between relay contacts to flow. Maintains record and cleans relay periodically. May wind primary and secondary coils.

NATIONAL CLASSIFICATION OF OCCUPATIONS

7241.40 Armature Winder winds and repairs armatures, field coils, etc. of motors and dynamos. Dismantles motor and removes armature to examine and test for continuity. Cleans segments, of commutator with abrasive cloth or sand paper and cleans carbon brushes for even and smooth movement. Examines burnt out armature and checks type of winding to determine gauge (thickness) and number of turns of wire required. Cuts out all wiring from slots and cleans slots with blunt knife and sand paper. Mounts cleaned core horizontally on frame for easy rotation by hand and covers bottom of each slot with insulating paper. Selects correct gauge of wire for winding and fastens one end of it to core of armature. Determines type of winding to be done either by calculation or from examined sample and winds each set of slot with wire by rotating armature on frame to pass wire from slot to slot to form coil. Stops winding after required number of turns and length of wire have been wound to form coil. Covers all exposed wire with insulating tape and solders free ends of wire according to calculation and type of winding with respective segments of commutator using hand soldering iron. Pushes prepared wire coils in position in insulated slots in heavy duty or high power armatures and assists Fitter, Electrical in soldering terminals to respective commutator segments in proper positions. Tests rewound armatures for efficiency and continuity, before further processing by Operator, Impregnation Plant. Replaces armature and coil in shell and assembles motor. Tests performance of motor under normal working conditions and makes necessary replacements of parts like carbon brushes, insulating, etc. May wind coils on machines. May impregnate armature and coils with varnish in impregnation plant to insulate them.

7241.50 Coil Winder, Machine; Coil Winding Machine Operator operates coil winding machine to make coils of required shape and size used in electric motors, dynamos, transformer, radios and other electrical equipment. Fits metals or wooden core of required shape and size on revolving mechanism of machine. Places roll of wire of required gauge at correct height on machine stand. Draws free end of wire over core through guides in machine and sticks it at its edge. Adjusts meter fitted to machine to record specified number of turns of core.

Starts machine and watches meter to wind required number of turns of wire over core. Cuts wire, bends its free end slightly to keep coil in position and removes coil from machine. Wraps insulation cloth and tape over coil. Maintains account of output and wire used. May wind coils manually and test for continuity. May clean and oil coil winding machine.

7241.60 Electrician, Aircraft installs and services electrical wiring and equipment in aircraft. Tests electrical installation and equipment, supply of current, and continuity of electrical circuit in aircraft, using megger, voltmeter, avometer etc. and locates faults. Repairs or replaces defective wiring, connector plunge, blown fuses, defective parts and electrical fittings and fixtures and maintains them in working order. Adjusts voltage regulators, actuators etc. as scheduled. Ensures that all connections to various lighting system such as landing light, anti-collision lights, wink tip lights etc. are intact covered and insulated. Ensures that storage battery in aircraft is kept fully charged and that acid level is above batter plates. Checks voltage, polarity, phase rotation etc. and supplies electric power from ground power trolley (ground generator) to start aircraft engine before taking off. Tests defective motors, generators etc. using testing equipment and gets burnt coils or armature re-wound by Armature Winder. May do armature winding. May repair batteries.

7241.70 Electrician, Automobile installs, repairs replaces and overhauls wiring, starters, generators, distributors and other electrical equipment of motor vehicles. Examines vehicle battery, checks voltage and specific gravity using special equipment such as voltmeter hydrometer, heavy discharge tester, etc. and ensures that battery is in good condition. Checks vehicle wiring, locates faults and rectifies defects by replacing damaged wire or connecting ends with insulation tape. Starts engine to check whether alternator is charging correctly, and if distributor, condenser coil and cut out are functioning properly. Estimates nature of defects and reports components to be replaced or repaired. Dismantles and repairs electrical units and components such as generator, distributor etc. where required. Replaces repaired kit or unit in vehicle and connects it with battery. Conducts thorough examination of various electrical fittings such as lights, panel indicators, fuel pumps, etc and rectifies defects.

NATIONAL CLASSIFICATION OF OCCUPATIONS

Checks condition and makes necessary adjustments. May do armature winding. May drive vehicles on road. May charge batteries.

7241.90 Electrical Mechanics and Fitters, other include all other workers engaged in fitting, assembling, repairing and maintaining electrical equipment, machinery, appliances, etc., not elsewhere classified.

7242 ELECTRONICS FITTERS

Electronics fitters fit and adjust computer hardware, as well as sound and image recording and transmitting telecommunications and other electronic equipment.

7242.10 Electronics Fitter, General fits, assembles and repairs various kinds of electronic equipment in factory or workshop or at place of use. Examines drawings and wiring diagrams; checks parts for accuracy of fit and minor adjustments; assembles parts or mounts them on chassis or panels with aid of hand tools; installs and connects wiring, soldering joints equipment, diagnoses faults with aid of electronic testing equipment; dismantles equipment if required and replaces faulty parts or wiring.

7242.90 Electronics Fitter, other include all other workers engaged in fitting, assembling, repairing and maintaining electronic equipment, machinery, appliances, etc., not elsewhere classified.

7243 ELECTRONICS MECHANICS AND SERVICERS

Electronics mechanics and servicers service and repair radio and television equipment, tape recorders, video cassette recorders, and other audio-visual equipment.

7243.10 Electronics Mechanic; Electronic Equipment Mechanic repairs electronic equipment, such as computers, industrial controls, radar systems, transmitters, and telemetering control systems following blueprints and manufacturer's specifications and using hand tools and test instruments. Tests faulty equipment and applies knowledge of functional operation of electronic units and systems to diagnose cause of malfunction. Tests electronic components and circuits to

locate defects, using instruments, such as oscilloscopes, signal generators, ammeters and voltmeters. Replaces defective components and wiring and adjusts mechanical parts, using hand tools and soldering iron. Aligns, adjusts and calibrates testing instruments. Maintains records of repairs, calibrations and test. May install equipment in industrial or military establishments and in aircraft.

7243.20 Radar Mechanic; Radar Craftsman installs, services and overhauls radar units. Studies diagrams and manufacturer's specification and installs radar transmitting and receiving equipment. Tests equipment for continuity, frequency, performance, etc., detects faults by application of knowledge of functional operation of electronic units and systems and removes defects by replacing defective parts, soldering or tightening loose and broken connections, using oscilloscopes, signal generators, wave meters, pulse modulators, echolox, avometer, megger and other instruments and hand tools. Aligns, adjusts and calibrates equipment according to specifications. Operates and flight checks radar equipment on aircraft and makes necessary repairs and adjustments to ensure desired efficiency. May operate and repair other electronic and missile control systems.

7243.30 X-Ray Mechanic installs, repairs and services high frequency X-ray, ultra-violet-ray and other radio therapy equipment in hospitals and clinics. Studies circuit diagrams and manufacturer's instructions for installation. Assembles x-ray and other physiotherapy units such as diathermy, ultra-violet-ray, infra-red units etc. and installs them in hospitals and clinics. Gives necessary power connections to x-ray and other units. Sets up and tests auxiliary units such as potter bucky table, tube columns, serial changers etc., rectifies defects if any and ensures that they are working smoothly and efficiently. Tests x-ray machines and accessory equipment, locates operating difficulties and removes them by replacing fused tubes, meters, indicators, powder cables, etc. as necessary. Repairs mechanical equipments such as buckey table, hand time switch, locking devices etc. as required. Services units periodically by filling transformer with oil, cleaning and oiling mechanical parts of xray units, refilling tube heads, etc. Maintain records of types and serial numbers of units handled, prepares job sheets and obtains job completion certificates. May

NATIONAL CLASSIFICATION OF OCCUPATIONS

follow circuit diagram and trace electrical faults. May do simple drilling and tapping using hand or power drilling machines.

7243.40 Television Installation Man installs and adjusts television receivers and antennas, using hand tools. Selects antenna according to type of set and location of transmitting station. Bolts crossarms and dipole elements in position to assemble antenna. Secures antenna in place with bracket and guy wires, observing insurance codes and local ordinances to protect installation from lightning and other hazards. Drills and waterproofs holes in building to make passage for transmission line. Connects line between receiver and antenna and fastens it in place. Tunes receiver on all channels and adjusts screws to obtain desired density, linearity, focus and size of picture. Orients antenna and installs reflector to obtain strongest possible reception. May operate radio broadcasting unit.

7243.45 Cable Television Installer installs cable television cables and equipment on customer's premises, using electrician's tools and test equipment: Measures television signal strength at utility pole, using electronic test equipment. Computes impedance of wire from pole to house to determine additional resistance needed for reducing signal to desired level. Installs terminal boxes and strings lead-in wires, using electrician's tools. Connects television set to cable system and evaluates incoming signal. Adjusts and repairs cable system to ensure optimum reception. May collect installation fees and explain cable service operation to subscriber. May communicate with SUPERVISOR, using two-way radio or telephone, to receive instructions or technical advice and to report problems to be repaired. May report unauthorized use of cable system to SUPERVISOR. May clean and maintain tools, test equipment.

7243.50 Television Service and Repairman repairs and adjusts radios and television receivers, using hand tools and electronic testing instruments. Tunes receiver on all channels and observes audio and video characteristics to locate source of trouble. Adjusts controls to obtain desired density, linearity, focus and size of picture. Examines chassis for defects. Tests voltages and resistance of circuits to isolate defect following schematic diagram and using

voltmeter, oscilloscope, signal generator and other electronic testing instruments. Tests and changes tubes, solders loose connections and repairs or replaces defective parts, using hand tools and soldering iron. Repair radios and other audio equipment. May install television sets.

7243.60 Radio Technician (Radio Manufacturing) tests assembled radio sets with testing equipment to ensure that assembly soldering, frequency, performance, etc. are in accordance with prescribed standards. Places assembled radio set in position and visually examines it to ensure that position of components, connections, soldering, wiring, etc. are in order. Switches on and operates different knobs to check calibration, audibility and general performance of set by varying its tone and listening to various stations and frequencies. Tightens loose nuts and screws, locates faults, replaces defective components and conducts necessary changes. Approves correctly assembled sets for further processing and rejects defective ones for rectification. May test sets at different stages of assembly. May service, repair and overhaul radio sets.

7243.70 Radio Mechanic; Radio Repairer tests, repairs, services and maintains radio receiving sets in accordance with diagrams and manufacturers specifications, using hand tools and electrical measuring instrument. Removes radio cabinet from chassis and examines equipment for damaged components and loose or broken connections and wires either by connecting set with current supply or otherwise. Replaces defective components and parts according to specifications such as tubes (valve), condensers, transformer resistors etc. using hand tools. Makes necessary electrical connections according to diagrams and solders or tightens loose ones. Tests equipment for output frequency, noise level, audio quality, dial calibration and other factors using oscilloscopes radio frequency and watt meters, ammeters, volt-meters, valve testers etc. Tunes and aligns radio frequency and watt meters, ammeters, in battery sets and gets them charged or replaces them if necessary. May repair transistors and television sets. May repair and service electronic equipments such as microphones, record player, tape recorders, etc.

7243.75 Radio Craftsman, Installation; Radio Mechanic Installation (Aircraft) installs, tests and repairs aircraft radio equipment during test flights. Studies circuit diagrams, drawings and

NATIONAL CLASSIFICATION OF OCCUPATIONS

other specifications for installation of radio equipment in aircraft. Tests and replaces defective radio instruments, components and parts such as radio compass, maker, beacon receptor, radio tubes, transformer etc. using hand tools and electrical measuring instruments. Installs radio equipment in aircraft as specified and solders or tightens loose and broken connections. Operates and tests equipment during tests flights for out put, audio quality, frequency, calibration etc. and does necessary repairs and adjustments to ensure efficient performance. Signals ground station and adjusts frequencies of radio sets by turning sets screws. May check batteries and keep them fully charged. May service battery charging set and generator. May conduct maintenance repairs of radio equipment.

7243.80 Radio Craftsman, Maintenance, Radio Mechanic Maintenance (Aircraft) tests, repairs, services and maintains aircraft radio receiving and transmitting sets in accordance with diagrams and prescribed specifications using hand tools and electrical measuring instruments. Examines equipment for damaged components and loose or broken connection and wires. Tests and replaces defective radio components and parts such as tubes (valve), condensers, transformers, resistors, etc. using hand tools. Makes necessary electrical connections according to diagrams and solders or tightens loose ones. Tests equipment for factors such as power output, frequency power, looseness of antennas and transmission lines, noise level, audio frequency and watt meters, ammeters, voltmeter, tube testers and other appropriate instruments, adjust receivers for sensitivity and transmitters for maximum output. Tests batteries with hydrometers, ammeter, etc., and maintains them fully charged. Performs scheduled test checks of radio equipment during test flights to ensure airworthiness of aircraft. Removes radio instruments and components for bench-checks, servicing, calibrating and over hauling of radio apparatus as and when necessary. May effect alternations and modifications to radio equipment under guidance of Radio Engineer, Telecommunication.

7243.90 Electronic Mechanics and Servicers, other include all other workers engaged in installing, servicing and repairing

radios and television sets and other audio equipment, not elsewhere classified.

7244 TELEGRAPH AND TELEPHONE INSTALLERS AND SERVICERS

Telegraph and telephone installers and servicers install, service and repair telephone and telegraph equipment in central sites or individual locations.

7244.10 Installation Mechanic (Telephone and Telegraph) installs telephone or telegraph equipment in telephone exchange or telegraph office. Studies designs, blue prints, circuit diagrams and other specifications for installation of equipment to be done. Sets and installs switch board selector racks, relay set racks, automatic telephone system, telegraph repeaters, key board, morse sets and teleprinter as per plan and makes necessary electrical connections according to circuit diagram. Tests installation as prescribed to check mechanical and electrical adjustments of each component. Solders terminals of wires. Test checks operational efficiency and makes necessary adjustments. Installs batteries and battery charging equipment and fits and maintains protective devices. May install telephone sets at subscriber's premises.

7244.20 Maintenance Mechanic (Telephone and Telegraph) tests, analyses defects, and maintains telephone and telegraph equipment using test meters and hand tools. Tests wiring and operation of electrical and mechanical components of telephone and telegraph apparatus, checks operational efficiency and locates faults using voltmeter, resistance meter, watt meter, capacity meter and other instruments as necessary. Replaces defective components, if required, and installs, repairs and adjusts equipment such as switches, relays amplifiers etc. using hand tools. Removes connections or wire distributing frames and solders wires to terminal lugs according to diagram. Conducts test checks periodically to maintain apparatus in operational efficiency. May maintain telephone-switching equipment at private establishments. May maintain and repair power apparatus and storage batteries.

7244.30 Teleprinter Mechanic installs and maintains teleprinter for efficient performance in telegraph offices and premises of news agencies, newspapers, etc. Studies drawings, circuit diagrams and other specifications. Checks

NATIONAL CLASSIFICATION OF OCCUPATIONS

components, wiring and performance to locate defects and causes of malfunctioning. Replaces defective parts and fits, assembles and adjusts components of machine. Lays out, makes electrical connections to components according to circuit diagram and tests operational efficiency of machine. Installs machine when required and lays wires and makes power connections between machine and other establishments. Services and tests machine periodically, locates faults, repairs or replaces defective parts, wiring, etc. and maintains equipment in good working order. May install and repair other telecommunication equipments.

7244.40 Lineman, Telephone & Telegraph installs, repairs and maintains telephone and telegraph lines, telephone instruments, key boards etc. in his allotted section. Erects poles manually for telephone and telegraph lines, ensuring proper spacing, alignment, stability etc., Climbs erected poles to fix insulators, lightning arrestores, etc, at proper levels and positions. Draws and signs wires on poles as directed by **Sub-Inspector Telephone & Telegraph** allowing required length for expansion and contraction of wires. Installs telephone equipment and key boards at subscriber's premises, checks them periodically and on breakdowns, locates faults and removes defects by repairs or replacement of faulty components and wiring. Maintains lines within allotted section free of faults. May repair and lay underground cables.

7244.50 Testing Telegraphist; Telegraph Traffic Inspector tests telegraph lines and cables to locate and find out cause of interruption and arranges for removal of defects. Tests all telegraph lines and cables using "Wheatstone Bridge" (electrical instrument) to detect interruption etc. Checks pressure of power on different circuits, voltage and current for out going and in coming lines and teleprinter lines given to different newspapers. Calculates resistance of lines to detect faults in equipment and circuits. Advises Maintenance Mechanic, Telegraph to remove defects. Signals other stations and informs Telegraph Master for receiving and transmitting immediate telegrams through alternative lines. Tests lines after removal of defects.

7244.60 Fault Controller, Telephones; examines reports on defects of telephone lines, and arranges for their rectification. Examines reports regarding defects in telephones, telephone lines, etc. traces faults in internal system or advises Line Inspector Telephone for getting faulty lines or equipment examined and repaired by maintenance staff. Advises subscribers or customers about removal of defects and rectification of faults. Maintains record of repairs done or defects in important cases personally.

7244.70 Carrier Attendant (Telephone and Telegraph) operates and maintains carrier equipment for connecting and arranging alternative lines with outside stations. Attends to and maintains telegraph and telephone carrier equipment which enables multiple transmission to be made on single line. Tests trunk telephone lines and makes operating adjustment in telegraph repeaters.

7244.90 Mechanics, Telegraph and Telephone Installing and Repairing, other perform variety of routine and low skilled tasks in fitting, assembling, installing, repairing and maintaining telephone and telegraph equipment and are designated Form Layer Helper, Rack Wiring Helper, Telephone Mechanic Helper, Teleprinter Mechanic Helper etc., according to nature of work performed.

7245 ELECTRICAL LINE INSTALLERS, REPAIRERS AND CABLE JOINTERS

Electrical line installers, repairers and cable jointers install and repair electrical lines and joint cables.

7245.10 Lineman, Light and Power erects and maintains overhead electric power lines to conduct electricity from power plant to place of use. Erects poles and small towers at specified distances with assistance of other workers. Climbs poles and towers and fixes insulators, lightning arresters, cross-brass etc. and other auxiliary equipment at proper heights. Strings and draws cables (wires) through insulators fixed on cross bars, exercising great care to leave proper sag in wires to avoid breakage under changing atmospheric conditions. Joins cable by various methods, fixes joint-boxes at specified places, replaces fuses and faulty components as necessary and tests for electrical continuity. Checks overhead lines in allotted section as

NATIONAL CLASSIFICATION OF OCCUPATIONS

necessary and maintains them in order for carrying electricity by effecting repairs of defective lines, poles, towers and auxilliary equipment as directed. May install and repair overhead power lines for electric trains, trams or trolley buses. May work on high tension or low tension power lines.

7245.20 Cable Jointer joints on surface or underground multi-conductor telegraph or telephone cable consisting of number of various coloured wires. Selects strands of wires to be joined from cable ends according to colour code and removes insulation from end of wires in cables, slips separate pieces of copper or lead sleeves with linear slits over ends of cables and brings ends of naked wires of cables in overlapping contacts according to colour code. Twists overlapping ends of naked wires to join strands and solders or brazes each strand of wire of one cable with corresponding one of other. Dries joint and wraps it with insulating material. Adjusts sleeves over joint keeping slits face to face and heats and solders sleeves together to strengthen and protect joint made. Screws soldered cable in position in cable junction box by tightening bolts and fuses upper portion of box with pitch or other compound to completely insulate cable against leakage and moisture. Tests pairs of wires for electrical continuity and insulation, using testing equipment. May be designated as **CABLE JOINTER, TELEPHONE AND TELEGRAPH OR CABLE JOINTER LIGHT and POWER** according to type of cables joined.

7245.90 Electrical Line Installers, Repairers and Cable Jointers perform number of routine and low skilled tasks in erecting and maintaining overhead lines, joining cables, etc., and are designated as Lineman's Mate; Cable Jointer Helper; etc., according to work performed.

7248 SUPERVISORS AND FOREMEN, ELECTRICAL AND ELECTRONIC EQUIPMENT MECHANICS AND FITTERS

Supervisors and foremen, electrical and electronic equipment mechanics and fitters supervise and guide workers engaged in assembling, installing and repairing of motors, generators, electrical wiring, telephones and

telegraph lines, cables, electrical instruments and equipment, overhead or underground telephone and telegraph lines, different kinds of selector racks, relay set racks and other electrical and electronic equipment.

7248.10 Supervisor and Foreman Electrical and Electronic Equipment supervises fittings assembling, installing and repairing of electrical and electronic equipment, motors, generators etc., and ensures stipulated performance. Studies drawings and wiring diagrams and explains details to workers. Checks connection, quality and thickness of wire, resistance, condensers, valves, coils, etc., gets defective parts or components replaced and ensures conformity with prescribed specifications. Guides workers in fitting, assembling and installing electrical and electronic equipment including electrical motors and generators and assists them where necessary, to test and remove snags. Tests completed unit for electrical circuit, flow of current, resistance, frequency, earthing, etc. gets defects removed and ensures stipulated performance. May use substitute parts or change wiring system, if authorised. May specialise in electrical or electronic equipment and be designated accordingly.

7248.20 Engineering Supervisor, Telephone and Telegraph controls and supervise, Sub-Inspectors, Linemen, Installation Mechanics, and Maintenance Mechanics engaged in erecting, installing, maintaining and repairing telephone and telegraph lines, cables, instruments and equipment in or outside telephone exchange, telegraph office or in customer's premises in his area. Prepares estimates of expenditure and material required for extension of telephone connections and facilities and obtains necessary approval. Controls and supervises installation of underground and surface telephone lines and cables to provide necessary connections. Checks operational efficiency of telephone and telegraph apparatus at subscriber's premises and at respective exchanges. Supervises duties of Sub-Inspectors, Linemen, Maintenance Mechanic etc. and guides them as necessary. Organises repair and maintenance operations during emergencies and breakdowns in commutation systems. Maintains liaison with public and looks into complaints. May supervise work of Telephone and Telegraphic Operators.

NATIONAL CLASSIFICATION OF OCCUPATIONS

7248.30 Sub-Inspector Telephone and Telegraph Supervises Linemen, Telephone and Telegraph, engaged in erecting, repairing and maintaining overhead or under ground telephone and telegraph lines. Checks plan of line to be laid, instructs linemen on sequence of work to be executed and ensures timely supply of material required for installation, repairs and replacement, Deploys linemen as required on work site and supervises installation, repair, and installation of poles and fitting of brackets and crossbars. Guides fitting of insulators, drawing of wires, deviation of lines and setting of telephone instrument, keyboards etc. Tests personally or ensures proper testing line and removes defects if any. Locates distance and area of failure in case of breakdown using testing meters and restores communication speedily by rewiring or getting faults removed. Checks telegraph and telephone lines periodically and maintains them in working condition. May install, repair, and replace components of telegraph and telephone system.

7248.40 Charge Hand, Rack Wiring (Telephone, Telegraph Equipment Manufacturing) instructs and directs Operators, Rack-wiring, in assembling and erecting different kinds of selector racks, relay set racks, etc. Organises and distributes work among operators within sections and fills in time cards. Checks sequence of work performed by different operators, detects and removes faults and ensures that wiring is done according to circuit diagrams. Instructs and trains operators and ensures their general efficiency. Records number of persons supervised and ability to detect and rectify faults in wiring.

7248.50 Line Supervisor, Electrical supervises installation and drawing of overhead and underground electrical line for street lighting and power supply. Studies diagrams and details of line to be drawn. Visits area, determines electrical towers and poles to be installed and/ or underground cables to be laid and explains working details to linemen. Marks locations of poles and tower or earth to be dug and gets them installed or set according to electricity act ensuring proper earthing. Gets brackets and other accessories fitted according to specifications. Informs power house or appropriate authority to switch off electric

supply in area in which working, if necessary. Directs linemen and other workers to draw electric line as scheduled ensuring safety and minimum sagging. Guides joining of cables, fuses, junction boxes, etc., as appropriate and ensures continuity and proper installation. May do lead burning and join cables himself. May take charge of particular area and maintain power supply line by conducting repairs and replacements as necessary.

7248.90 Supervisors and Foremen, Electrical and Electronic Equipment Mechanics and Fitters, Other include workers who supervise and guide workers engaged in assembling, installing and repairing of motors, generators, electrical wiring, telephones and telegraph lines, cables, electrical instruments and equipment, overhead or underground telephone and telegraph lines, different kinds of selector racks, relay set racks and other electrical and electronic equipment not elsewhere classified.

7249 ELECTRICAL AND ELECTRONIC EQUIPMENT MECHANICS AND FITTERS AND RELATED WORKERS, n.e.c.

This Family covers workers not elsewhere classified in the Group 724, Electrical and electronic equipment mechanics and fitters. For instance occupations involving inspection of television receivers during final assembly, checking of telephone and telegraph equipment, doing armature and coil winding, repairing and charging battery, replacing blown out fuses etc.

7249.10 Senior Functioner (Telephone Equipment Manufacturing) checks, locates faults and sets various kinds of complex telephone equipment. Studies blue prints and wiring diagrams of equipment to be checked and examines connections, circuits and links of group selector, final selector and uni selector racks. Connects equipment to testing instrument and tests it to detect faults, if any. Records defects and faults to be rectified, gets them removed and retest it after rectification to ensure conformity with prescribed specifications and operational efficiency. May design test sets to examine complex circuits and equipment.

7249.20 Junior Functioner (Telephone Equipment Manufacturing) performs operational tests of repetitive nature on assembled telephonic apparatus, gets defects removed and ensures operational efficiency.

NATIONAL CLASSIFICATION OF OCCUPATIONS

Mounts apparatus such as automatic switching apparatus, step by step telephone switches, relay sets, group selector, final selector, uni selector, racks, etc. on standard test unit. Operates testing apparatus and observes readings. Notes faults and defections detected by readings observed for repairs particularly with reference to circuit diagrams and functioning instruction sheet of each apparatus. Tests apparatus again after rectification of faults, and certifies tests checked apparatus for operational efficiency. May conduct minor repairs of standard test unit.

7249.30 Wiring Inspector and Bank Tester (Telephone Equipment Manufacturing) tests operational efficiency of switch wiring, bank multiple wiring, rack wiring and cables, and gets defects removed. Checks wiring for colours and gauges to ensure conformity with prescribed specifications. Tests wiring for continuity and leakage using buzzer and megger (testing instruments). Records defects in charts for rectification. Tests and approves wiring for conformity with prescribed specifications after removal of wiring defects and other faults.

7249.40 Inspector , Assembly (Telephone Equipment Manufacturing) inspects assemblies and sub-assemblies of switches, phones and other telephone and telegraph equipment and gets defects removed. Checks wiring and different components of apparatus for conformity with specifications, using simple tests, sets and gauges. Checks assembly with charts, blue prints and other prescribed standardized procedures and records defects and faults of assembly on quality control charts. Tests apparatus after rectification and certifies assembly to be in conformity with requirements.

7249.50 Battery Servicing Man; Battery Charger charges storage batteries used in motor vehicles, aircraft and other electrical equipment. Places batteries on table, unscrews caps of cell and checks specific gravity of electrolyte (acid solution) in cell with hydrometer. Pours required amount of distilled water or dilute acid into cell as necessary to submerge cell plates with electrolyte solution and adjust its strength. Connects battery with charging set as prescribed and switches on flow of current.

Observes flow of electricity and rate of charging from ammeter readings, regulates it as necessary by control switch and keeps battery on charge for specified period. Switches off charging set and checks specific gravity of electrolyte and voltage acquired by battery, using hydrometer and voltmeter respectively. Fixes cell caps of battery securely to avoid splashing of electrolyte solution. May repair batteries and maintain account of batteries charged. May charge number of batteries simultaneously by connecting their terminals in series to battery charger.

7249.60 Operator, Impregnation Plant (Electrical Equipment Manufacturing) operates impregnation plant to dip assembled coils and armatures in tank containing molten insulating material like wax or varnish and dries dipped articles in baking plant (electric drying chamber). Feeds solid wax or varnish into heating tank of plant. Switches on electric heaters and observes thermometer readings to heat and melt insulating materials completely. Dips coils or other materials to be insulated into tank either manually or with hoisting equipment and keeps them in solution for prescribed period. Shuts lid of tank and operates vacuum pump of machine to ensure that all parts of dipped articles are completely covered with insulating materials. Removes dipped articles and hangs them to drip of excess insulation. Places articles in electrical baking plant and dries them at fixed temperature for set period of time. Cleans plant and maintains account of articles handled.

7249.90 Electrical and Electronic Equipment Mechanics and Fitters and Related Workers, Other include all other workers engaged in fitting, assembling, repairing and maintaining electronic and electrical equipment, machinery, appliances, etc., not elsewhere classified

73 PRECISION, HANDICRAFT, PRINTING AND RELATED TRADES WORKERS

Precision, handicraft, printing and related trades workers make and repair precision instruments, musical instruments, various articles such as Jewellery, precious metal ware, ceramics, porcelain ware and glassware, as well as handicrafts made of wood or textile, leather or related materials, or they perform printing or book-binding tasks.

NATIONAL CLASSIFICATION OF OCCUPATIONS

731 PRECISION WORKERS IN METAL AND RELATED MATERIALS

Precision workers in metal and related materials make and repair precision instruments, musical instruments, Jewellery and other articles of precious metals.

7311 PRECISION INSTRUMENT MAKERS AND REPAIRERS

Precision instrument makers and repairers make and repair mechanical watches, clocks, nautical, meteorological, optical, surgical, dental, orthopaedic and other precision instruments and equipment.

7311.10 Mechanic, Precision Instrument

General tests, repairs, overhauls and assembles various precision instruments and their parts for efficient performance. Examines instrument for defects. Dismantles components and cleans them in appropriate fluid such as petrol, kerosene etc. to find out extent of damage or wear & tear to parts. Removes minor defects of parts by grinding, filing, drilling, etc. and replaces worn out and damaged parts. Adjusts position of various parts using screwdriver, spanner etc. and assembles instrument to form complete unit. Makes simple electrical connections, solders contact points and performs other tasks as necessary. Tests performance either by visual observation or by conducting simple electrical and mechanical tests and ensures that repaired or assembled instrument conforms to prescribed efficiency. May make new components and assemble new instruments. May specialise in any particular type of instrument like mechanical, hydraulic, pneumatic, electrical, optical, orthopaedic etc.

7311.20 Watch Repairer cleans repairs and adjusts clocks, watches and time pieces for accurate time keeping. Examines watch pieces or clock mechanism using magnifying eyepiece to locate defects. Opens watch and disassembles components or parts of watch such as main spring, hair spring, balance staff etc, using special screw drivers, tweezers, pincers, and other watch makers tool. Cleans part with benzene or other cleaning solution using special brushes. Checks, jewels, spring, pinion joints pivots, balance staff etc. and determines their serviceability. Repairs or replaces broken or damaged parts and

assembles watch step by step in proper sequence ensuring desired performance of each component. Lubricates pivots and operating components with thin special type of vile and soaks extra oil using pith sticks. Winds watch, observers performance and sets it with chronometer or accurate watch to regulate timing. Makes necessary adjustments after set period and regulates timming both in horizontal and vertical positions to ensure accurate time keeping. Is designated as Watch Maker if able to make balance staff pivots etc. operate watchmakers lathe and overhaul chronometers, self-winding, electric and other types of special watches and clocks. May operate cleaning machine to clean delicate parts in petrol and special solutions.

7311.25 Assembler (Clock & Watch)

assembles and installs chime-controlling mechanisms in master clocks according to blueprints and sketches, using watchmaker's tools: Bolts mounting casting which houses clock and chimes mechanisms to inner rear panel of master clock case. Installs toggle switch and cut-off secondaries, for opening and closing chime-mechanism circuit, on panel, and makes wire connections. Disassembles, examines, repairs, or adjusts spring-wound clock, and reassembles clock adding strike-control parts, such as hour-strike spring to hour mechanism, night-spot cutout to hour hand sleeve-wheel, and minute-mercury ring to minute mechanism. Bolts assembled clock mechanism in position on mounting casting. Assembles parts, such as dial, hour and minute hands, contact springs, motor drum and condenser, and makes wire connections to complete master clock mechanism. Installs completed assembly into master clock case.

7311.30 Mechanic Precision Instrument, Mechanical

makes, alters and adjusts mechanical instruments or mechanical parts of electrical and optical instruments by accurate milling, filing, grinding, lapping and other processes. Studies drawings or samples and examines precision instrument like balance, meters, pressure gauges etc. for defects. Dismantles instrument, cleans metal components in petrol, kerosene oil or otherwise and checks them to find out extent of damage and further serviceability. Makes new parts on lathe milling or other machines, if necessary. Sizes and fits metal parts by filing, scraping, grinding lapping etc, as necessary and ensures their desired

NATIONAL CLASSIFICATION OF OCCUPATIONS

accuracy by checking with precision measuring instruments shadow graph and other highly perfect devices. Assembles parts to form complete unit. Gets electrical components repaired by Electrician. Fits electrical and optical parts to instrument and adjusts them as required. Texts repaired or assembled instrument for clarity or vision sensitivity, correct meter and scale readings etc, as required and ensures stipulated performance within prescribed limits. Makes necessary adjustments and seals meters to avoid manipulations. May specialise in particular type of instruments like balance, pressure gauges, meters, theodolites, etc. May make new instruments from blue prints.

7311.35 Viewer, Workshop; Examiner, Metal Working; Checker, Metal Working checks mechanical components, units, machines etc., at various stages of manufacture, assembly and erection and ensures that they are made to required specifications. Studies diagram, sketch etc., of product to be manufactured to determine its specification and other details. Examines product prior to and at various stages of manufacture to detect faulty material or bad workmanship. Measures and tests components for accuracy using gauges and other instruments and checks finished products, assembled or erected structures to ensure that they conform to drawings, samples or specifications. Marks defective units, components or parts for rectification or for rejection and approves finished products that conform to required standard and specifications. Removes minor defects or informs superiors if machines do not function properly or products do not come up to prescribed standard. Keeps record of production, indicating quantum of rejections or bad workmanship. May be designated according to nature of duties performed such as **CYLINDER EXAMINER; TESTER, PIPES:** etc.

7311.40 Mechanic Atomiser and Fuel Pump (Diesel) repairs and sets atomisers and fuel pumps units of diesel engines, using testing and setting tool, for efficient performance. Dismantles fuel pump kit using different tools. Cleans various components in oil and examines them for wear and tear, damage etc. Replaces damaged or worn out parts with new ones. Assembles parts together to complete

unit. Fits assembled or repaired kit on test bench with testing engine and gives various connections like fuel supply, pressure gauge etc. Sets machine speed and pressure and starts testing pump. Observes machine running at prescribed speed and collects oil output in calibrated test tubes. Ensures that output of oil is as per specifications and makes necessary adjustment to plunger sleeve of pump to get quantity of oil from each nozzle. Conducts face angle tests to pump oil at correct timing and rectifies defects, if any. Removes atomiser from pump, fits it to special testing machine and operates machines to see whether oil is ejected in fine spray under prescribed pressure. Changes nozzles where necessary. Disassembles governor mechanism of fuel pump, cleans it, oils and greases moving parts and sets it. May change governor diaphragm if necessary.

7311.50 Mechanic Typewriter and Calculating Machine repairs, overhauls and reassembles typewriters and calculating machines for efficient performance. Examines machine to locate defects by manipulating all parts of typewriter or calculating machine and observing imprint of impressions on paper or calculation recorded on meters. Dismantles machine using different tools such as screwdrivers, spanner, plier, etc. and examines components like cylinder, roller, type bar, drum chord, springs, types etc. for wear and tear. Cleans metal parts in oil and brushes types with special hard brush. Assembles parts together using special tools and replacing damaged and worn out parts with new ones. Fixes ribbon to machine. Types or makes rough calculations on paper for testing accuracy and smoothness of performance and to check that imprints on paper are good, impressions are clear and machine works smoothly. Oils moving parts. Operates mechanically operated calculating machine to see whether answers like totals, subtractions, divisions are correctly registered in indicators. Is designated as **MECHANIC, OFFICE MACHINES** if engaged in servicing and repairing duplicating, sorting, labelling, addressing and other office machines by mechanical processes. May get defective parts repaired, if otherwise serviceable.

7311.60 Mechanic Optical Instruments repairs and sets optical instruments such as microscopes, telescopes, binoculars theodolites, photography cameras, sextants etc. for enlarged view photography for recording accurate

NATIONAL CLASSIFICATION OF OCCUPATIONS

measurements, etc. by checking centering, setting lenses to required focal length and adjusting other components to required perfection. Examines optical instruments for defects visually or by focussing it to standard observations. Examines parts or components for wear and tear, damages etc. and replaces unserviceable ones. Repairs parts, where possible, by filing, grinding, scrapping etc. and fits new or ground lenses, mirrors and other accessories according to prescribed focal lengths and specifications. Grinds glazes and cements (joining of two lenses with canada blasm to form one unit) lenses used in optical instruments such as microscopes, telescopes, gun sight photographic equipment, etc. to obtains correct lens assemblies Aligns parts to requirement and assembles components to form complete unit. Makes necessary settings and adjustments to instruments and tests to repaired unit for clarity and efficiency by visual observations or by using them over fields to ensure desired result and accuracy. May assemble and fit new equipment. May be designated as **CAMERA REPAIRMAN OR PHOTOGRAPHIC EQUIPMENT ASSEMBLER AND REPAIRMAN** if solely engaged in repairing and assembling photography cameras and allied gadgets and equipments.

7311.65 Calibrator, Glass calibrates measuring and detecting glass instrument such as pipette, burette, hydrometer, thermometer etc. according to set standards by direct experiments for recording correct readings. Sets and connects master (standard) measuring instrument with water or appropriate fluid supply line and connects instrument to be calibrated with master using rubbers or glass tabling with stop cocks. Allows measured quantity of liquid to flow into master measuring instrument, sets level at zero by adding or flowing out extra liquid as necessary, transfers contents completely into instrument to be calibrated by operating stop cock and marks position of zero level on it with paint, ink or coloured pencil. Marks different levels similarly by adding measured quantity of liquid first into master and then transferring whole lot into instrument to be calibrated. Heats or cools mercury, alcohol, sensitive metal foil or other appropriate indicator filled in thermometers and thermal recording instruments carefully through measured degree of temperature and suitably marks position of

observations recorded on glass body of instrument. Calibrates intermediate position by dividing machine calculators or by actual experiments as necessary. Removes provisional calibrated instrument and makes permanent marking as recorded by process of etching or on pantograph machine. May etch calibrated glass with hydrofluoric acid.

7311.67 Calibrator (Instrument & Apparatus)

tests and calibrates controlling, indicating, and measuring instruments and devices, such as monochromators, pressure regulators, tachometers, temperature controls, and thermometers, to ensure specified operating performance, using hand tools, testing and calibrating instruments and equipment, and precision measuring instruments: Reads quality control manual and testing specifications to obtain data to test or calibrate specific devices. Selects and installs accessories, such as adapters, indicating gauges, or holding devices on test or calibration fixture, and connects instrument or device to fixture, according to specifications, using hand tools. Sets controls to regulate factors, such as current flow, timing cycle, pressure, temperature, or vacuum, according to specifications, and activates test or calibration equipment. Observes readings on meters and gauges, and other displays and performance of device or instrument to identify functional defects and determine calibration requirements. Adjusts calibration mechanisms to obtain specified operational performance of device or instrument, using hand tools and precision measuring and calibrating instruments and equipment. Applies sealing compound on calibration mechanism to prevent readjustment of settings and loss of calibration. Rejects malfunctioning devices and routes devices to specified department for rework or salvaging of parts. May disassemble instrument or device to determine cause of defective operation and notify supervisory personnel of findings.

7311.70 Calibrators, other calibrate metal wood and synthetic material seals for linear and angular measurements using pantograph, dividing or other sensitive machine according to specifications. Set sized object accurately on machine using precision instruments and holding devices like dial indicator, combination set, clamps, mandrill, etc. Fit template or necessary gadgets and cutter in machine. Set machine in relation to object according to divisions required and mark extreme positions. Operate machine as

NATIONAL CLASSIFICATION OF OCCUPATIONS

per template or calculation and machine markings to divide object into specified number of divisions by short and long cuts as required. Check object with set standard to ensure accuracy. May copy from sample or standard scale.

7311.75 Orthopaedic Appliance and Limbs Technician; Orthopaedic Technician; Artificial Limbmaker, Surgical makes and repairs artificial limbs, braces, and other orthopaedic appliance according to prescription. Makes cast of limb or deformity and draws patterns from measurements of body members to be fitted. Cuts and fashions devices from material, such as metal, plastic and leather, using welding equipment, forge, rivetting machine, drill and hand tools; shapes leather parts over lasts and rivets parts to braces; pads braces with felt and sponge rubber; polishes completed devices, using buffing wheel; adjusts nuts and screws at joints to insure free movement. Repairs worn-out or damaged appliance. May harness devices to limbs or stumps, using knowledge of functional anatomy. May instruct patient in use of device. May be designated according to type of appliance being made as **ARTIFICIAL ARM MAKER, FOOT MAKER.**

7311.80 Mechanic, Dental; Dental Technician makes full or partial dentures, inlay, bridges, and crowns of metal, vulcanite or other composition plates from wax or plaster plate impressions taken by **DENTIST** and repairs dental aids as prescribed by him. Makes special impression trays as designed by **DENTIST** and prepares plaster casts of upper and lower jaws from wax impression taken by him to provide pattern for work to be done. Shapes metal vulcanite or plastic plates for dentures and sets artificial teeth in plates. Processes denture in acrylic resin or metal and makes fixed metal restorations such as crowns, bridges etc. according to impression taken by Dentist. Forms porcelain teeth and crowns and repairs or makes additions on existing dentures as directed. May assist Dentist in general dental practice and undertake chair side clinical work on patients.

7311.85 Instrument Makers, other (Except Electrical) include all other workers engaged in fitting, assembling, calibrating and repairing mechanical, hydraulic, optical and other types

of instruments except electrical, not elsewhere classified.

7311.90 Precision Instrument Makers and Repairers, other perform number of low skilled and routine tasks such as dismantling instruments, filing, making connections, operating vacuum machine, soldering, sealing covers, cleaning lenses etc., and is designated as Instrument Mechanic Mate, Instrument Mechanic Helper etc.

7312 MUSICAL INSTRUMENT MAKERS AND TUNERS

Musical instrument makers and tuners make, repair and tune stringed, wind or percussion instruments with hand or power tools.

7312.10 Musical Instrument Maker (Stringed) makes stringed instruments such as sitar, tambura, violin and veena from wood, ebonite, metal or other materials, using hand or power tools, selects and marks materials, saws out, drills, carves, shapes and finishes parts of instrument, glues or screws parts together; applies stain and several coats of varnish, attaches strings, pegs and other fittings; tests instrument and makes changes, if necessary to improve tone. May carve ornamental designs on instrument. May repair instruments. May specialise in making a particular type of instrument and be designated according to type of instrument made such as **VIOLIN MAKER, VEENA MAKER, SITAR MAKER, ESRAJ MAKER.**

7312.15 Harmonium Maker makes harmonium by preparing different parts of instrument such as, cabinet reed board, keys, bellow and stoppers and assembling them using hand or power tools. Selects required type and size of wooden planks for making different parts of harmonium. Marks them with dimensions using tool rule, square, pencil, etc., and makes different parts by sizing, sawing and planing using carpentry tools. Assembles harmonium cabinet (wooden box) by nailing different parts together. Makes air compartment in inside bottom of box air-tight by gluing soft leather or strips along edges. Prepares bellow from card board by cutting card board strips and gluing with soft leather and coloured paper making necessary folds. Attaches bellow to harmonium cabinet by gluing and clamping it with nails and springs. Fixes necessary wooden bridge over air compartment

NATIONAL CLASSIFICATION OF OCCUPATIONS

in box. Prepares reed board by making required numbers of apertive and fixing reeds one side and rest pins on other sides. Makes necessary number of holes for different notes on reed board, fixes knobs for control of air from air compartment to apertives of reed board. Ensures that joints are air-tight by bellowing and reeds give proper tuning. Tests and adjusts harmonium to produce required tune by filing, (opening and closing reed tongues and comparing notes by striking tuning fork). May fix metal handles to cabinet, leather or plastic cloth over reed frame and other decorative fittings. May polish box and give smooth finish. May repair Harmonium by dismantling and replacing different parts of instrument. May specialise in preparing particular parts of instrument.

7312.18 Harmonium Key Maker makes harmonium keys of required sizes by sawing, drilling, filing and smoothening soft wood and gluing celluloid strips on them. Selects soft wood pieces of required quality; marks, saws out curves and shapes wood to make harmonium keys according to specification; cuts celluloid strips of required size and glues it over wooden keys; screws keys to key board and fixes key board to wooden cabinet; drills holes on cabinet as per specification and designs and fits stoppers to control wind inside instrument; may fit reed frame to cabinet. May make bellows and fit them to instruments. May tune up instrument.

7312.20 Harmonium Fitter makes inside of harmonium cabinet airtight by cutting and gluing soft leather strips along edges and fixing necessary fittings. Examines harmonium cabinets prepared by Carpenter are according to specification; cuts soft leather strips of required sizes and glues them to edges of cabinet; fits wooden frame or bridges inside box for fixing reed frame, key board and other harmonium parts; glues and screws key board and reed frame to cabinet. Fits keys and other attachments in to position; tests instruments and makes necessary adjustments to prevent air leak. May polish and apply varnish to cabinet. May tune harmonium for correct note and pitch. May repair harmonium.

7312.22 Bellow Man (Harmonium) makes harmonium bellows by measuring, cutting card board strips and pleating them with soft leather and coloured paper. Selects card board of

desired thickness; marks and cuts groove or channel on card board at parallel lines to permit folding; folds card board along slit edges. Pleats to form bellows; covers bellows with satin and cloth; glues leather or rexin and places metal guards on corners of bellows and screws, nuts or glues bellow to instrument cabinet and operates leak; bellow to test air lead by playing notes; operates bellow to check proper operation. May tune harmonium reeds and glue reeds in reed blocks. May fabricate metal parts using shop machines and tools. May repair used harmonium.

7312.25 Reed Fitter, Harmonium makes wooden reed board according to sample or specification and fits metal reeds and strings on board with screws. Selects wooden board; marks and chisels out grooves or slots to fit reeds according to sample or specifications; fits and screws reeds in slots on board and fixes assembled reed frame to cabinet. Operates harmonium to check reeds to give out correct tune when concerned key is depressed. May tune harmonium. May make wooden cabinet and fit key board to box. May repair used harmonium and replace old reeds.

7312.28 Tuner, Harmonium tests and adjusts harmonium by setting reeds to produce correct tone by filing, opening or closing reed tongues. Plays harmonium by operating bellows and adjusting keys; strikes note by depressing reed with finger and compares pitch with that of standard tuning fork; adjusts tongue by filing, opening or closing until pitch of reed and tuning fork correspond tunes remaining reeds in similar manner; ensures air stoppers are correctly fitted and no air leaks from bellow. May repair and finish harmonium.

7312.30 Finisher, Harmonium gives finishing touches to harmonium by making and fitting stops for controlling air in harmonium and by cutting and fitting celluloid pieces for decorating cabinet. Examines assembled harmonium for any defect; polishes cabinet using colour stain and varnish to give required finish; fixes coloured celluloid strips on reed; fits wooden or plastic knobs to airholes and other attachments such as handles and decorative fittings. May make, assemble and fit various accessories to harmonium. May tune harmonium. May repair used harmonium.

NATIONAL CLASSIFICATION OF OCCUPATIONS

7312.32 Organ Maker makes instrumental parts of organ of wood, metal, leather and other materials, using hand or power tools. Makes parts for organ action. Bolts down, couples up and rivets together key-boxes, drill stops and other parts. Makes pipes of wood or casts sheets of various metals and forms them into pieces. May insert mechanical or electrical mechanisms, erect organs in cinemas, churches and other buildings, tune and repair organs. May specialise in one or more operations, such as making action parts or organ pipes and be designated accordingly.

7312.35 Organ Tuner tests and adjusts organ pipes to produce correct tones and keeps playing mechanisms in good condition. Strikes tuning fork and compares tone with that of selected pipe. Adjusts distance between lips of pipe until tone coincides with that of tuning fork. Adjusts other pipes, comparing their tones by ear with that of pipe already adjusted. Replaces defective wiring, sintches, blowers and other parts.

7312.40 Piano Maker makes instrumental parts of pianos of wood, felt, wire and other materials, using hand or power tools. Makes dampers, checks, hammers and other parts for piano action. Joins them together and fits them in position. Adjusts action by loosening or tightening setting of hammers and by bending spring wire in hammer butts with fingers. Makes and assembles piano keys. Assembles and mounts sound board on back panel of piano. Cuts piano strings to required length and attaches them to rest pins in frame. May tune and repair pianos. May specialise in one or more operations, such as making action parts keys or sound boards and be designated accordingly.

7312.43 Piano Tuner tests and adjusts pianos to produce correct tone. Strikes tuning fork and compares tone with that of 'A' string of piano. Tightens or loosens strings by turning string pin until tone coincides with that of tuning fork. Adjusts other strings comparing their tones by ear with that of 'A' string already adjusted. May replace broken strings and make repairs.

7312.45 Tabla Maker (Musical Instrument) dome shaped wooden, metal or clay body open at one end. Collects cone or dome shaped

wooden, metal or clay of required size open at one end and other instrument parts such as soft leather of desired thickness, leather straps, cords, brass rings as necessary for type of tabla to be made; cuts and sizes leather to close mouth of reed and punches holes round edge of leather cover; places punched cover over mouth of vessel and passes leather straps through holes; inserts guides through leather straps and fastens leather cover to body and secures it tightly at bottom of vessel ties to a brass or leather ring; applies special ink mixed with special wax on central portion of leather top for proper tuning; tests tone of tabla by striking or drumming with fingers; tunes tabla to required pitch by tightening leather straps and changing position of guides. May repair and tune used tablas.

7312.50 Drum Maker, Musical makes musical drums by mounting animal skins on wooden or metal case open on one or both ends with metal rims and fitting adjusters to tune drum to required pitch. Collects wooden or metal case of desired size and specification; secures tightly leather or hide cover over metal or leather ring and fastens ring to mouth of shell with leather cord after fitting adjusters to it; adjusts tension of leather cover by moving adjusters. Applies special compound on middle of upper surface of leather cover where necessary for correct tune, tests and tunes instrument by striking cover surface with hand or stick adjusting adjusters for required tone pitch. May specialise in making particular types of drum and be designated accordingly such as **BRASS DRUM MAKER; SIDE DRUM MAKER; DHOLAK MAKER; MRIDUNG MAKER; TAVIL MAKER; KANJIRA MAKER**. May use parchment leather for special type of drums. May repair drums by dismantling and replacing leather skins, tension rods, rims and shells.

7312.55 Clarionet Assembler makes clarionet by assembling mouth piece, shank, upper and lower pieces, bell and keys and tunes it to required pitch for correct tone. Collects parts such as springs, pins, keys, reed for making clarionet of desired type. Joins upper and lower part of body together; fits keys and other attachments in position; fixes reed to mouth piece through reed holder; tests instrument and makes changes, if necessary, to improve tone and tunes it to desired pitch with or without tuning fork. May repair used instrument. May be

NATIONAL CLASSIFICATION OF OCCUPATIONS

designated as **FLUTE MAKER** if engaged in making and tuning flutes.

7312.58 Bag Pipe Maker makes bag pipes by assembling finished wooden organ pipes in specially designed leather bags. Collects wooden pipes and leather bag according to specification; prepares bag pipe reeds by shaving and filing cane of specified variety; fixes reeds in mouth piece through reed holders; tunes organ pipes for tone of desired pitch; cuts holes in leather bag and fits in finished wooden pipes in holes in proper position; secures pipes to bag tightly with cord to prevent leakage of air from bag; fastens brass and tenor pipes with cords and tunes pipes to ensure correct pitch and tone. May specialise in one or more operations, such as marking act in parts or organ pipes and be designated accordingly.

7312.60 Brass Musical Instrument Assembler makes required types of brass musical instruments by fitting piston valves, valve tops, bell etc.; in metal body. Collects different parts of musical instrument to be made; joins parts by screwing, rivetting or soldering as necessary to obtain desired shape; fits piston valves, valve tops, springs, washers, etc. Checks leakage, brazing etc. and tunes it to required pitch by fitting slide or further tooling as necessary. May specialise in any particular type of brass musical instruments such as cornet, baritone, euphonium, bugle, trumpet etc.

7312.65 Musical Instruments Repairer repairs all kinds of musical instruments such as Violin, Veena, Tambura, Sitar, Harmonium, Guitar, Mandolin, Piano, and tunes them. Tests particular instrument to find nature of defect, dismantles instrument and examines parts for defects or damage. Repairs or replaces worn or damaged parts using hand tools, refits parts together to construct instrument; Sets repaired instrument for correct performance, tunes instruments by playing it and adjusting keys, strings, etc. May polish with colour stain or varnish to give good finish. May make new parts to replace damaged ones using hand tools. May be designated according to type of instrument repaired, such as **VIOLIN REPAIRER, VEENA REPAIRER, HARMONIUM REPAIRER, PIANO REPAIRER**, etc.

7312.90 Musical Instrument Makers and Tuners, Other include all other musical instrument makers engaged in making or assembling other types of musical instruments not elsewhere classified as: Organ Pipe Maker casts sheets of organ metal; makes pipes therefrom and from zinc-makes air conduits of galvanised iron.

7313 JEWELLERY AND PRECIOUS METAL WORKERS

Jewellery and precious metal workers make and repair Jewellery and precious metalware, cut and set gems and engrave designs on Jewellery and precious metal articles.

7313.10 Roller, Gold and Silver makes silver and gold sheets of varied thickness by process of rolling. Adjusts roll gap of rolling machine by means of handle operating gearing system machine. Takes required weight and size of metal piece (caste and annealed if necessary) and carefully inserts it in between roller, keeping it pressed against bottom roller. Checks thickness of sheet after each rolling, reduces roll gap and repeats process until required thickness is obtained. Ensures that texture of sheet or foil does not get spoilt during rolling. May prepare sheets or foils manually by process of hammering and flattening. May anneal sheet or foil after rolling.

7313.15 Wire Maker, Gold and Silver makes silver and gold wires of specified thickness by heating and drawing metal in specially designed machine. Takes gold or silver rod of required size and weight and heats it up (dull red) in mild fire. Beats one end of rod to narrow point and passes it through one of larger holes of sizing plate or die. Places plate with rod securely in gap of drawing machine. Holds protruding end of rod with tongs and anchors it suitably in roller chain. Sets speed, starts machine and removes anchor from chain as soon as rod has been pulled through and formed into wire. Repeats process by passing wire successively through smaller holes until required size is obtained. May draw wire of desired thickness through series of dies (steel or diamond) of diminishing holes and wind it on manually or mechanically operated drum. May also make wire manually by beating rod in sized pattern or mould.

7313.18 Gold Curer, General; Gold Refiner, General extracts pure gold from impure state by

NATIONAL CLASSIFICATION OF OCCUPATIONS

chemical process. Adds double quantity of silver to gold (in impure state) and melts them in charcoal or coke fired pit furnace. Quenches molten metal in water to form solid mass. Adds nitric acid and reheats in charcoal fired furnace to dissolve impurities and silver. Removes gold separated from impurities by filtration and washes it numbers of times in water. Remelts washed gold to form bar of pure gold. Extracts silver in same manner by adding requisite quantity of copper to solution.

7313.20 Gold Curer, Mint; Gold Refiner, Mint refines impure gold by chemical process. Melts unrefined gold in furnace and injects chlorine into it. Removes Chlorides (chemical compounds of impurities with chlorine) thus formed by scoop and tongs and pours out purified gold. Re melts purified gold for testing fineness and sampling. Repeats process if necessary. May melt acid treated roasted precipitates of impure gold with oxidising agents and sand in steel trays on furnace, pour out molten gold into buttons and bar moulds and raise fineness of base bullion by refixing it using fair clay pipes and compressed air.

7313.22 Gold Foil Maker makes gold foils from wires for setting jewels in ornaments. Moulds gold into small bar and gets it drawn into wire of required gauge. Cuts convenient length of wire, heats it to specified temperature in mild fire and flattens it to extent possible by beating it with hammer on anvil. Reheats it in controlled low fire, cools and cleans it in chemical or solution of lemon juice and water and repeats process of beating on anvil until it turns into thin paper like foil. Ensures at every stage that foil is not cracked or broken. May also prepare silver foils from wire, and is designated as **SILVER FOIL MAKER**.

7313.25 Leaf Maker, Gold and Silver beats small strips of gold and silver into thin leaves for medicinal purposes, dressing sweet dishes, etc. Cuts small strips of desired metal into suitable size and places them individually in between sheets of special type of skin bound together. Covers sheets of skin holding metal inside thicker skin covering and beats them on anvil with wooden malet. Checks extent of spreading frequently while beating and ensures that metal pieces do not get stuck to skin sheets. Removes metal leaves then formed and places them individually on fine paper sheets. May use special type of paper instead of skin

for beating. May light small coal fire to remove moisture from skin and avoid sticking of metal leaves on skin sheets.

7313.28 Goldsmith ; Sonar prepares gold ornaments of required design and weight by heating, moulding, bending, drawing etc. Studies design or sample and takes required weight of gold by weighing in sensitive balance. Moulds piece of gold into small bars by heating on mild fire or takes required weight of sheet or wire according to design. Makes designed ornaments by stages using dies and hand tools, such as tongs, hammer, hand saw drill, file etc., and by heating metal according to necessity by means of oil lamp and blow pipe to facilitate working. Makes jewel setting arrangements (if so designed) in ornament uses lac as filling where necessary. Polishes ornament by cloth, special yarns, or buff. May make individual parts of ornament and finally join them together either by fusing them by heat or fixing them by wire. May also do jewel setting, enamelling (mina work) etc. May be designated as **SILVERSMITH** if employed in making silver wares and ornaments.

7313.30 Jewel Setter; Gem Setter sets jewels in ornaments according to design. Fixes jewels on wooden board or box by shellac according to design. Examines ornaments for jewel setting and makes necessary alternations if required. Lays ornament on table, heats shellac slightly on oil lamp, picks up jewels one at a time, sets them individually in pockets of ornament designed for fixing jewels and securely locks each one of them by bending metal points over jewel or by overlapping system. Is designated as **KUNDAN WORKER** if engaged in setting jewels by pressing pieces of thin gold foils with tweezer and needle.

7313.35 Gem Sorter; Jewel Sorter examines, selects and removes gems from rough stones by pincer. Lays pieces of rough stones on table. Cuts them in smaller pieces if necessary, examines them individually with magnifying glass and locates portion to be retained. Checks frequently portion to be cut and clips off surplus portion bit by bit by pincer or marks stones with Indian ink. Fixes them in sockets in brass rod, using adhesive solution (sicotine, plaster of paris etc.) for sawing. Eliminates white veins from corals and sorts pearls by shape and size.

NATIONAL CLASSIFICATION OF OCCUPATIONS

7313.45 Gem Slicer cuts jewels for sizing by using thin rotating cutter. Applies cutting solution (solution of 'Multan' clay, corundum and diamond powder) on cutter. Directs Lapidary Helper to rotate driving wheel at steady speed. Holds stone or jewel carefully with fingers, presses it against cutter, applies cutting solution frequently and cuts jewels as required. Checks stone or jewel frequently while cutting to ensure proper sizing. May slice jewels by machine having number of cutting blades. May also extract jewels from rough stone by slicing. Is also known as **DIAMOND SAWYER** if employed in sawing diamonds.

7313.50 Gem Cleaver cuts or cleaves precious stones, previously marked, using knife and hammer. Sets marked stone in dop with shellac and fixes dop on cleaving table. Makes groove along marked line with another diamond tool. Places cleaving knife on groove and carefully strikes with small hammer to split stone into two parts of required specifications. May repeat process if further splittings are required.

7313.55 Gem Grinder, Hand; Jewel Grinder Hand; Lapidary, Hand grinds jewels to designed shape and size by hand operated grinding wheel. Embeds jewels on bamboo stick with shellac. Rotates grinding wheel backwards and forwards by operating bow with right hand. Applies water on wheel and grinds stone by pressing it against side of corundum grinding wheel. Checks stone frequently by sight and continues grinding until required shape and size is obtained. May hold bigger sized stones directly by left hand, grind it to shape and size by manipulation of fingers.

7313.60 Gem Polisher, Hand polishes gems according to specification by special manually or mechanically operated polishing wheels. Holds jewels by shellac on small bamboo stock, Fits required type of polishing wheel (lead for soft stone such as emerald, spinel, yellow topaz, etc.; copper for hard stones such as ruby, sapphire etc., and steel plates for diamonds) and starts wheel. Applies water to wheel and presses stone against its surface. Checks stone frequently while polishing for finish. Polishes stone finally in corundum polishing wheel in similar manner. May polish bigger stones by holding them directly by

fingers and manipulating against revolving wheel.

7313.68 Gem Driller drills holes in precious stones according to design with bow drill. Fixes diamond bit to serve as cutter in drill (wooden piece having metal device to hold diamond bit) and sets sized wooden plate having carved pocket on drilling table. Holds stone to be drilled in pocket of wooden plate. Arranges continuous flow of water as coolant at drilling point. Holds drill in bow and drills stone according to stone design, frequently checking it for alignment and shape. Drills pearl by using sharp steel pin instead of diamond bit.

7313.70 Jewellery Engraver engraves ornamental designs or letters on ornaments and jewellery using fine chisels and hand tools. Draws in pencil required design to be engraved, on paper, if ornament is fairly big or else draws design on ornament itself using fine steel point. Transfers design from paper to ornament by placing designed paper on surface of metal coated with wax solution and rubbing surface of paper to leave impression of design on waxed surface. Holds ornament in special device or fixes it in shellac. Marks outlines of design on ornament using steel point. Engraves design by stages using different types and sizes of chisels and hand tools changing position of article on table as required. Scoops out excess material from metal using special tools, cuts it to required depth or height and prepares base for setting and mounting stone. May make simple designs on plate for goldsmith to work. May engrave or emboss by dies and polish ornaments to high finish. May use compass for marking circular designs. May set and mount stones on gold article.

7313.71 Engraver cuts floral, artistic designs or letters on metal plates and other articles such as flower vases, cigarette cases etc., using small chisels and hammer. Applies chalk or wax solution on surface to be engraved and makes free hand sketch or traces design on metal surface. Holds article in special wooden device or fixes it in shellac in cases of round articles, such as plates, ash trays etc., and places it at convenient height. Marks outline of design with small chisel. Engraves design by stages with different chisels by careful manipulation of hands and fingers to required depth and finish. May use compass for marking circular designs.

NATIONAL CLASSIFICATION OF OCCUPATIONS

May also engrave without marking or any prepared design.

7313.72 Pantograph Machine Operator; Machine Engraver operates pantograph machine for engraving letters and designs on metal surfaces or object with rotary cutters by copying template (pattern). Cleans object to be engraved using soap water or other cleaning substance and clamps it in position under cutting tool of machine. Fastens required type of pattern or design in position under tracing arm of machine. Adjusts length of tracing arm of machine to scale, depending on size of engraving desired on object. Starts machine and manipulates tracing arm by hand in order of sequence to draw tracing point or styles over pattern or design for simultaneous reproduction of engraving or cutting by cutting tool on object according to set scale. Stops machine when pattern is traced and fully engraved. Removes engraved piece from table and cleans surface. May do minor repairs to machine.

7313.73 Embosser, Block embosses letters, seals, monograms and other designs in metal blocks by removing excess metal with small chisels and hammer. Checks metal block for size and if necessary files it to bring it to specifications. Applies chalk, wax or copper sulphate solution on side to be embossed and traces or makes design on it with instruments or freehand. Holds block in vice, chisels outline and chips off excess material from embossing portion to give raised structure. Selects right type of chisels and makes specified design in raised portion by carefully chipping off material bit by bit and finishes it clear and distinct. Prepares reverse diagrams and letters of stamps and seals. May do enlarged embossing from small designs.

7313.75 Embosser, Sheet embosses landscape, floral, artistic design etc. on soft metal sheets by means of hand tools. Melts powdered gum, mixes it with linseed oil and applies paste thickly on metal plate to serve as pad. Warms sheet to be embossed on red hot charcoal or coke fire and fixes it on pad. Applies chalk solution on sheet and traces design or draws freehand sketch on it. Forms outline of design with punch and hammer. Regulates striking according to level of embossing required. Completes design using various types and sizes of punches and chisels

and by manipulation of finger movements. Removes embossed sheet from base by warming it again on fire. May also emboss sheets by dies.

7313.78 Inlayer, Metal sets gold or silver wire on metal plates according to design using hand tools and produces colour effect by heat treatment. Secures sized plate on base using lac. Applies chalk solution on plate and copies design or draws freehand-sketch on it. Cuts design on it with fine chisels in stages and inserts pieces of gold or silver wire of required thickness in them with long needle like tool. Files surface to make it even, polishes in buffing lathe and heats plate on over till it changes colour to required shade. Polishes plate by rubbing with special type of stone. May also set very thin gold and silver wire on steel plate (soft work) by first making surface rough by fine knife cuts and then pressing wire on it according to design, by fingers and knife.

7313.90 Jewellery, Goldsmith and Silversmith Workers, other include all jewellery and precious metal workers not elsewhere classified.

7318 SUPERVISORS AND FOREMEN AND RELATED WORKERS IN PRECISION WORK IN METAL AND RELATED MATERIALS

Supervisors and foremen and related workers in precision work in metal and related materials supervise identification, selection, sizing and setting of jewels in ornaments and precious metal articles and guide workers engaged in gold and silversmithy operations.

7318.10 Supervisor and Foreman, Precision Instrument Making (except electrical) supervises assembly and repairing of precision instruments, other than electrical and ensures their efficient performance. Studies drawings, sizes calculations and other details as necessary. Checks components, assemblies etc., with set standards and precision instruments, gets defects removed, if any. Explains to workers, details of assembly or work to be done, tolerance and accuracy required, operational efficiency, etc. with sketches if necessary and guides them to ensure correct working. Checks work at stages of production and also on completion and ensures stipulated accuracy. Maintains prescribed records and registers. May supervise, repairs and making of one or more types of instruments.

NATIONAL CLASSIFICATION OF OCCUPATIONS

7318.20 Supervisor and Foreman, Musical Instrument Making supervises production of string, wind or percussion musical instruments and ensures their correct tuning. Studies specifications of individual or batch of musical instruments to be made and distributes work according to type of instrument amongst specialised workers. Arranges for various parts and accessories such as reeds, cabinet, shell, metal strings, leather etc., as required and maintains necessary stock to distribute amongst workers as needed. Supervises tooling, assembling and production processes, gets defects removed as noticed and guides workers to ensure correct working. Checks tuning, fittings, finish and other details with standard sample and prescribed specifications and ensures correct production. Maintains prescribed records and registers, conducts repairs of defective instruments and performs other tasks as may be assigned to him according to nature of undertaking and responsibility held. May train new workers. May specialise in one or more of musical instruments.

7318.30 Supervisor, Jewellery, Engraving and Precious Metal Working supervises selection, identification and processing of jewels, making and engraving metal ornaments, inlaying metal pieces, etc., and ensures desired finish with minimum wastage. Guides workers in examining, selecting cutting and processing real and artificial pearls and stones according to design or customer's specifications. Issues correct weight of gold or silver to workers, explains size and design of ornaments to be made, engravings to be done, jewels to be set or studded, etc., and supervises work to ensure correct working with minimum loss or wastage. Selects artistic designs for engraving inlaying or embossing metals, other than ornaments, and workers to reproduce them on articles for sale, decoration or display. Checks purity of gold and silver to determine value of used or new ornaments. May be experienced or specialised in any particular type of work and be designed accordingly. May assist customers in selecting pearls and jewels, and determining design or ornaments to be made.

7318.90 Supervisors and Foremen and Related Workers in Precision Work in Metal and Related Materials, other include

workers who supervise identification, selection, sizing and setting of jewels in ornaments and precious metal articles and guide workers engaged in gold and silversmithy operations not elsewhere classified.

732 POTTERS, GLASS MAKERS AND RELATED TRADES WORKERS

Potters, glass makers and related trades workers make bricks, tiles, pottery, porcelainware and glassware, engrave and etch designs on glass articles, and paint or decorate glass, ceramics and related articles and signs.

7321 ABRASIVE WHEEL FORMERS, POTTERS AND RELATED WORKERS

Abrasive wheel formers, potters and related workers make pottery, porcelainware, bricks, tiles and abrasive wheels.

7321.10 Mould Maker, Pottery and Porcelain

makes moulds of plaster-of-Paris from models for production of pottery and porcelain ware. Collects requisite quantity of plaster-of-Paris and dissolves it in fixed amount of water to make semi-liquid substance; stirs liquid thoroughly with hand or stirring rod to acquire desired consistency; applies soap solution inside master mould to prevent plaster-of-Paris sticking inside mould; pours liquid plaster-of-Paris into master mould stirs plaster-of-Paris by hand inside master mould to remove air bubbles; allows plaster-of-Paris to settle and dry inside master mould; scrapes off surplus plaster-of-Paris from master mould using steel scraper; opens master mould and removes mould into hot chamber for drying. May form porcelain wares using plaster-of-Paris moulds. May work from drawings without model.

7321.15 Caster, Pottery and Porcelain

casts clay and porcelain wares like cups, bowls, pots, etc. by pouring slip (semi-liquid clay) into plaster-of-Paris moulds. Selects moulds and cleans inside to remove dust and foreign matter; holds parts of mould together and ties around outer face with cord to prevent leakage of slip through joints; stirs slip thoroughly in container, adding water if necessary to obtain proper consistency; fills pitcher with slip and pours it into mould; pours excess slip from mould after shell of clay of required thickness has formed inside mould; places mould upside down to drip and dry; unties cord holding mould parts

NATIONAL CLASSIFICATION OF OCCUPATIONS

together, and removes partially dry moulded ware; scrapes ware with knife like tool; smoothens it with wet sponge and places it on drying rack. May fix attachments to ware where required.

7321.20 Clay Toy Maker makes toys from clay. Mixes mud or special type clay with water to make wet or plastic clay of desired consistency; selects appropriate wooden mould (in 2 pieces) of desired type of toys, figures, etc. to be made; presses wet mud or plastic clay or pours semi-liquid clay into mould and allows it to dry; dismantles mould blocks carefully and removes moulded figure or toy; fixes required attachments to toys to make complete unit; gives finishing touches to pieces with blade and wet cloth to give desired and distinct features and smoothness and allows them to dry in open sun or under shade; paints clay form with hand brush and desired colours to give final touch. May dress toys or dolls with appropriate dress and other accessories such as hairs and ornaments. May make simple toys by hand moulding by building form and features by deft use of fingers.

7321.25 Moulder, Hand (Ceramics) makes ceramic articles such as sanitary wares; abrasive wheels, bricks, tiles, etc. by pressing moist clay by hand in plaster of Paris or Wooden (Bihar) moulds and moulding it to desired shape or form. Kneads moist clay with hands and feet or by shood (Bihar) to give it required consistency or plasticity; applies thin coating of oil or clay dust or both, inside mould to prevent moist clay sticking to surface when filled; presses clay firmly into mould by hand, with mallet or by means of ramming tool to pack mould uniformly; scraps off projecting clay with sharp instrument to give moulded article smooth edge; allows clay to remain in mould for short time to dry and shrink slightly; removes semidry ware from mould and places it in drying chamber, after checking defects, to form and shape. May specialise in particular branch, i.e. figures, tea pots, sanitary wares, etc.

7321.30 Maker; Jiggerman; Jolly Machine Operator (Pottery & Porcelain) operates jigger or jolly machine for moulding damp and plastic clay or porcelain into articles such as jars, cups, saucers, etc. Selects proper shaping tool or metal die for desired shape of ware and

fits it to jollyarm of machine; clamps mould covered with flat sheet or clay into holder of jigger or jolly; sets automatic screw to obtain desired thickness of ware; starts machine and releases pedal lever to allow holder to rotate; lowers jollyarm on clay to shape ware and applies wet sponge or cloth as necessary to keep proper consistency for shaping; turns hand lever in reverse direction to send back jollyarm to its original position; depresses pedal to stop holder from rotating and removes pressed and moulded article from machine and places it at near by rack; cleans holder and jollyarm with wet cloth or brush to remove stuck clay; repeats process. May fix handles and other fixtures to finished product. May repair and service machine.

7321.35 Turner, Pottery and Porcelain operates pattern wheel to trim to desired shape unbaked pottery and porcelain ware formed by Caster, Maker and Thrower with appropriate hand tools. Fixes ware in wheel; sets and starts machine to rotate piece; selects appropriate trimming tool and presses and manipulates tool against ware to obtain desired shape; removes shaped ware from wheel. May smoothen and finish surface using sand paper.

7321.40 Brick and Tile Moulder, Hand moulds by hand bricks or tiles of various shapes and sizes using appropriate moulds. Smears inside of mould with thin coating of oil or dusts it with dry clay. Kneads lump of clay to obtain proper consistency and throws it into mould. Presses clay into mould by hand so as to fill in mould completely. Scrapes off excess clay from mould and turns mould upside down to remove moulded brick or tile.

7321.50 Abrasive-Wheel Moulder tends hydraulic press to mould synthetic abrasive discs, hones and grinding wheels. Selects mould parts according to size and thickness of wheel desired and assembles parts to form mould. Weights out specified amounts of abrasive, compound and adhesive, pours compound into mould on rotating turntable, and inserts bushings and hub nuts in centre of mould to form wheel. Places top plate on mould, positions mould in press and turns valves and leavers to close press and start pressing cycle. Removes pressed wheels from mould and places on plates for drying in kilns. May stamp or mark code numbers on pressed wheels. May mix grit, resin and clay to form abrasive compound, using mixing machine. May be designated according

NATIONAL CLASSIFICATION OF OCCUPATIONS

to type of abrasive used such as **DIAMOND WHEEL MOULDER, EMERY-WHEEL MOULDER, etc.**

7321.60 Potter; Thrower (Pottery and Porcelain) forms pottery or porcelain ware by moulding clay with hands as it revolves on potters wheel. Places lump or soft pliable clay in centre of flat wheel; rotates wheel by foot or machine, or by giving few quick turns using stick; centres clay on wheel by pressure of hands, and fashions ware of desired shape and size by softening clay with water and manipulating with hands; cuts ware from base with wet thread and removes it for drying. May knead, work and prepare clay and bake wares in kiln. May trim dried articles to desired shape by turning it using cutting tools.

7321.90 Abrasive Wheel Formers, Potters and Related Workers, other include workers who make pottery, porcelainware, bricks, tiles and abrasive wheels not elsewhere classified.

7322 GLASS MAKERS, CUTTERS, GRINDERS AND FINISHERS

Glassmakers, cutters, grinders and finishers blow, mould, press and roll shapes from molten glass and cut, grind and polish glass.

7322.10 Blower, Glass blows molten glass into shape by means of blowpipe. Receives blowpipe with molten glass from Blower Helper and shapes glass by blowing into and manipulating pipe or by blowing glass into shape of mould. May specialise in blowing any particular object and be designated accordingly such as **BOTTLE BLOWER, BULB BLOWER, etc.**

7322.12 Blower, Laboratory Apparatus; Table Blower (Glass) shapes glass tubing, by blowing and bending, according to specifications to form scientific apparatus such as flasks, retorts, stills and pipettes. Obtains glass tubing of suitable bore and length. Heats tubing to viscous condition by manipulating it over bunsen burner. Blows heated tubing into specified forms with either compressed air or own breath. Shapes bends, or joins together sections of blown tubing using various glass forming tools. Checks capacities of apparatus to ensure correct specifications. May work from drawings or other specifications.

7322.14 Blower Helper (Glass) assists Blower in the manufacture of glass articles. Dips bubble prepared on blowpipe by Bubble Maker into molten glass and gathers required quantity of molten glass for type of article to be made. Rolls gathered glass in cup-shaped metallic plate, containing water and oil to spread molten glass to bubble uniformly ; takes blowpipe with glass bubble, and hands over blowpipe to Blower for blowing desired article. May act as Blower to mould required glass products when necessary.

7322.16 Bubble Maker ; Bubbler (Glass) gathers molten glass from furnace on heated end of metal blowpipe for blowing desired article by Blower. Heats one end of metal blowpipe, dips it in tank of molten glass and rolls it round to gather required quantity of molten glass around its tip. Removes pipe end from tank and rolls gathered glass over iron plate to give it uniform shape. Checks shape of glass bubble at tip end and blows through pipe to expand glass bubble slightly in size. Cools glass bubble in air for some time before further processing by Blower Helper.

7322.18 Bubble Cooler ; Bubble Holder (Glass) air cools glass bubble made by Bubble Maker. Blows gently by mouth through blowpipe to expand bubble slightly, depending upon the size and shape of article to be produced. Rolls or waves belowpipe to air cool bubble. May work as BUBBLE MAKER, when necessary.

7322.20 Mouldman; Mould Catcher; Moulder (Glass) opens and closes metal mould for blowing of glass ware. Selects and places in position appropriate metal mould according to size and shape of glass ware to be produced. Heats mould to required temperature to ensure that mould is not too hot or cold when molten glass is blown into it, with a view to prevent cracking of glass. Opens mould to receive molten glass from tip of blowpipe and closes it; allows Blower to blow molten glass to desired shape of mould, and opens mould after blowing is over to remove blowpipe. Cools mould to required temperature by pouring cold water to remove product.

7322.22 Bender, Glass heats and bends glass tubing or pipettes to form articles such as neon signs and other articles. Fixes asbestos pattern on work bench. Marks and cuts glass tubing with file and breaks off required length. Ignites

NATIONAL CLASSIFICATION OF OCCUPATIONS

gas burner and holds tube in flame at point where bend is desired, rotating tube to heat it uniformly. Places one end of rubber hose over end of tube and the other end in his mouth; blows through hose to prevent tube from collapsing and bends the tube. Places bent tube on asbestos pattern to check accuracy of bend, reheating and bending glass, if necessary ; fuses together sections of bent tubing. Cools bended tubing by annealing it manually, ensuring uniform wall thickness. May specialise in a particular product and be designated accordingly.

7322.24 Gatherer (Glass) gathers specified amount of molten glass on end of iron rod and carries it to Pressman. Dips end of iron rod or blowpipe into pot in furnace containing molten glass; collects required amount of molten glass on end of rod or blowpipe and carries it to Pressman for further processing. May assist Blower by preliminary shaping or blowing.

7322.26 Drawer; Tarwala (Glass) draws molten glass into wire of desired thickness for making bangles. Heats in oven parison (intermediate shape produced in the manufacture of a glass article in more than one stage) attached to one end of iron rod till glass becomes sufficiently viscous (semi-fluid) ; draws molten glass into thread to be wound into coil on steel roller by Rollerman.

7322.28 Bead Maker (Glass) makes beads from glass. Melts end of solid glass rod using gas burner or furnace. Takes small globule of molten glass on end of metal wire and spins wire till bead is formed, or rolls globule of glass in mould to form bead of desired size and shape. Cools and solidifies glass article by holding it over blast of compressed air. Opens mould and removes beads. May make beads by blowing process.

7322.29 Optical Worker cuts and grinds optical components. Coats them by vacuum deposition. Cements optical glass lenses; etches, engraves and prints metals/ non- metals using photographic or rulling techniques. Applies chemical and spray techniques in assembly of optical instruments. Cuts blanks from slabs/ moulds and smothers and polishes on machine or by hand operation. Centres and edges the lenses. Carries out on line stage and interline stage inspection of components. May make test plates, master and articulates by

photographic techniques, thin film multi layer vaccum deposition for wide bend anti-reflection and laser mirror coating.

7322.30 Lens Grinder operates grinding machine to grind surfaces of lens blanks to required curvature and thickness. Selects metal grinding disc with required dioptric curve and clamps it on spindle of machine. Places metal block with mounted lens blank in position against grinding disc. Starts machine and applies various grades of abrasives or emery paste to disc as required periodically during grinding process for surfacing the lens blank; removes block from machine after specified time and examines blanks for defects. Uses different curvature metallic discs for surfacing both sides of the lens blank in case of cylindrical or spherical lenses. May mount blanks on metal block.

7322.32 Edger; Lens Edger (Optical Glass) grinds and smooths edges of lenses or lens blanks to reduce them to required size and shape. Selects metal pattern and inserts it into head of edging machine. Inserts rubber faced pad in lens holder, smears lens with oil and places lens in holder. Aligns lens with pattern and clamps lens in holding device of machine. Manipulates levers to press lens edge against rotating wet grind-stone and removes lens when grinding is complete. Measures and inspects work for conformance to specifications. Smooths rough edges by holding lens against grinding wheel. May fit edged optical lenses into spectacle frames. May also dress grinding wheel.

7322.34 Lens Polisher (Optical) sets and operates machine to polish surfaces of lens blank to high lustre. Selects and fits felt-lined polishing mould of required size and curvature on lower spindle of machine; position block on which lens blanks are mounted against polishing tool ; starts machine and applies rouge or any other polishing compound to disc periodically during polishing process to polish blank to required level of lustre. Stops machine and removes block after specified time to examine blanks for defects. May operate battery of polishing machines. May operate cylindrical polishing machine.

7322.35 Lens Centerer and Edger (Optical Glass) locates optical centre of lenses used in precision optical instruments, such as telescope, microscope or camera and grinds their edges

NATIONAL CLASSIFICATION OF OCCUPATIONS

concentric with optical axis. Positions lens in cement bed in chuck and sets chuck in spindle of lathe or centering machine. Starts machine; observes in revolving lens light reflected from mirror in machine ; moves and positions lens in cement bed until image remains stationary denoting optical centre found. Hardens cement to secure lens in position and grinds edges to specified degree over revolving abrasive grinding stone. Inspects and measures work frequently as grinding proceeds. May fit glasses in frame according to prescription. May polish lens.

7322.38 Wheel Grinder, Glass grinds and finishes rough edges of glass-white on flat grinding wheel. Examines glass articles processed by Glass Cutter and collects pieces with uneven and rough edges for grinding. Switches on grinding wheel, moistens surface of wheel by pouring water, applies and maintains adequate supply of moist emery powder or other suitable abrasive on centre of wheel so that it spreads out on its surface; holds by hand glass article on revolving grinding wheel to smoothen rough and sharp edges. Checks article for proper finish. Washes and cleans processed article. May cut glass. May polish surfaces.

7322.40 Edge Finisher , (Glass) smoothenes sharp and rough, edges of beakers flasks, tumblers and other glass articles by melting edges on glass flame. Sets edge finishing machine, and lights gas burners in machine ; places glass article on disc which rotates through gas flame. Regulates colour and intensity of flame by manipulating valve. Starts machine to rotate disc through flame to soften and smoothen edge. Stops machine to check smoothened surface; removes article with tong when smoothening is completed.

7322.45 Cutter, Glass Bangles cuts glass-wire-coil into rings of required size with Carborundum (silicon carbide-hard abrasive). Selects wooden rod of required size and girth and inserts it through glass-wire-coil; places wooden rod in position in work bench and scratches across glass coil with carborundum to cut into rings; draws out cut bangles by hand and passes them for further processing. May join two ends of cut ring to form complete bangle.

7322.50 Cooling Man; Bench Man (Glass) separates moulded glass articles from blowpipe by chilling film of glass, joining blowpipe and moulded article. Receives moulded glass article fixed with blowpipe from Blower Glass; pours water on metal between tube and article and nips off glass to separate moulded article from blowpipe. Removes glass article from mould; counts number of articles and passes them to carrier. May work as BUBBLER or MOULD CATCHER.

7322.55 Glass Cutter, Other; Glass Cracker; Glass Trimmer cuts glass tubes, rods, sheets or other articles to specified sizes and shapes, using hand tools or cutting machine. Lays stock of glass sheet, tubes or rods on padded surface of table, places pattern on glass article, marks out and cuts pattern with glass cutter tool; breaks away excess glass by hand or with notched tool. Stocks cut part aside for removal. May grind and smoothen edges, using belt sander.

7322.60 Joiner, Glass Bangles melts and joins both ends of glass ring cut by Cutter, Glass Bangles, using burner and blowpipe. Holds ring by tong, heats unjoined ends over gas flame or burner to melt glass; blows blowpipe to melted ends to fuse both ends together to form glass bangles.

7322.90 Glassmakers, Cutters, Grinders and Finishers, other include workers who blow, mould, press and roll shapes from molten glass and cut, grind and polish glass not elsewhere classified.

7323 GLASS ENGRAVERS AND ETCHERS

Glass engravers and etchers engrave and etch designs on glass articles.

7323.10 Engraver Glass; Glass Cutter engraves ornamental and floral designs, monographs etc. on glass ware using revolving copper or stone engraving wheel. Sketches or traces with crayon outline of design on surface of glass article; mounts copper or stone wheel of proper width and diameter on machine; starts wheel; moistens revolving wheel with water; holds glass ware with both hands against outer edge of wheel, so that it grinds and cuts into glass surface along outline of traced or sketched design. Changes wheels to make cuts of different sizes. May polish engraved pattern.

NATIONAL CLASSIFICATION OF OCCUPATIONS

7323.20 Glass Etcher etches, with acid, decorative designs, calibration markings, numerals, lines and other markings on glass articles. Prepares acid bath; dips waxed glass, on which design or other markings have been drawn, into acid bath, or exposes it to acid fumes so that portions not covered with wax will be eaten away; rinses etched glass in cold water to remove acid and then in hot water to remove wax. May coat articles with wax.

7323.30 Sand-Blaster; Froster Embosser; Obscuring Machine Operators (Glass) cuts artistic designs, according to pattern, in surfaces of glass articles, such as bowls and vases, using sand blasting equipment. Transfers drawing of desired design to outer side of adhesive tape; covers glass with tape, and cuts design out of tape with knife to uncover area of glass to be sand-blasted. Operates compressed air gun that blows fine sand against uncovered glass and cuts design into or frosts surface. Removes protective tape from glass. May make freehand drawing of design to be cut. May blast design into inside of bowl or vase to create raised rather than sunken effect.

7323.40 Volume Man marks with special ink and pen measurements and units on outer surface of apparatus such as pipettes, burrettes, flasks and measuring glasses for making permanent engraving on them. Positions glass article to be calibrated on levelling stand and pours required volume of water from automatic pipette. Marks out base of water level on outer surface of article with special ink and pen; pours out water on completion of calibration and passes it to Waxingman, Glass.

7323.50 Waxing Man (Glass) applies coating of melted wax on exterior surfaces of glass-ware previously marked by Volume Man to be graduated, by dipping articles in molten wax. Heats and melts paraffin-wax cakes of specified quality in suitable vessel over heater; holds article, previously marked by Volume Man with tongs and dips it in molten wax, holding it for required time to give exterior surface of article thin uniform coating of wax. Removes article from wax to dry and cool for further processing by Gradorator. Applies molten wax with brush to touch up unwaxed and defectively waxed portion of article. Scrapes off wax coating from surface of etched

articles. May apply wax on article by pouring it on article from vessel.

7323.90 Glass Engravers and Etchers, Other include all other workers engaged in different operations for engraving and etching glass articles by manual or mechanical processes, not elsewhere classified.

7324 GLASS, CERAMICS AND RELATED DECORATIVE PAINTERS

Glass, ceramics and related decorative painters decorate articles made of wood, metal, textile, glass, ceramics and other materials, and plan, lay out and paint letters and designs to make signs.

7324.10 Glass Enameller; Glass Painter, Hand enamels, paints or stains decorative free-hand designs on glass with hand brush and paint. Draws outline of design on surface of glass article; mixes paint, enamel or stain to obtain desired shade or colours; places objects on work bench, and applies paint or enamel of various colours to it by hand-brush and according to pattern. May place painted glass in furnace for prescribed period, so that colours are fused to glass. May mix own colours.

7324.20 Hand Painter (Ceramics) paints, free hand, designs on pottery or porcelain ware or tiles, using small hand brushes, according to pattern. Marks outline of design on surface of article with pencil; mixes paints to obtain desired shade or colours; places object on work bench and applies paints of various colours to it by hand brush and according to pattern; keeps painted ware on rack to dry. May heat articles by placing them in racks of electrically operated ovens at required temperature for fixed periods so that colours are fused to surface of object. May prepare own designs. May mix own colours.

7324.30 Decorator (Ceramics) transfer from paper –transfer decorative or ornamental designs on pottery or porcelain ware. Selects paper transfer of suitable or specified design, and according to size and shape of the pottery; applies varnish to the surface of the pottery on which design is to be transferred; applies and presses the paper-transfer skillfully and uniformly, avoiding any air-gap between the surface of article and paper transfer ; dips the article in water, removes the paper, and wipes off the extra varnish on the surface of article; dries

NATIONAL CLASSIFICATION OF OCCUPATIONS

the article for further firing. May prepare own designs.

7324.40 Spray Painter (Ceramics) sprays paint on pottery, porcelain ware, bricks, tiles, or sprays liquid glaze on large pieces which cannot be dipped easily in a solution. Fills container of spray gun with paint or glaze of desired colour; fixes container to spray gun and couples gun to air-hose; starts compressor or opens valve on compressed air line; presses trigger and directs spray of liquid over surfaces of objects ; places ware on rack to dry ; cleans gun and hose with solvents. May use stencils for spraying various designs on objects. May mix own colours.

7324.50 Glazer, Pottery and Porcelain coats by dipping biscuit ware (pottery articles after firing but before glazing) with glaze solution. Cleans ware such as dish, plate or saucer to remove dust by spraying it with air gun or dusting it with clean cloth. Checks and rejects articles with cracks and other defects. Holds articles with tongs or fingers and dips it in tub containing liquid, glaze; stirs liquid solution with hand or stirring rod thoroughly from time to time to acquire desired thickness of glaze coating; removes it from tub and holds it just above surface of liquid, turning article around to ensure even coating and to throw off excess glaze; places ware on rack to dry and rubs glaze over spot where tongs or fingers touched ; removes excess glaze from dry ware by rubbing it with a buffing wheel or other implement. May apply liquid glaze with spray gun on large pieces which cannot be easily dipped in a solution.

7324.60 Mirror Silverer, Silverer Mirror coats new and old mirror glass with silvering solutions. Weighs and mixes ingredients according to formula to prepare silvering solution of required consistency; places cleaned mirror glass on silvering table; covers surface of glass with silvering solution and levels glass by means of wedges so that solution may not run off; allows silvering solution to remain on glass for prescribed period, drains excess of solution from glass and washes silvered glass in distilled water; dries mirror on drying table; coats silvered surface of glass with copper solution and protective paint to protect silvering from moisture. May spray silvering solution over glass surface using spray gun.

7324.90 Glass, Ceramics and Related Decorative Painters, Other include workers who decorate articles made of wood, metal, textile, glass, ceramics and other materials, and plan, lay out and paint letters and designs to make signs not elsewhere classified.

7329 GLASS MAKERS, POTTERS AND RELATED WORKERS n.e.c.

This Family covers occupations not classified elsewhere in Group 732, Abrasive wheel formers, potters and related workers. For instance workers in this Family mix raw material and operate various types of machines connected with manufacture of glass, ceramics and pottery articles etc.

7329.10 Crusher Attendant, Stone operates machine in which lumps of stone are crushed to reduce them to desired size. Starts machine and regulates flow of stones from conveyor chutes or bins, shovels or throws stones into hopper of machine; prods large sized stone pieces to force them between crusher jaws with bar; breaks oversize stones with hand hammer; loosens clogged material in machine with bar; places empty containers at delivery-end to receive crushed materials; cleans, lubricates and makes minor repairs to machine. May operate machine fitted with conveyor system and may sieve powder into different grades.

7329.15 Grinder; Edge Runner Attendant (Stone and Clay) tends and feeds grinding machine to grind pieces of rock or clay into fine dust. Adjusts clearance between rollers and bed stone (solid plate) of machine for fineness of grinding required; starts machine and feeds material into machine with shovel breaking loosens clogged material in machine with bar; large pieces with bar or hammer if necessary; regulates water valve to let out requisite water into machine to settle dust. May clean and oil machine.

7329.20 Granulator Attendant, (Cement); Nodulizer Man tends granulator (mixing machine) to splash raw materials of cement with spray of water to produce granules of material for burning in kiln. Starts machine and regulates feed to material (Cement dust) into granulator; sprays water into granulator through water pipe while machine rotates at speed; observes mixing of material and water to

NATIONAL CLASSIFICATION OF OCCUPATIONS

determine if uniform granules are being formed; regulates feed of material, rotation of pelletizer amount of water spray, and heat of oven to insure pellets are produced to specifications; opens inspection ports on oven and observes or removes pellets for examination to ensure specified hardness and heat.

7329.25 Clay Maker (Pottery) prepares and makes clay for making pottery articles. Mixes different types of clay manually or in mixing machine fitted with double shafts and rollers; adds required quantity of water for mixing clay; stacks clay in yards for curing and drying ; checks by sight and touch that moisture contents of clay are to required standard for pressing; adds more water if required; feeds conveyor with cured clay for dropping in mixing and pug mill or feeds mill manually with clay.

7329.30 Sorter, Glass Products sorts finished glass products for uniformity, size and quality. Examines glass or glass ware for conformity to specification ; measures and checks dimensions, shape, patterns and casting with measuring instruments or gauges ; scrutinizes product for cracks, scratches, non-uniformity of colour and other flaws and sorts glass products into first second, third etc., quality depending upon finish of products; rejects imperfect product and piles them separately. May remove minor surface scratching by grinding surface with rouge and smooth rough edges using belt sander.

7329.35 Checker; Examiner ; Sorter (Ceramics) examines pottery and porcelain ware by touch and sight at different stages of production, rejects defective pieces and classifies goods according to quality.

7329.40 Sorter, Brick and Tile; Checker, Brick and Tile sorts burned bricks, tiles or refractory goods according to colour (shade), hardness and quality. Removes product from kiln, examines it visually for colour, hardness and shape; taps product with finger or wooden rod to judge quality by sound ; discards broken pieces; sorts and marks in chalk products according to shade, quality, etc. May be designated according to material sorted as BRICK SORTER; TILE SORTER, etc.

7329.90 Glass Makers, Potters and Related Workers, Other include all other workers engaged in glass forming, pottery and related activities by manual or mechanical processes, not elsewhere classified.

733 HANDICRAFT WORKERS IN WOOD, TEXTILE, LEATHER AND RELATED MATERIALS

Handicraft workers in wood, textile, leather and related materials apply traditional techniques to produce articles for personal or household use, as well as for decorative purposes.

7331 HANDICRAFT WORKERS IN WOOD AND RELATED MATERIALS

Handicraft workers in wood and related materials apply traditional techniques to prepare wood, straw, rattan, reeds, stone, clay, shells, and other materials, and carve, mould, assemble, weave, or paint and decorate various articles for personal or household use, or for decorative purposes.

7331.10 Lamp Shade Maker makes lamp shades from cardboard, parchment, plastics or cloth. Selects frames of required shapes and sizes. Cuts material of desired design to fit frame; winds tape spirally over upper and lower rings of frame to form foundation for attaching material; pins covering material between rings, distributing it evenly; sews temporary stitches to material around lower wire and then top wire, pulling material taut; sews material permanently to frame using various stitches depending on whether material is plain, rippled or pleated; trims off excess material with pair of scissors and sews in lining; sews trimming around top and bottom edges of shade or attaches trimmings to lamp shades. Glues parts of shades together, and secures shades made of paper, parchment or other materials into pre-fabricated wire frames. May fabricate wire frames by intertwining, welding together metal wires.

7331.90 Handicraft Workers in Wood and Related Materials, Other include workers who apply traditional techniques to prepare wood, straw, rattan, reeds, stone, clay, shells, and other materials, and carve, mould, assemble, weave, or paint and decorate various articles for personal or household use, or for decorative purposes not elsewhere classified.

NATIONAL CLASSIFICATION OF OCCUPATIONS

7332 HANDICRAFT WORKERS IN TEXTILE, LEATHER AND RELATED MATERIALS

Handicraft workers in textile, leather and related materials apply traditional techniques and patterns to produce woven fabrics, knitted, embroidered, woven and other garments and articles for household use, as well as traditional footwear, handbags, belts and other accessories.

7332.10 Candle Maker, Hand makes candle of special sizes or shapes by hand, dipping prepared wicks in molten wax, paraffin or similar material. Suspends candle wicks from metal frame and manipulates pulley system by hand to dip wicks into molten wax, paraffin or similar material until required thickness of wax adheres to wicks; removes and rolls candles under "rolling board", nibs ends in "nibbing board", cuts to length, and places in racks to harden.

7332.20 Candle Moulder operates battery of multiple moulding machines in which candles are produced in metal moulds through which continuous wicks are fitted. Opens valve which fills moulds container with hot water, and fills moulding trough with hot liquid wax, using metal pail or metal ladle; operates valves which empty hot water from moulding trough and refill with cold water for cooling wax; allows poured material to harden in mould; cuts top of continuous wicks with long bladed knife; removes excess of candle material in moulding trough with special bottom-cutting tool which shaves bottom of candles in mould and also cuts off wick; operates handle to eject candles up and into clamp frame above machine; carries away finished candles and stacks in storage racks ready for packing; replaces bobbins of continuous wicks in base of machine and fits through candle mould as necessary.

7332.30 Carpet Weaver (Carpet & Rug) operates one or more looms equipped with pile-wire mechanism to weave carpeting; Moves lever to open shed and inserts specified number of pile wires through shed in sequence to produce pile. Forces cop of filling into shuttle, using mallet, and inserts shuttle into loom. Places wax in holder to lubricate pile wires as wires enter and are

withdrawn from shed. Starts loom and observes weaving to detect exhausted filling packages, mispicks, and irregular cutting of pile. Replaces exhausted filling, inserts pile wires into missed loops, and replaces dull cutting blades. May be designated according to type of carpet woven as Velvet Weaver (carpet & rug).

7332.40 Knitting-machine Operator, Automatic (Knitting) operates knitting machines to knit hose to shape of foot and leg: Places spools of yarn on spindles of machine and threads machine. Places welt rod in retaining notch of welt bar and turns lever to lower welt bar to knitting position. Pushes yarn carrier into position and turns bar to start machine to knit welt. Hooks draw-off straps from takeup roller to welt rod to hold welt and leg taut during knitting. Turns handwheels to position picot bar to knit stitches joining welt to leg of hose and to raise picot and welt bars after welt is knitted. Stops machine and clips loose threads at welt and toe of completed hose, using scissors. Removes welt rods and hose from machine. Counts, bundles, and attaches identifying ticket to hose. Replaces and aligns needles and points of machine, using pliers. May clean and oil machine.

7332.50 Hand Printer, Textile prints patterns of various designs and shades on textiles by hand using blocks, stencils, screen, spray gun etc. Mixes dyes to desired shade and thickness. May be known as CALICO PRINTER if engaged in printing cloth only.

7332.60 Hand Dyer bleaches and dyes textile fabric or yarn by hand. Fills tub with water and mixes chemicals to make bleaching solution of required strength according to type and quality of fabric or yarn to be bleached. Washes fabric or yarn in solution and then rinses it with water. Spreads fabrics or yarn to dry., Prepares dye solution by mixing dyes and chemicals with water in tub. Boils dye solution when necessary. Puts fabric or yarn in solution and stirs it until dyed evenly and to required shade. Spreads fabric or yarn on line to dry. May also dry yarn in drying chamber.

7332.70 Penciller; Shader(Woolen Textile) touches woollen cloth with colour pencils to cover slight unevenness in shades. Spreads woollen cloth on table or board and examines it. Looks for spots or strands with uneven shade and touches such spots or strands with

NATIONAL CLASSIFICATION OF OCCUPATIONS

pencil of matching colour to give uniform appearance. May remove colour defects in cloth with chalk or dye solution.

7332.80 Repairer, Fabrics repairs faults in textile fabrics by plucking out knots and replacing broken or imperfect threads using hand tools. Inspects fabrics for markings that indicate faults. Plucks out knots with hand tool and gathers up slacks on loosely woven threads. Replaces broken or imperfect threads with needle and thread, in such a way as to make repair invisible. May examine fabrics. (Excluded are workers employed mainly on repairing fabrics by sewing).

7332.90 Handicraft Workers in Textile, Leather and Related Materials, Other include workers who are involved in application of traditional techniques and patterns to produce woven fabrics, knitted, embroidered, woven and other garments and articles for household use, as well as traditional footwear, handbags, belts and other accessories not elsewhere classified.

734 PRINTING AND RELATED TRADES WORKERS

Printing and related trades workers set and arrange printing type or copy by hand or by electronic keyboarding or other machines, make printing plates from typographically or electronically set –up type or copy, engrave lithographic stones, printing plates and rollers, make and print with silk-screens, print on paper and other materials, or bind and finish books.

7341 COMPOSITORS, TYPESETTERS AND RELATED WORKERS

Compositors, typesetters and related workers set and arrange printing type by hand or machine.

7341.10 Job Printer composes matter by hand and prints it on manually operated machine. Sets type by hand, takes and corrects proof, imposes matter in galley and prints by manually operated printing machine, thus performing duties of Hand Compositor, Proof Reader, Impositor, Handpressman, Handprinting Machineman. Cleans and oils machine. May do book binding.

7341.15 Compositor, Hand sets type by hand for printing. Picks up type from case and assembles them into words and lines in composing stick. Arranges even spacing of lines. Transfers composed matter to galley. Follows manuscript rigidly but breaks up words at end of line when necessary. Revises composed matter according to corrections made in proof. May make-up matter by positioning blocks and arranging type for effective display. May also distribute type into case after matter is printed.

7341.20 Impositor; Imposer removes composed matter from galley and arranges it on imposing stone in prescribed pattern so that, when printed, pages can be conveniently arranged in number series. (Pattern differ according to number of pages on each printing sheet). Fixes spacing of margin using wooden chips, leads and hammer and locks matter in chase.

7341.25 Distributor (Letter Press) distributes types and other material utilised in composing to their respective cases and racks in store room. Unlocks chase, separates spacing material, types and blocks, if any, and keeps them in respective cases and racks; packs and labels composed material in paper for further use if required; separates types and spacing material surplus to requirements, and keeps them aside for melting. May do composing and imposing work.

7341.30 Composing Room Operatives perform variety of routine and low skilled tasks, such as pulling galley proof or cylinder proof, stacking formes in racks or carrying them from racks for printing, washing composed matter, etc., and be known as:

Forme Carrier carries formes from composing room to printing - machinemen, cleans type-heads in formes with water and wire brush to remove ink and dust; carries formes to distributors.

Proof Pressman (Galley/Forme) pulls proof for proof reading in galley forme in initial stages of printing, or when type-formes have been imposed and locked in chase.

Galley Proofman if operates flat bed printing machine to obtain impression on paper from types heads in galley; places galley with

NATIONAL CLASSIFICATION OF OCCUPATIONS

composed type on bed of machine; applies printing ink with ink roller manually; places sheet of paper on type and manually operates machine to press paper on to type; removes printed paper and checks clarity of impression. May take galley proof to Proof Reader. Oils and cleans machine.

7341.35 Lino Operator; Lino-typesetting Machine Operator; Intertype Machine Operator; Composing Machine Operator lino type operates key-board (similar to that of typewriter) of lino-type setting or intertype setting machine, to cast lines of type called slugs. Adjusts machine according to size of type and length of line to be formed. Presses keys of keyboard to assemble matrices to form words and lines following manuscript rigidly. Breaks up words if necessary at end of each line. Presses button at end of each composed line to enable machine to cast whole line of type automatically. Casts new lines removing errors pointed out by Proof Reader. Ensures that Barman cleans machine and space band, distributes matrices into magazine of machine and keeps metal pot full.

7341.40 Mono Operator; Monotype Key-Board Operator; Composing Machine Operator, Monotype which makes perforations on spool of paper used for casting types of printing. Sets machine to ensure correct spacing and adjusts line-length indicator. Mounts spool of paper on machine and operates key-board following manuscript at end of each line. Tears off perforated strip from spool when all matter of manuscript has been transferred on it.

7341.45 Mono Caster; Caster Operator; Monotype Caster tends automatic machine that casts and composes types. Places on machine spool of paper perforated by Mono Operator and attaches it to winding roll. Sets composing stick to required length, inserts matrix case of required size of type and locks galley on bed of machine. Starts machine. Ensures that metal pot is adequately supplied with metal and maintains proper temperature of molten metal. Stops machine when galley is full or casting is completed. Removes galley from machine for taking proof. May clean and oil machine.

7341.50 Type Caster operates type-casting machine for casting types for printing. Selects and fits appropriate metal mould and matrix to machine, depending on size and nature of types to be cast; sets machine to required performance, aligns matrix and mould using gauzes, screws etc., and closes die case bridge of machine; cleans lead chamber and nozzle of plunger of lead chamber with metal rod; fills lead chamber with lead blocks for melting; switches on electrical mechanism in machine or lights coal in fire-box below lead chamber to heat metal pot to melt lead blocks. Checks and maintains correct temperature of molten lead to ensure proper moulding; starts machine, opens water circulation system of machine to cool dies during casting operation and observes machine pumping molten lead into die mould, casting types and delivering caste types along table channel; checks whether caste type conforms to specifications; removes slag from molten lead chamber periodically to keep molten liquid free from impurities; cleans and oils machine. May clean and dress caste types. May caste brass or other metal types.

7341.55 Maker-up, Photo-Type-Setting arranges photo-composed type film and fixes it on paper (positive) in readiness for reproduction on printing plates. Examines layout of copy. Marks positive to guide in arranging type and draws lines on positions for decoration purposes and tabular matter. Waxes proof-sheets of photo-composition and cuts out letters and lines as required. Places cut-out pieces in position on paper using measuring instruments for guidance. Presses sheet of tissue paper over photo-composition to ensure that wax holds pieces in position. Checks arrangement of composition and makes necessary alterations. Passes on completed positive for printing reproduction.

7341.60 Photo Type-Setting Machine Operator operates key-board of machine which reproduces letters on film or sensitized paper for reproduction in printing. Places unexposed film or sensitized paper in photographic element of machine. Examines layout copy for typographical indications, such as spacing, type faces and length of lines. Starts machine and sets its dial according to typographical instructions on layout copy. Reads copy and depresses keys of keyboard to reproduce required letters on film or sensitized paper. Manipulates machine controls as

NATIONAL CLASSIFICATION OF OCCUPATIONS

necessary to change type size and spacing, adjust camera light and eliminate incorrect lines. Removes container with exposed film or sensitized paper on completion of operation and sends it to developing room.

7341.65 Type Dresser; Type Cutter dresses cast types by cutting and grinding to make them uniform for use in composing. Arranges cast type on grooved stick, transfers and secures them to metal dressing rod by screw. Places metal rod in position on table and files side surfaces of types to remove unevenness; cuts, groove on one side of type using metal planer to chip off bottom portion to make them uniform in height; checks dressed types for burr and sharp edges and removes them by grinding and polishing with emery paper to obtain smooth surface; transfers dressed type back to wooden stick for sorting and packing. May sort types into founts (different types of letters, figures, etc.) for packing.

7341.70 Roller Maker, Paper Printing casts rollers from roller composition (product of glue and glycerine) for use in printing. Cuts composition into small pieces and melts them in glue-pot; cleans and oils inside surface of cylindrical mould; winds jute cord round steel stalk and places it inside mould; melts composition in electric furnace controlling heat to prevent molten composition from over burning; fixes mould in metallic stand, pours molten solution in mould to required level and allows it to set; removes roller from mould, trims and polishes surface. May do repair work. May evolve own composition.

7341.80 Braille-Duplicating-Machine Operator tends equipment to reproduce braille-embossed pages, using one of following methods: (1) Places master page on screen bed. Places roll of treated paper on stand. Threads paper through equipment and locks paper in clamping frame. Pulls heat unit over clamping frame. Depresses pedal or handle to lower clamping frame onto screen bed and to create vacuum that forms braille impressions. Pushes heat unit from bed. Releases pedal or handle to raise clamping frame, and releases catch on frame to draw reproduced copy through equipment. Repeats process to make required number of copies. Cuts copies apart, using scissors. Writes identifying information, such as page number

or title, on each copy. (2) Positions master page on screen bed. Places sheet of heat-sensitive plastic paper over page and lowers clamping frame to lock page into position on bed. Pulls heat unit over clamping frame to activate vacuum pump trip-lever. Holds heat unit over frame to form braille impressions. Pushes heat unit from bed to release vacuum. Raises frame to release individual copy. Repeats process to make required number of copies.

7341.90 Compositors, Typesetters and Related Workers, Other include workers who set and arrange printing type by hand or machine not elsewhere classified.

7342 STEREOTYPERS AND ELECTROTYPERS

Stereotypers and electrotypers make printing plates from set-up type by stereotyping and electroplating processes.

7342.10 Stereo Matrix Moulder; Matrix Maker Operates hydraulic or hand press to obtain print impressions on flong (specially prepared thick sheet of paper) for casting printing plates used in rotary printing. Damps flong, places it on forme, spreads chase or page rubber sheet or extra sheets of thick paper on flong for padding to protect flong from damage on application of pressure from press head; sets machine and adjusts press head for correct pressure to be applied on flong; starts machine and lowers press head on assembly to impress type into flong; stops machine and releases pressure from matrix and carefully strips matrix from chase; checks surface of matrix for any unevenness in imprint and smoothens surface with blunt wooden blade and trims edges of matrix with scissors; turns mould face down and fills in hollows on back of mould with pieces of heavy paper or felt to prevent it bending during casting process; applies french chalk powder over entire surface of matrix and cleans it with fine hand brush. Delivers prepared matrix to Stereo Type Caster for casting rotary printing plates with it. Cleans and oils machine. May dress printing plate (metallic plate cast by pouring molten metal over matrix in casting machine) on routing and cutting machine. May cast printing plate.

7342.20 Stereotype Caster; Rotary Caster prepares plates for rotary or flat-bed printing by operating casting machine. Dries matrix on

NATIONAL CLASSIFICATION OF OCCUPATIONS

roaster and places it in correct position in casting box. Checks supply of metal at correct temperature for casting and operates machines to pump molten metal from crucible against matrix. Removes plates after cooling, for finishing. Cleans and oils machine.

7342.30 Electrotyper performs all or several tasks in making printing plates from set-up type by electro-plating process, using hand tools, electro-plating equipment and metal casting, trimming and forming machines. Places set up type on bed of hydraulic press. Lays wax-coated sheet of metal or sheet of plastic or lead on type and presses it to make mould. Removes mould from press and trims its edges. Sprays or coats mould with electro-conductive substances and places it in electrolytic bath until shell of desired thickness has formed on mould. Removes shell from mould by rinsing it in hot water and fills back of shell with molten lead to form plate, using pouring lead or casting machine. Examines plate with magnifier to detect imperfect formation of halftone dots, lines and types and rectifies them using engraver's hand tools. Shaves, trims, smooths and bends plate using hand tools and machines as required, in readiness for printing. May print proof from plate and make new plate if necessary. May be designated according to tasks performed such as **ELECTROTYPE CASTER, ELECTROTYPE MOULDER**, etc.

7342.90 Stereo-Type and Electro-Type Operatives, other perform variety of routine and low skilled tasks such as locking up forme, cutting unwanted portions of metal from surface of metal plate etc. involved in preparation of matrices and casting of metallic plates in printing and may be designated as:

Lock-up Man if cleans set up type in forme, locks up forme and helps Stereo-Type Moulder in moulding.

Milling Man if operates milling machine to remove unwanted edge of metal on plate cast by Stereo-Type Caster.

Metal Melter if operates electrically operated furnace for melting metallic

granules of given composition for use in Stereo-type casting.

Plate Finisher if engaged in cutting and finishing metal on Stereo-type and Electro-type plates for printing.

7343 PRINTING ENGRAVERS AND ETCHERS

Printing engravers and etchers engrave lithographic stones and printing plates, rollers, dies and blocks by various processes.

7343.10 Lithographic Artist exposes sensitized metal plate to positive or negative film, using vacuum frame, to produce offset lithographic printing plates. Increases or reduces size of photographic dots by chemical or photomechanical methods on halftone negatives or positives to be used in preparation of lithographic printing plates. Punches holes in light-sensitive plate with register punch and insert register pins in holes to prepare plate for contact with positive or negative film. Places plate on bed of vacuum frame and inserts positives or negatives on register pins to align positives or negatives with each other. Places masking paper on areas of plate not covered by positives or negatives to prevent exposure of those areas. Examines film on light table to determine specified colour and colour balance, using magnifying glass or densitometer. Compares proof print of colour separation negative or positive with customer's original sample or copy and standard colour chart to determine accuracy of reproduction. Identifies and marks colour discrepancies on print and film. Prepares dyes or other chemical solutions according to standard formulas and applies solution to produce colour effect by chemical method. Blocks out or modifies colour shades of film, using template, brushes, and opaque. Places masks over separation negatives or positives and exposes film for specified time, using contact frame and automatic film processors to reduce size of photographic dots to increase or reduce colour. Applies opaque to block out blemishes and pinholes.

7343.15 Retoucher, Lithographic; Photoengraving Finisher; Process Artist-Lithographic-Colour-Artist Retoucher; Tone Artist refines or corrects imperfections in design on lithographic printing plates by

NATIONAL CLASSIFICATION OF OCCUPATIONS

drawing on them with scribbling tools, crayons, pen and ink to make them fit for printing. Intensifies or reduces unsatisfactory tone values, blanks out or changes shades of colours of details to make them less prominent, adds missing details, etc.

7343.20 Mounter fixes etched type or image plate on wooden block for printing. Cuts plate to size, levels its sides, drills holes on bevelled portions and mounts plate on wooden block by nailing.

7343.25 Router reduces level of non-type or image portions of mounted plate to make it non-printable. Clamps block on bed of routing machine, fixes needle to holder, adjusts its height, operates machine and regulates movement of needle which reduces level of portions of plate not required for printing.

7343.30 Cameraman, Photomechanical; Lithographic Cameraman; Photolithographer photographs illustrations or type set material to obtain line, half tone, continuous tone and colour negatives for use in printing. Places illustrations or typeset material on copy board of copying frame. Adjusts lights and camera, focuses with help of ground-glass focusing screen, loads plate in dark room, mounts it on camera and exposes it. Uses screen to break up shadings of copy into dots for half-tone printing and uses different colour filters for preparing separate colour-wise plates for printing. May also prepare photo-sensitive glassplate for use in camera.

7343.35 Microstat Cameraman; Microfilm Cameraman; Microstat Camera Operator reproduces documents, maps, charts, etc., photographically on special type of camera known as microstat. Places copy on copy board or copying frame, loads filmstrip in camera, focuses camera, adjusts light and exposes film which is automatically processed. May also enlarge with special enlarging device fitted to this camera.

7343.40 Photostat Camera Operator; Photostat Machine Operator produces copies of drawings, manuscripts and other documents directly on prepared paper by means of photostat camera. Mounts document to be copied in glass frame and

arranges it under camera lens, places roll of photographic paper in camera, adjusts distance, focus, time and lights and takes photographs. Cuts and rolls out exposed section of above paper into developer which automatically develops print. Arranges for its drying either in cabinet or between blotting pads.

7343.45 Transferrer, Photo Mechanical; Photoengraving Printer; Proof-plate Maker; Helio Operator; Vandyke Printer transfers impression from photograph negatives to metal plates for subsequent processing or for direct use in lithographic printing. Measures negative for cutting plates (zinc or copper) to size, sensitizes plate by pouring solutions, places plate and negative in contact frame, exposes plate to light, develops it with photo-developing chemicals and dries it.

7343.50 Etcher, Photo Engraving Photo Engraver; Etcher Litho-Printing etches designs on surface of photographically printed or pantographically engraved printing rollers and plates, employing knowledge of colours, fabrics and etching and printing techniques. Studies design sheet and determines etching requirements based on colours in design, type, weight of fabric and printing sequence. Lifts roller into brackets of rinsing vat with aid of helper and tapes ends of roller with masking tape to limit etching to specified width, cleans roller or plate preparatory to etching, using sponge, cleaning chemicals and water. Transfers roller from rinsing vat to acid vat with aid of helpers and hoist, agitates acid solution with compressed air and starts machine to start roller in solution to get it etched by acid reaction. Applies acid resisting material on photo-printed design on plate, places it in etching machine and starts machine to spray acid as uncoloured portion of plate to get it etched by acid reaction for etching photo-engraved flat bodies and metal plates. Checks depth of etching periodically by measuring with depth gauge, touch and magnifying glass and processes roller through series of acid baths or regulates period of acid spray as necessary to etch photo-engraved roller or plate to required depth, watches and dries treated plate or roller, applies acid resistant powder or charcoal into etched cavities and repeats etching process if necessary. Cleans off charcoal and acid resistant coating by washing and brushing with alkali solution and water. May touch up defective areas by hand etching.

NATIONAL CLASSIFICATION OF OCCUPATIONS

7343.60 Barman, Lino-Machine cleans space band, mould surface and metal pot of lino-typesetting machine and removes types which are stuck when bar of machine gets jammed. Unlocks mould surface from machine and cleans it with wire brush applying graphite with rag to remove metallic particles and dust to prevent clogging during operation; cleans metal pot to remove traces of metal particles from inside surface; removes matrices which cause obstruction to movement of distribution bar on machine for removing defects. Oils various parts of machine. May change measurement lines in mould of machine, if required, and supply lead bricks to metal pot.

7343.90 Printing Engravers and Etchers, Other include workers who engrave lithographic stones and printing plates, rollers, dies and blocks by various processes not elsewhere classified.

7344 PHOTOGRAPHIC AND RELATED WORKERS

Photographic and related workers develop and process photographic film and make prints or slides.

7344.10 Printer, Photographic; Contact Printer prints and develops black and white photographs by contact-printing method in dark room. Examines negative for contrast, and selects appropriate photographic printing paper of suitable grade according to degree of contrast in negative; positions negative and printing paper in contact printing frame, fastening down edges; arranges lights to compensate for variations of light and shade in negative; exposes negative and paper to light for carefully timed period, according to density of negative; unfastens printing frame after exposure and removes exposed printing paper from frame; develops exposed prints in series of timed chemical and water baths; washes and dries developed prints, and trims finished ones. May apply glossy finish to prints by heated metal press. May print colour photographs using colour-filters, when processing colour prints, or by other methods such as projection or reproduction process, and be designated as Printer, Colour Film. May operate contact printing machine to produce photographic prints in large numbers. May be designated as Printer,

Motion Picture Film, if operates film printing machine to print copies (positives) of film from picture or sound negatives in dark room. May be designated as **CHIEF LABORATORIAN** if directs, controls and co-ordinates work of other **DEVELOPERS, PRINTERS**.

7344.20 Developer, Photographic treats and develops in dark room exposed films or photographic plates in series of chemical and water baths for prescribed period to prepare transparent black and white negative or positive film. Prepares various developing and fixing solutions in special acid-resistant containers by mixing chemicals with water according to formulae; immerses film or plate in developer solution for specified period to make image visible; times period of immersion in each bath and maintains solutions and water at required temperature; rinses film in water to wash off developer solution; places film or plate into fixing bath to produce transparent and light - constant negative; rinses negative in cold running water to wash off fixing solution; dries negative by swabbing off excess water with sponge and exposing it to air in dustless location. May prepare transparent positives from negatives. May develop film on automatic developing machine. May develop positive or negative film in colour solution to produce colour film, and be designated as **DEVELOPER COLOUR FILM**. May print copies from negatives.

7344.25 DEVELOPER, AUTOMATIC (photofinishing) tends machine that develops sheets, strips, or continuous roll of film preparatory to printing; Pulls film through trapdoor into darkroom. Strips paper backing from film and attaches identifying label. Feels edges of film to detect tears and repairs film, using stapler. Reads work order or feels film for size or notches to determine type of process and developing time required. Positions racks of film on machine chain links according to developing time required through machine preparatory to processing. Activates machine that automatically transports film through series of chemical baths to develop, fix, harden, bleach, and wash film. Listens for sounds that indicate machine malfunctioning and notifies supervisor or maintenance personnel when repairs are needed. May run test strip through machine for inspection by supervisor and add chemicals to or adjust machine as directed.

NATIONAL CLASSIFICATION OF OCCUPATIONS

May tend equipment that develops, fixes image, and dries x-ray plates.

7344.30 Enlarger, Photographic; Projection Printer; Projection Camera Operator enlarges or reduces photographs to required size with projection printer in dark room. Sets enlarger (camera) in dark room, placing plain white board or easel below lens of enlarger; inserts negative film in holder of printer (enlarger) and switches on light which shines through negative onto easel below; adjusts various parts of printer and centres image, to secure desired projection; determines exposure time and lens opening, and selects appropriate photographic paper; switches off light and fixes photographic paper in easel, switches on light, and exposes paper to light for set period, shading darker areas of image to produce prints with roughly equivalent intensity; develops exposed prints in series of timed chemical and water baths; dries and trims finished prints. May apply glossy finish to prints with heated metal press. May enlarge or reduce colour film, using appropriate colour-filter and correcting colour deficiencies of negative with coloured filters. May retouch enlarged prints.

7344.40 Retoucher, Photographic; Finisher, Photograph; Artist, Photographic retouches photographic negatives, prints and enlargements using pencils, brushes and water colours to increase contrast against background. Examines negatives and prints for retouching; places negative film on retouching desk to obtain illumination of negative film; fades out spots and blemishes on print or negative, using water colour or pencil; smoothens contours, eliminates stray hair, blots out facial blemishes and wrinkles, softens or reinforces highlights and shadows, using fine brush and colour or black pencil; eliminates excess light or shadow in negative or print to produce clearer and more attractive appearance.

7344.50 Photographic Dark Room Operatives perform various routine and low skilled tasks in photographic dark room or studio, such as developing, printing and enlarging photographs; setting up camera and arranging back-ground screen, furniture, etc.; preparing developing solution in prescribed manner; cleaning prints or negatives in water; drying negatives and prints and cutting them

to sizes, mounting prints, etc.; assisting operator in operating automatic printing, developing or enlarging machine; and may be designated as Processor, Print Cutter, Print Mounter etc.

7344.90 Photographic and Related Workers, other include workers who develop and process photographic film and make prints or slides not elsewhere classified.

7345 BOOK BINDERS AND RELATED WORKERS

Bookbinders and related workers bind covers to books and perform book-finishing operations.

7345.10 Book Binder assembles printed or written pages in the form of books, magazines, ledgers, etc. Performs all or any of operations connected with book binding such as reeling, perforating, cutting, stitching, fixing covers, fixing leather or calico back and corners, embossing letters on covers, gold finishing, etc.

7345.20 Map-and-Chart Mounter glues muslin backing or back board to paper maps and charts for reinforcement. Spreads muslin on table and cuts it to specified dimensions, using scissors; applies glue to back of maps and charts with brush or by inserting them between rollers of gluing machine; places glued side of sheet on muslin strip or pre-cut back board and smooths surface with stiff brush and flat piece of bone; glues paper mounting strip to top edge and oil cloth, reinforcing strip to bottom edge of roll type maps and charts and hangs them on drying rack; applies gelatine sizing and varnishing material on surface of map for preservation and good finish; folds or gathers maps to suitable sizes for easy and convenient handling. May fix wooden rollers for roll type maps and charts. May do segment map mounting.

7345.30 Book Mender; Book Repairer mends and repairs damaged and worn books, manuscripts, and other records to put them in condition for re-use or resale. Examines damaged books, manuscripts and records and assesses extent of damage; numbers pages and erases disfigurements; cuts covers loose from body and body stitchings with knife; cuts or tears carefully damaged pages or linings; repairs damaged pages with transparent tapes; resews body firmly; pastes linings in place,

NATIONAL CLASSIFICATION OF OCCUPATIONS

reinforcing as necessary with cloth or paper; trims edges of pages with knife or mechanical cutter; replaces repaired cover or new ones to body; clamps book in press for specified time to bond. May imprint or emboss lettering on cover.

7345.40 Book Binding Workers bind book and perform operations such as those who set and operate machines to fold printed sheets, gather and sew book signatures, make covers and glue them on book edges with plain, mixed colours or gold leaf, etc.

7345.50 Book Binding Operatives perform variety of routine and low-skilled tasks connected with book binding, such as, cutting paper to specified size, ruling blank sheets, applying gum, etc.

7345.90 Bookbinders and Related Workers, Other include workers who bind covers to books and perform book-finishing operations not elsewhere classified.

7346 SILK SCREEN, BLOCK AND TEXTILE PRINTERS

Silk screen, block and textile printers cut stencils for use in silk-screen printing and print on paper, metal, textiles and other materials with silk-screens, blocks of rubber, wood or other materials, or engraved printing rollers.

7346.10 Stencil Cutter, Silk Screen Printing cuts stencils by hand, according to design, for use in silk-screen printing. Superimposes shellacked transparent paper on design of matter, to be reproduced and cuts with knife outline of design in shellac without cutting paper. Irons paper on silk screen to transfer shellac stencil to it. Cuts different stencils for each colour to be reproduced. May draw design directly on screen and fill in surfaces around design with glue lacquer or paper. May operate silk-screen printing equipment. May cut stencils for use in making computer circuit plug boards and be designated as **SILK SCREEN LAY OUT DRAUGHTSMAN**.

7346.20 Silk Screen Printer prints on paper, metal textile and other materials by means of silk-screen process. Mounts stencil of matter to be printed on silk screen. Stretches and

fits silk screen on printing frame. Bolts printing frame to hinged outer frame on printing table. Places paper or other material to be printed accurately in position and lowers screen on to it. Draws squeegee dipped in paint across screen to transfer design to object. Lifts screen, removes printed material and repeats process to obtain required number of prints. Cleans screen with solvent at end of run or when colour of print is to be changed. May use different screens for each colour to be reproduced.

7346.30 Printing Jobber; Printing Machine Man; Printer (Textile) prints patterns of various designs and colours of cloth by operating printing machine. Checks condition of belts, gears, doctor blade, lapping of drum or cylinder etc. Sets engraved rollers. Runs test piece of cloth through machine and compares it with sample. Makes necessary adjustments to rollers and doctor blade. Regulates pressure and speed. Grinds and sharpens doctor blade when necessary. Supervises work of Frontman and Printing Machine Operatives. Ensures proper colour mixing, colour matching, quality of printing production and upkeep of machine, etc.

7346.40 Colour Maker (Textile Product) operates machines to mix or grind daub, printing ink colour, and colour pigments, for artificial leather: Calculates batch size according to roll yardage to be coated. Weighs and measures, according to formula, components, such as ball mill mix, color pigments, and oils to attain colours and specified consistency. Moves components to agitator or ball mill mixers and roll grinders for processing, using handtruck. Dumps ingredients into and starts machines that grind and mix them. Collects colour sample and compares it with colour standard. Adds ingredients, such as white, clear, or coloured pigments, or thinner to correct colour discrepancies. Prepares new colour batches when drum content in inventory storage is low. Lifts and moves drums, using portable air-operated hydraulic hoist.

7346.50 Precision Printing Worker performs variety of precision printing activities, such as duplication of microfilm and reproduction of graphic arts materials. Operates automatic processor to develop photographs, plates, or base material used in single or multicolour

NATIONAL CLASSIFICATION OF OCCUPATIONS

proofs. Sets up and operates bindery equipment to cut, assemble, staple, or bind materials. Maintains printing machinery and equipment. Examines and inspects printed material for clarity of print and specified colour. Mixes powdered ink pigments, using matching book and measuring and mixing tools. Reviews layout and customer order to determine size and style of type. Measures density levels of colours or colour guides on proofs, using densitometer, and compares readings to set standards. Prints paper or film copies of completed material from computer. Scans artwork, using optical scanner, which changes image into computer-readable form. Enters, positions, and alters size of text, using computer, to make up and arrange pages to produce printed materials.

7346.60 Frontman; Assistant Printer; Assistant Printing Machineman(Textile) assists printer in printing patterns of various designs and colours of cloth. Checks operational efficiency of printing machine, adjusting various parts if necessary, and reports defects to Printer. Prepares colours to correct consistency by mixing ingredients in suitable vessel, and test checks shade of colour; fills front colour tray with prepared colour paste; fits and locks printing roller, engraved with design/pattern in position on machine; supervises rolling of cloth into machine ensuring smooth run through various rollers. Starts and stops machine as directed by Printer. Watches printed cloth coming out from engraved rollers for defects in print or shade. May carry out routine repairs on printing machine.

7346.90 Silk Screen, Block and Textile Printers, Other include all other workers who cut stencils for use in silk-screen printing and print on paper, metal, textiles and other materials with silk-screens, blocks of rubber, wood or other materials, or engraved printing rollers not elsewhere classified.

7348 SUPERVISORS AND FOREMEN, PHOTO LITHO, PHOTO ENGRAVING AND DARK ROOM OPERATIONS

Supervisors and foremen, photo litho, photo engraving and dark room operations guide and supervise workers engaged in photographic photo engraving, developing for

blocks making and photolitho operations, composing, type setting, printing, binding and related tasks.

7348.10 Supervisor and Foreman, Photo-Litho, Photo Engraving and Dark Room Operations guides and supervises photographic, photo engraving, developing and related tasks for block making and photo-litho operations in printing press. Studies nature of work to be done and plans work according to operations and order of priority for printing. Instructs cameramen, photo-engravers, dark room and related workers on prescribed finish and specifications required and guides and supervises their performance. Gets defects removed and ensures minimum wastage and correct production. Maintains prescribed records and assists workers as necessary. May make photo-sensitive glass plates for use in camera, enlarge important microfilms, retouch lithographic printing plates, etc., if required.

7348.20 Supervisor and Foreman, Printing and Related Work supervises composition, type-setting, printing, binding and related general tasks, other than photo-engraving and dark room operations, in printing press and ensures correct operations, in printing press and ensures correct output. Examines manuscript for layout, technical aspects, etc., and plans work accordingly. Arranges for machines, equipment and materials, and distributes work amongst Composers, Printers, Book Binders, etc., according to quantum of work and nature of printing required. Gets proof copies compared and corrected with manuscript, ensures compliance with other special instructions, if any, and instructs Printers to print required number of copies. Checks work frequently, directs necessary adjustments to be made and ensures desired output. Supervises stitching, binding, trimming etc., and ensures production to required specifications. Keeps machines and equipment in proper working order by getting repairs and overhauling done as required and maintains prescribed records and registers. May specialise in particular branch of work or type of printing.

7348.90 Supervisors and Foremen, Photo Litho, Photo Engraving and Dark Room Operations include supervisors and foremen who guide and supervise workers engaged in photographic photo engraving, developing for blocks making and photolitho operations,

NATIONAL CLASSIFICATION OF OCCUPATIONS

composing, type setting, printing, binding and related tasks not elsewhere classified.

74 OTHER CRAFT RELATED TRADES WORKERS

Other craft related trades workers treat and process agricultural and fisheries raw materials into food and other products, and produce and repair goods made of wood, textiles, fur, leather or other materials.

741 FOOD PROCESSING AND RELATED TRADES WORKERS

Food processing and related trades workers slaughter animals, kill fish, treat and prepare them and related food items for human and animal consumption, make various kinds of bread, cakes, and other flour products, process and preserve fruit, vegetables and related foods, taste and grade various food products and beverages, or prepare tobacco and make tobacco products.

7411 BUTCHERS, FISHMONGERS AND RELATED FOOD PREPARERS

Butchers, fishmongers and related food preparers slaughter animals, kill fish, clean, cut and dress meat and fish and prepare related food items or preserve meat, fish and other foods and food products by drying, salting or smoking.

7411.10 Butcher slaughters animals, trims carcasses and prepares standard meat cuts. Kills or stuns animal and thrusts knife into jugular vein to drain off blood; flays carcass, opens it and removes entrails; removes offal and washes down meat; cuts and chops carcasses into standard meat cuts and into smaller portions according to customers' requirement. May specialise in slaughtering particular type of animal or in particular method of slaughtering such as 'halal' or 'Jhatka'. May perform one or more operations such as FLAYER, SKINNER, MEAT DRESSER, MEAT PROCESSOR and be designated accordingly.

7411.20 Slaughterer slaughters animals, flays and trims carcasses in readiness for meat cutters. Kills or stuns animal; thrusts knife into jugular vein to drain off blood; flays carcass, opens it and removes entrails;

cuts and dresses carcass and washes down meat. May remove offal from carcasses and place carcasses in cold storage rooms.

7411.30 Sausage Maker prepares ingredients for sausages and operates sausage making machine. Weighs out various meats, spices and other ingredients according to formula and dumps them into mixing machine. Chops, minces and mixes ingredients by machine as required. Feeds sausage meat into machine and gathers sausage casing over machine spout. Starts machine to force meat into sausage casing. Pinches and ties end of filled casing. Empties mixed ingredients into containers. May grind meat. May fill casings with bulk sausage. May be designated according to kind of sausage made.

7411.40 Briner immerses fresh fish fillets in brine solution to condition them for wrapping or freezing; Places fish fillets in wire basket and submerges basket in salt and water solution for specified time. Removes basket from brine tank and dumps fillets on conveyer belt.

7411.45 Pickler loads cuts of meat into pickling vats or barrels to cure meat preparatory to smoking; Packs and arranges meat in vats or barrels by hand or with meat hook to ensure maximum saturation. Turns valves to admit curing solution into vats or pours in solution by hand. Covers vat or barrel to keep meat protected and submerged in solution. Sticks trier (hook) into meat and smells trier to determine degree of curing. Opens valves or pulls bungs to drain vats and barrels, and removes cured meat for further processing. Dumps frozen meat in water tank to defrost it preparatory to curing. May roll barrels to rearrange meat and ensure maximum saturation. May flush or blow marrow from ham bones. May clean vats with water and steam hoses.

7411.50 Shactor works in slaughtering, meat packing, or wholesale establishments performing precision functions involving the preparation of meat. Work may include specialized slaughtering tasks, cutting standard or premium cuts of meat for marketing, making sausage, or wrapping meats. Trims headmeat and otherwise severs or removes parts of animals heads or skulls. Wraps dressed carcasses and/or meat cuts. Trims, cleans, and/or cures animal hides. Removes bone and

NATIONAL CLASSIFICATION OF OCCUPATIONS

cuts meat into standard cuts to prepare meat for marketing. Grinds meat into sausage. Slaughters animals in accordance with religious law and determines that carcasses meet specified religious standards when slaughtering is performed for religious purposes. Slits open, eviscerates, and trims carcasses of slaughtered animals. Cuts, trims, skins, sorts, and washes viscera of slaughtered animals to separate edible portions from offal. Washes and/or shaves carcasses. Shackles hind legs of animals to raise them for slaughtering or skinning.

7411.90 Butchers, Fishmongers and Related Food Preparers, Other include all other workers those who slaughter animals, kill fish, clean, cut and dress meat and fish and prepare related food items or preserve meat, fish and other foods and food products by drying, salting or smoking not elsewhere classified.

7412 BAKERS, PASTRY-COOKS AND CONFECTIONERY MAKERS

Bakers, pastry-cooks and confectionery makers make various kinds of bread, cakes, and other flour products, as well as handmade chocolate and sugar confectionery.

7412.10 Baker (Baking Products); Confectioner (Flour Confectionery) mixes and bakes ingredients according to recipes to produce breads, pastries, and other baked goods. Measures flour, sugar, milk, butter, shortening, and other ingredients to prepare batters, doughs, fillings and icings, using scale and graduated containers; dumps ingredients into mixing machine bowl or steam kettle to mix or cook them according to specifications; rolls, cuts, and shapes doughs to form sweet rolls, pie crust, tarts, cookies, and related products preparatory to baking; places dough in greased or floured pans, moulds, or on sheets and bakes in oven or on grill; controls temperature of oven by regulating thermostats or by adjusting dampers; checks progress of baking by observing colour of products and noting length of time in oven; removes baked products and places them on cooling racks; applies glaze, icing, or other topping to baked goods, using spatula or brush. May specialize in making one or more types of products such as breads, rolls, pies, or cakes

and be designated accordingly as **BAKER, BREAD; PASTERY MAKER; CAKE MAKER**. May decorate cakes. May develop new recipes for cakes and icings.

7412.15 Mixing Machine Attendant; Dough Mixer, Machine (Bakery) mixes flour, water, milk, sugar and other ingredients by machine according to instructions or specified formula to make dough for cakes, biscuits, wafer etc. Measures various ingredients such as flour, sugar, water and milk in required proportions and dumps them into mixing machine; turns knobs to set mixing time and maintain temperature of dough; starts machine; observes operation of mixing and automatic formation of dough in machine; feels dough for desired consistency; stops machine and dumps dough into trough. Pushes troughs of sponge dough into room to ferment for specified time; dumps raised sponged dough into mixer and adds ingredients to complete mixer; records number of batches mixed. May be designated according to type of dough mixed as **BREAD DOUGH MIXER; PASTRY MIXER; COOKY MIXER**.

7412.20 Ovenman (Bakery Products) tends stationary or rotary hearth oven that bakes bread, pastries, and other bakery products. Heats oven to required temperature; places pans of unbaked goods on blade of long handled paddle; opens oven door and slides leaded paddle into oven; jerks paddle from under pans to deposit them on hearth; regulates and controls heat and humidity of oven by observing gauges, turning valves or other methods; notes colour of products during baking to ensure uniformity of finished products; removes baked goods from oven with paddle, and places them on tiered racks for cooling, flips switch to position hearth for loading and unloading when tending rotary hearth oven. May prepare doughs and wrap papers. May be designated according to type of oven tended as **DRAWPLATE OVENMAN; PEEL OVENMAN; ROTARY PEEL OVENMAN**.

7412.25 Sweetmeat Maker; Halwai prepares one or more kinds of Indian sweets by mixing flour, sugar, milk, cream and other ingredients to form dough or paste according to direction or formula and frying them in pans in desired forms and shapes. Mixes ingredients such as flour, sugar, milk, ghee, nuts and water in

NATIONAL CLASSIFICATION OF OCCUPATIONS

required proportion according to instructions or formula; tastes and feels dough or paste for desired consistency; rolls, cuts and shapes dough to form sweet rolls and related products preparatory to frying; fills pan with required quantity of oil or ghee and places pan on heated oven; places dough in pan to fry controlling temperature of oven regulating fire; checks progress of frying by observing colour of products and noting length of time in oven; removes fried products and keeps them aside for a cooling; prepares sugar syrup by boiling sugar and water in prescribed proportion to desired consistency; soaks products in sugar syrup where required; applies silver foils and other ingredient to make product more presentable. May specialise in making one or more types of products such as Peda; Gulab Jamoon; Rasgola. May develop new recipes for sweets.

7412.30 Candy Maker mixes together and cooks candy ingredients by following, modifying or formulating recipes to produce product of specified flavour, texture, and colour. Cooks ingredients at specified temperatures in open fire or steam-jacketed kettles or in batch or continuous pressure cookers; caste candy by hand using moulds and funnel, or tends machine that caste candy in starch or rubber moulds; spreads candy into cooling and heating slabs; kneads in machine- pulls candy; spins or rolls candy into strips ready for cutting; examines, feels and tastes product to evaluate colour, texture, and flavour; adds ingredient or modifies cooking and forming operations as needed. May be designated according to type of candy produced as **CARAMEL CANDY MAKER, COCONUT CANDY MAKER, TOFFEE CANDY.**

7412.35 Panman; Revolving Pan Operator; Coating Machine Operator; Pan Operator (Confectionery) operates steam heated revolving pan to coat items such as candy, nuts and chewing gum tablets, with syrup, wax colouring matter, or polish. Dumps products into pan and starts pan revolving; pours slowly specified quantity of syrup over whirling candy or other product and passes hands through batch to spread syrup uniformly; turns steam valve to heat pan and heat almonds, nuts or other centres in pan; examines and feels product to determine

adequacy of coating, and applies successive charges of syrup until specified coating thickness is attained; adds flavouring and colouring ingredients in final coating as specified; may mix together and apply emulsified or dry ingredients, such as gum solution, cornstarch, and powdered sugar to product. May transfer contents to polishing pans and specified ingredients to polishing coating. May set temperature controls and start blower to dry syrup. May be designated according to product coated or polished as **ALMOND-PAN-FINISHER; CHOCOLATE PEANUT PANMAN.**

7412.40 Plate Worker, Confectionery prepares syrup made by Cooker Operator by mixing colour, flavour etc. on iron plate kept cool by water for cutting and forming it into candies of desired size and shape. Spreads candy on iron plate table fitted with cold water container at bottom; adds specified amount of colouring and flavouring agents; mixes ingredients until colouring and flavouring are uniformly distributed; examines, feels and tastes product to evaluate colour, texture, and flavour; drains out hot water from container and replaces it with cold water to make cooling effective; hands over product to Machineman for further processing.

7412.50 Chocolate Maker makes chocolate slabs or bars grinding cocoa beans, heating ingredients and forming slabs. Grinds cracked cocoa beans in mill to reduce them to thick liquid or paste; presses cocoa-butter from ground beans, using hydraulic press, to obtain blocks of cocoa; grinds pressed flocks of cocoa to thick liquid; mixes liquid chocolate, sugar, and other ingredients in required proportions to a dough like consistency in machine, feeds coarse mixed chocolate into machine to convert it to flakes, heats mixed flaked chocolate and cocoa-butter in steam heated pans to desired texture and flavour to obtain chocolate bars or slabs.

7412.60 Conche Operator (sugar & conf.) operates conche machine to heat and agitate refined chocolate mass with cocoa butter to enrich colour, flavour, and texture: Pumps specified amount of chocolate mixture into steam-heated stationary tank or rotary drum. Meters out specified amount of such ingredients as cocoa butter or flavorings. Turns steam valves and adjusts thermostat to heat

NATIONAL CLASSIFICATION OF OCCUPATIONS

contents of tank or drum to specified temperature. Pushes lever to start agitators and rotate drum. Pushes levers to change rate of agitation, drum rotation, and temperature, following specified time cycles. Observes and tastes mixture to evaluate conformity to standard and sends sample to laboratory for analysis. Adjusts temperature, agitation speed and timing cycle, and adds ingredients, such as cocoa butter and lecithin, according to laboratory findings. Pumps mixture to storage tank.

7412.70 Yeast Maker controls equipment to prepare mixture of mash and yeast for use in manufacture of distilled liquors: Weighs specified quantities of rye and malt meal, depending upon amount of yeast required, and dumps them into yeast tub (cooker) filled with specified amount of water. Opens valves to admit steam that circulates through coil pipes in tub and cooks mixture. Starts revolving blades in tub to agitate mixture as it cooks. Observes temperature gauges and increases or decreases steam pressure to maintain constant temperature as mash cooks. Pours yeast culture into cooked mash and mixes mash with revolving blades. Stops revolving blades when mash and yeast are thoroughly mixed. Tests mash to determine temperature and specific gravity (proof), using thermometer and hydrometer, and records results. Observes gauges and increases or decreases steam to ensure that mash ferments at constant temperature. Notifies Fermentation Operator (beverage) when mash is ready to be pumped into fermentation tank. Removes sample of mash for laboratory analysis.

7412.90 Bakers, Pastry-cooks and Confectionery Makers, Other include all other workers who perform variety of routine and low skilled tasks in baking and confectionery and may be designated according to nature of work performed such as:

Helper(Confectionery) assists in weighing, mixing of ingredients, heating them in steam or vacuum pans, adding flavour and colour to dough or paste, moulding, shaping, cutting and wrapping of soft or hard stuff for finished products.

Bread Slicer slices bread using hand operated or power driven slicing machine

Baker Helper helps baker by performing duties as kneading dough, cutting dough into desired sizes removing baked products from oven.

Mill Room Hand(Chocolate) performs one or more operations in chocolate making e.g., grinding, refining, sieving as required.

7413 DAIRY PRODUCTS MAKERS

Dairy products makers process butter and various types of cheese, cream or other dairy products.

7413.10 Dairy Worker, General performs all or several tasks in preparation of various dairy products. Pasteurises raw milk or other dairy product to remove harmful bacteria. Develops bacterial culture for use in making butter, buttermilk, cheese and other products. Separates cream from milk and churns it into butter. Curdles milk and converts curds into cheese. May make ice-cream.

7413.20 Separator Man; Cream Separator; Cream man (Dairy) operates milk separator to separate cream from milk. Assembles and adjusts separator as necessary, according to type of product for which separated cream or milk is to be used; places empty containers below cream and skimmed outlets; pours milk into separator; switches on centrifugal machine which automatically carries milk into bowl and separates milk into fat and skimmed milk; regulates separator to obtain required percentage of cream for making butter or ghee; cleans plant using hot water, soda and other detergent solutions . May also attend to pasteurizing plant.

7413.30 Butter Maker performs all or several tasks for making butter . Pasteurizes milk to eliminate harmful bacteria . Separates cream from milk in centrifuge. Adds latic ferment to ripen cream. Pours or pumps cream into mechanical churn. Starts churn to make butter, controlling butter moisture, temperature and time of churning. May add salt to butter in churn. My take samples of butter for testing.

NATIONAL CLASSIFICATION OF OCCUPATIONS

May boil and strain butter to make 'ghee' and be designated as GHEE MAKER

7413.40 Cheese Maker cooks milk and specified ingredients to make cheese according to formula. Pasteurizes and separates milk to obtain prescribed butter fat content; turns valves to fill vat with milk and heat milk to specified temperature; starts agitator to mix ingredients; tests samples of milk for acidity and allows agitator to mix ingredients until specified level of acidity is reached; dumps and mixes measured amount of rennet into milk; stops agitator to allow milk to coagulate into curd; cuts curd or separates curd with hand scoop to release whey (watery part); observes thermometer, adjusts steam valve, and starts agitator to stir and cook curd at prescribed temperature for specified time; squeezes and stretches sample of curd with figures and extends cooking time to achieve desired firmness or texture; scoops curd into burlap containers to drain off excess moisture; places cheese in moulds and presses it into shape. May salt cheese by immersing them in brine or roll cheese in dry salt, pierce or smear cheese with cultured wash to develop mould growth, and place or turn cheese blocks on shelves to cure cheese. May supervise ripening of cheese. May specialise in making particular type of cheese. May Pasteurise milk and operate centrifugal machine to separate cream out of pure milk.

7413.50 Ice-Cream Maker makes ice-cream by mixing milk, sugar and other ingredients and by freezing mixture in freezing machine. Measures and mixes ingredients according to recipe; pasteurises mixture to eliminate harmful bacteria; pumps ingredients through a homogeniser to break-down butter-fat globules; pours mixture into freezing machine; starts machine to stir and cool mixture; unloads machine when ice-cream of required consistency is obtained; cleans and sterilizes machines, and other equipment with hot water. May form ice-cream into special shapes. May operate ice-block washing machine.

7413.90 Dairy Workers (non-farm), Other include all other dairy workers not elsewhere classified, for example, those salting cheese by immersing them in brine or by rubbing them with dry salt, sterilising milk; operating

machines which homogenise milk, moulding butter or cheese into shape, packing and wrapping butter with paper, making condensed or powdered milk, etc and may be designated according to nature of work performed.

7414 FRUIT, VEGETABLES, AND RELATED PRESERVERS

Fruit, vegetables, and related preservers process or preserve fruit, nuts, and related foods in various ways including cooking, drying, salting, or juice or oil extraction.

7414.10 Oil Expellerman; Oil Expeller Operator tends machine that presses oil seeds, such as cotton seed, copra, castor seed to extract oil. Feeds moistened oil seeds into hopper of machine; turns hand wheels to adjust rollers to flatten oil seed; turns control of heat drier to specified temperature and opens chute to admit flattened oil seed to drier; turns steam valve of heat cooker to cook dried oils seed; turns hand wheels to adjust roller pressure of oil expeller; feels samples of expelled oil seed to determine that sufficient quantity of oil has been removed; ensures that pressed seed cakes are released at discharge end and that oil flows into oil tank from peripheral surface of expeller; stops machine when jammed and makes necessary adjustments to maintain continuous, production keeps work place clean and tidy. May filter oil in cloth-filter press.

7414.20 Oil Crusher Operator, Animal Driven operates animal driven crusher to extract oil from oil seeds, such as cotton seed, castor seed, groundnut, and copra. Places empty container below crusher to collect oil; harnesses bullocks, buffalo, camel to crusher; feeds seeds into hopper of crusher in required quantity and drives animal to start crusher; sprinkles prescribed quantity of water over oil seeds for moistening them; adjusts pressure between mortar (vessel or hopper) and pestle and ensures that oil is properly extracted. Examines oil cakes visually or by feel of hand to determine that sufficient quantity of oil has been removed; removes container when filled with oil at delivery-end; replaces filled container with empty one; takes out oil cakes from hopper and fills it with another batch of oil seeds to maintain continuous production. May operate mechanical crusher for extracting oil from seeds.

NATIONAL CLASSIFICATION OF OCCUPATIONS

7414.30 Grinder Hand (Foodgrain) grinds wheat, pulses, spices or other food grains into smaller pieces or powder, on hand operated grinding mill. Sets mill by adjusting roller according to fineness of grinding desired; revolves roller of mill by hand, feeding grains into hopper of mill at regular intervals; examines crushed product periodically by feel of fingers and adjusts roller as necessary. May shift grain using mesh. May clean mill stones. May take assistance of other grinder or helper in feeding mill.

7414.35 Pounder, Hand (Foodgrain) pounds grain or spices in iron, wooden or stone mortar with pestle to remove bran from grain or to crush into smaller pieces or powder. Selects mortar and pestle according to type of food-grain or spices to be pounded. Puts requisite quantity of grain or spices in mortar and pounds it with pestle; examines product periodically by sight and touch and continues pounding till product is crushed to desired fineness; sifts product using sieve and recrushes coarse residue to required fineness; cleans equipment by hand. May weigh or measure specified quantities of various ground spices and mix them according to formula for use. May pound grain to remove bran from grain using long wooden pestle.

7414.36 Parcher (Foodgrain) roasts wheat, gram, maize, peanuts and other foodgrains. Puts requisite quantity of sand in pan and places pan on hot oven; allows sand to heat up in pan; puts product in pan and mixes it with hot sand for roasting using long metal laddle; removes pan from oven when product is properly roasted; sifts roasted product from sand using sieve and allowing sand to fall in pan; collects product and repeats process till all food grain is parched; maintains proper temperature of oven by regulating fuel. May prepare grain for roasting by soaking in water and then drying it.

7414.38 Washing Machine Attendant; Cleaner(Food Grain) tends washing machine for washing and cleaning food grains preparatory to milling or further processing. Starts machine; feeds machine with grain by hand or adjusts flow of grain from chute; regulates flow of water into grain by manipulating lever; observes automatic washing of grain visually to ensure proper washing; may wash grains in tank filled with

required quantity of water and soaking it for a prescribed period. May clean and oil machine.

7414.40 Cook, General (Food Canning and Preserving), cooks meat, fruits, vegetables or other foods according to recipes in large quantities preparatory to canning or preserving. Weighs or other wise measures ingredients, according to recipe; loads ingredients into kettle or pressure cooker pans and frying machines, manually or by means of chute or conveyor; observes thermometer and gauges, and turns valve to admit steam to pressure cookers or lights gas burner to heat and cook contents of kettles; cooks ingredients adding syrup, spices, sugar, colouring matter or other substances as required; stirs mixture in kettle to blend and prevent scorching of contents; drains off cooked ingredients by opening valve at bottom of vessel or by blowing material through drain with steam. May stir contents with mechanical agitator. May test mixture with hydrometer or other instrument to determine consistency. May be designated according to type of food product made, such as JAM MAKER; MARMALA DE MAKER, etc.

7414.50 Condiment maker (Food Canning & Preserving) makes various kinds of chutneys, pickles and ketchup from vegetables, fruit, fish, meat and spices using preservatives such as vinegar, salt, sugar, oil and other ingredients. Sorts and selects mature vegetables, fruits etc., cleans product with water and discards decayed ones; cuts or chops product into small pieces; mixes ingredients such as salt, vinegar or sugar in required proportion in barrels, vats or jars according to formula to make pickling or flavouring brine; dumps product such as vegetables, fruit, fish or meat into solution to soak or cook for specified time; examines, feels, and tastes product to evaluate colour and flavour; adds ingredients or modifies cooking and forming operations, as required. May cook ingredients separately before mixing. May pack product into containers in layers, covering each layer with preservative compound. May specialise in making particular type of condiment and be designated accordingly as PICKLE MAKER; CHUTNEY MAKER OR SAUCE MAKER.

7414.52 Cannery Worker (Can & Preservation) performs any combination of following tasks to can, freeze, preserve, or pack

NATIONAL CLASSIFICATION OF OCCUPATIONS

food products: Dumps or places food products in hopper, on sorting table, or on conveyor. Sorts or grades products according to size, color, or quality. Feeds products into processing equipment, such as washing, refrigerating, peeling, coring, pitting, trimming, grinding, dicing, cooking, or slicing machines. Trims, peels, and slices products with knife or paring tool. Feeds empty containers onto conveyor or forming machines. Fills containers, using scoop or filling form, or packs by hand. Counts, weighs, or tallies processed items according to specifications. Inspects and weighs filled containers to ensure product conforms to quality and weight standards. Places filled containers on trays, racks, or into boxes. Loads, moves, or stacks containers by hand or hand truck, and cleans glass jar containers, using air hose.

7414.54 Pickler (Can & Preservation) pickles prepared food products in preservative or flavouring solutions: Mixes ingredients, such as salt, vinegar, or sugar in barrels, vats, or tanks, according to formula, to make pickling or flavoring brine. Dumps product, such as vegetables, fruit, fish, fish eggs, or meat into solution to soak for specified time. May pack product into barrels in layers, covering each layer with preservative compound. May remove contents from containers by hand or with dip net.

7414.56 Preservative Filler, Machine (Can. & Preservation) tends machine that automatically dispenses brine, oil, salt, or syrup into containers of food products prior to lidding or capping: Starts machine and turns valves to allow flow of solution. Feeds or guides containers onto conveyor that carries containers under dispensing nozzles. Observes filling operation and adjusts flow of solution or material to optimum volume. Removes broken jars from conveyor and deposits jars in waste receptacles. May fill machine reservoirs with dry salt, oil, brine, or sugar solution as required.

7414.90 Fruit and Vegetable Preservers, other perform variety of routine tasks in canning and preserving food, fruits and vegetables not elsewhere classified, and may be designated according to nature of work performed such as:

Peeler Hand peels skin of fruits and vegetables using hand knife.

Grader examines, classifies and separates fruits, vegetables and fish according to size, quality, colour, condition or species.

Washer tends machine that washes raw fruits or vegetables preparatory to canning, freezing or packing.

Feeder Charger feeds machine with fruits or vegetables by hand for washing, shelling, shredding, cooking and pulping.

7415 FOOD AND BEVERAGES TASTERS AND GRADERS

Food and beverages tasters and graders inspect, taste and grade various types of agricultural products, food and beverages.

7415.10 Tea Taster tastes sample of brewed tea to determined quality and grade and suggests proportions of different grade to be, blended according to market requirement. Cooks or brews small quantities of cured tea leaves in required quantity of water heated to specified temperature, checks moisture contents or samples, using Moisture Meter; infuses different samples of tea in cups in tea tasting room; examines and tastes different infusion for colour, density, aroma and flavour to determined grade, approximate market value, or acceptability to consumer taste; writes blending formulas for guidance of workers who prepare products in commercial quantities. Keeps record of different grades of tea; visits factory to ensure correct processing. Is designated as **COFFEE TASTER** if engaged in tasting coffee. May meet buyers of tea.

7415.20 Liquor Taster tastes sample of liquor to classify it according to standards. Tastes samples of liquor and ascertains and judges such qualities as flavour, aroma and colour of liquor by use of his senses. Classifies samples according to system of standard and recommends specific blends of lots that will be accepted commercially. May be required to ascertain place of origin and age of wine or liquor.

7415.30 Taster (Food) tastes samples of food or beverages to determine palatability of product or to prepare blending formulas: Cooks or brews small lots of beverages or other food

NATIONAL CLASSIFICATION OF OCCUPATIONS

products and tastes product to determine grade, approximate market value, or acceptability to consumer tastes. Writes blending formulas for guidance of workers who prepare food products in commercial quantities. May purchase food products.

7415.40 Grader, Meat examines animal carcasses to determine grade in terms of sales value; Examines carcasses suspended from stationary hooks or hooks attached to overhead conveyor to determine grade based on age, sex, shape, thickness of meat, quantity and distribution of fat, colour, texture, and marbling of lean meat. Attaches grade identification tag to carcass. May estimate weight of carcass or observe dial of automatic weighing scale to determine weight of carcass.

7415.90 Food and Beverages Tasters and Graders, Other include workers who inspect, taste and grade various types of agricultural products, food and beverages not elsewhere classified.

7416 TOBACCO PREPARERS AND TOBACCO PRODUCTS MAKERS

Tobacco preparers and tobacco products makers prepare tobacco leaves and make various tobacco products.

7416.10 Tobacco Curer drives green tobacco leaves in heated tobacco barns. Suspends bunches of green tobacco leaves on strings in barn; heats barn by lighting fire inside furnace, to required temperature; regulates temperature and draught controls, depending on type of tobacco and weather conditions, until leaves are yellowed; opens barns door periodically to examine colour and moisture content of leaves to determine when to increase heat and regulate draught controls to dry leaves and stems to desired quality and colour; removes dried and cured tobacco from barn and piles them separately for storing. May cure and dry green tobacco leaves in open sun.

7416.15 Tobacco Grader; Tobacco Sorter grades cured tobacco leaves according to colour, texture, size etc. of leaf preparatory to marketing or processing into tobacco products. Spreads cured and dried leaves on table; picks leaves one by one and examines,

feels and smells and determines grade according to size, colour, extent of damage, texture and aroma; strips defective portions from leaves; stacks leaves into piles according to grade and keeps record of graded tobacco. May recommend conditioning prior to further processing. May remove stems.

7416.20 Blender, Tobacco mixes various grades and kinds of tobacco leaves in accordance with formula to form blend of distinctive flavour. Removes leaves of tobacco from each of several bundles of tobacco leaves; spreads leaves on trays and picks out those unsuitable for desired blend; weighs out quantities of each kind of leave according to formula and mixes them together. May spray tobacco with oils, cloves, and other spices and kneads tobacco to blend in flavouring.

7416.25 Conditioner, Tobacco treats tobacco leaves by moistening them with water or steam to make them pliable for further processing. Moistens leaves by dipping them in or spraying them with water, stacks leaves on drain board, covers them with hessian or other cloth and allows them to absorb moisture for a specified time; or feeds leaves into steam heated conditioning machine, observes gauges, maintains appropriate steam pressure and allows leaves to absorb steam for specified time. May mix or blend several grades and types of tobacco and condition it for processing. May specialise in conditioning a particular kind of tobacco leaf and be designated accordingly.

7416.30 Cigar or Cheroot Roller; Cigar or Cheroot Maker makes cigars and cheroots from tobacco leaves by hand. Dries in sun tobacco leaves soaked in jaggery solution. Removes rib and stalk from dried tobacco leave. Sorts out suitable leaves for binding. Cuts filler tobacco leaves according to size and shape of cigar or cheroot to be made. Binds by hand filler leaves with binding leaf giving required shape of cigar or cheroot and pastes end of binding leaf. Rolls cigar or cheroot on slab or stone or hand surface giving necessary pressure with hands to obtain smooth roundness. Selects suitable tobacco leaf for wrapping (superior quality imported thin tobacco leaf). Cuts wrapping leaf according to size and shape of cigar or cheroot by scissors and wraps it on cigar or cheroot giving it final shape and smooth finish. Cuts cigar or cheroot

NATIONAL CLASSIFICATION OF OCCUPATIONS

ends to obtain uniformity in size, using scissors or knife.

7416.35 Cigar or Cheroot Roller Helper assists Cigar or Cheroot Roller in making cigars or cheroots by performing various simple operations such as removing mid-rib, stalks from tobacco leaves, cutting ends of cigars or cheroots to make them into uniform size, and labelling them with trade bands. Collects tobacco leaves, soaks them in water to soften; takes out moistened leaf, cuts and strips midrib and stalk avoiding damage to leaf; stacks stripped leaves in piles keeping right and left halves separate; its broad leaves into rolls for use as roller leaf; cuts short leaves by hand scissors into small pieces for use as fillers for cigar or cheroot; cuts cigar or cheroot ends with hand scissors to make them uniform of size; pastes manufacturer's label at one end of cigar or cheroot. May stack tobacco for curing and drying. May roll or make cigar or cheroot. May pack finished cigars or cheroots in boxes.

7416.40 Bidi Maker; Bidi Roller makes bidies by hand by rolling shredded tobacco in bidi leaves. Collects required quantity of shredded tobacco and bidi leaves; soaks bidi leaves in water to moisten to make them pliable; cuts them into pieces according to size of bidi to be made using tin stencil or plate and hand scissors; puts measured quantity of tobacco filling on cut leaf and rolls it with fingers to make bidi of desired size and shape (conical) closing broader open end and pressing conical end flat; ties piece of thread round rolled bidi to hold tight leaf and tobacco filling; checks visually whether bidis are of uniform size; ties finished bidis into bundles of twenty-five, fifty etc. as required; places bidi bundles in trays or baskets and delivers finished bidis to Bidi Checker.

7416.45 Furnaceman, Bidi bakes bidis in heated furnace to remove moisture and dampness. Heats furnace by lighting firewood in fire chamber; removes hot cinders and ash from fire chamber when furnace attains desired temperature; paces steel tray containing bidis on long handle wooden laddle; pushes wooden laddle with trays inside furnace and stacks trays on furnace bed; closes furnace door and allows bidis to bake for specified period; removes

baked bidis from furnace and examines them to ensure proper baking.

7416.50 Bidi Checker; Bidi Counter checks quality and number of bidis packed in bundles to maintain manufacturing standard. Examines bidi bundles to ensure proper filling and rolling of bidis and appropriate number of bidis in bundle. Sorts out improperly filled or rolled, broken or other wise defective bidis from good ones; checks samples to ensure quality and quantity of tobacco filling. Places checked bundles on trays or in baskets to be removed for further processing. May roll bidis and wrap and pack small specified quantities of ready bidis in different types and sizes of paper packages, and then pack small bundles into bigger ones; and be designated as BIDI PACKER. May also heat raw bidis in furnace to required standard of heat

7416.55 Snuff Maker makes snuff tobacco by grinding and blending various types of tobacco. Places tobacco leaves, stalks and chopped tobacco in a bin, adds salt solution and allows mixture to ferment for specified period of time; watches fermentation, turning mixture occasionally; roasts fermented tobacco on heated mud pan and pulverises it to flour-like consistency in a grinding machine or mortar using pestle; sifts snuff flour through fine mesh-wire or cloth screens; blends various types of snuff according to formula, and adds aromatic oils or essences to obtain desired flavour. May specialise in a particular snuff making process such as fermenting, grinding, sifting or blending and be designated accordingly.

7416.60 Chewing Tobacco Maker; 'Zarda' Maker makes chewing tobacco from tobacco leaves. Collects required type of tobacco leaves and dries them in sun for a specified period for proper conditioning; pounds dried leaves in a mortar using wooden pestle to reduce them into small pieces of required size; dyes broken leaves with edible chemicals and dries them in sun; treats pounded tobacco with spices and similar ingredients in accordance with formula and adds scented solution or essence to form blend of distinctive flavour. May specialise in making particular kind of chewing tobacco such as Banarasi, Moradabadi, Zafrani or Mohini.

NATIONAL CLASSIFICATION OF OCCUPATIONS

7416.90 Tobacco Preparers and Tobacco Products Makers, Other include workers who prepare tobacco leaves and make various tobacco products not elsewhere classified.

7418 SUPERVISORS AND FOREMEN IN FOOD PROCESSING AND RELATED TRADES

Supervisors and foremen in food processing and related trades supervise and guide workers engaged in processing and preserving food and coordinate operations connected with syrup making from raw juice, processing dairy products, making beer, liquors, syrup, aerated water etc.

7418.10 Supervisor and Foreman, Food Processing supervises and guides workers engaged in processing and preserving food by various mechanical and manual processes. Guides workers in milling and parching food grains, crushing and pressing oil seeds, making 'gur', 'khandsari' and sugar by open or vacuum pan system, preserving and canning food stuff, making biscuits, candy, chocolate, sweet-meats, etc. by mechanical, manual or combined operations as necessary according to method and nature of production. Watches heating and baking temperatures, adjustments of machines and equipment, mixing of proper quality and quantity of ingredients, etc. and directs workmen accordingly to suit requirements. Ensures quality and rate of production and maintains prescribed records. May regulate temperature, adjusts machines and equipment, mix ingredients and perform other tasks. May be designated according to section or work supervised (Excluded are other food processing supervisory staff and Technologists described separately).

7418.20 Manufacturing Chemist; Shift Chemist; Juice Clarification Supervisor; Juice Supervisor; Clarification House Supervisor(Sugar) co-ordinates and supervises all operations connected with the syrup making from raw juice, weighing to final sulphitation in sugar factory. Supervises and checks weighing or measuring of raw juice coming from mill house, and ensures correct maintenance of its records. Directs heating, carbonation, filtration Sulphitation, evaporation, and other for prescribed treating of juice and making of specified type of syrup. Supervises operations of lime kiln,

sulphur furnace etc., and controls making of milk of lime and sulphur dioxide for clarifying juice by carbonation or Sulphitation process. Checks temperature and pressure of heaters, filters press and evaporators, tests juice with testing paper, and performs other functions as necessary for manufacturing of specified type of juice and syrup. Maintains log book giving hourly and daily operational details. May get overhauling and necessary repairs done to maintain equipment in working order. May check juice with hydrometer and indicator to maintain specified standard.

7418.30 Supervisor and Foreman, Brewing, Aerated Water and Beverage Making supervises and guides workers engaged in making beer, liquors, syrup, aerated water and other types of drinks and beverages and ensures standard quality of production as prescribed. Arranges for necessary materials and ingredients and guides workers in various operations such as brewing, mashing, fermenting, filtering, making syrups and sherbets, filling bottles, injecting carbon-dioxide into filled bottles, bottling etc., according to nature of production. Gets samples tested while processing and directs necessary adjustments and modifications. Enforces safety measures, compliance with excise and related rules and regulations, prescribed percentage of alcohol content, etc., and ensures standard quality of production. Maintains records and registers and submits prescribed returns. May set machines and equipment. May be designated according to nature of production or section supervised. (Excluded are Technologists, and Chemists described elsewhere).

7418.40 Supervisor and Foreman, Dairy Product supervises and guides workers engaged in processing dairy products and ensures prescribed quality of manufacture. Guides workers in skimming and pasteurising milk, separating specified quantity of cream from milk, churning butter, making cheese and other dairy products either by mechanical, manual or combined processes and ensures prescribed quality and quantity of production. Tests or gets samples tested while processing, directs necessary adjustments to be made and maintains hygienic condition in area supervised. Controls bottling, mixing and packing operations according to type and quality of production and maintains necessary

NATIONAL CLASSIFICATION OF OCCUPATIONS

records and registers. May be designated according to section supervised or product processed.

7418.90 Supervisors and Foremen, Food and Beverage Processing, Other include all other Supervisors and foremen engaged in food and beverage processing such as those supervising operations of slaughter house; preparing tea, coffee, cocoa, etc., not elsewhere classified.

742 WOOD TREATERS, CABINET MAKERS AND RELATED TRADES WORKERS

Wood treaters, cabinet makers and related trades workers season and preserve wood and wooden items, make and repair wooden furniture, wooden fittings, patterns and models, by using tools and woodworking machines; set or set and operate wood working machines, make wicker furniture and related articles, and decorate and repair wooden articles and wooden parts of goods.

7421 WOOD TREATERS

Wood treaters season and preserve wood.

7421.10 Kiln Operator, Wood operates steam kiln for seasoning or drying wood to specified moisture content. Feeds water into boiler and lights fire in boiler fire-box. Directs workers to load and place lumber in kiln and ascertains moisture content of wood at various locations in kiln by moisture metre or by sawing and weighing samples of wood before and after drying. Waits till boiler acquires sufficient heat, plans drying cycle according to moisture content, dimensions and species of wood and adjusts valve to release and regulate flow of steam into kiln. Starts water pump to feed additional water into boiler and sets automatic controls to regulate kiln temperature and humidity for specified time. Switches on fans inside kiln and gets kiln doors closed to make it air-tight. Records humidity and kiln temperature and controls valves to regulate steam supply while maintaining balance between temperatures and moisture content to avoid damage to wood. Keeps lumber in kiln for specified period. Opens kiln on completion of drying cycle, verifies moisture content of wood and directs workers to remove lumber

from kiln when dried. May work simultaneously as Boiler Attendant. May attend to other work when kiln is not working.

7421.20 Impregnator, Wood treats wood with chemical to protect it against decay or parasites. Mixes chemicals in prescribed ratio in open tanks or vats, heats it to required temperature and checks its strength. Assesses moisture content of wood and gets it dried, if necessary, to prescribed standard. Dips wood products in tank manually or using crane, rods etc. as necessary. Controls temperature of solution, determines amount of impregnation and keeps them (wood products) immersed in preservative solution for prescribed period. May brush, paint or inject preservative on wood or treat it with gas.

7421.30 Wood Bender bends wooden parts to required shape by steaming, heating, softening and drying. Steams wooden parts or heats them in boiling water to make them soft and pliable. Bends steamed or heated parts gradually by hand into shape or places them in manually operated press to obtain desired curvature. Fastens parts into place or keeps them in sun to dry and set in permanent shape. May maintain continuous application of steam to ensure pliability while pressing to shape.

7421.40 Wood Treater treat underground portion of transmission poles with chemical preservative after installation: Digs around base of pole to expose area susceptible to decay, using pick and shovel. Scrapes dirt and other residue from pole surface and chips away decayed wood, using handtools. Paints dressed area with preservative solution, using brush. Wraps treated portion of pole with waterproof paper, fastening paper with hand stapler. Refills hole and packs earth firmly around base of pole, using shovel.

7421.50 Grader (woodworking) inspects and grades milled, rough-sawed, or dimensional stock lumber according to standards: Examines lumber on table, moving belt, chain conveyor, or in racks for defects, such as knots, stains, decay, splits, faulty edges, pitch pockets, wormholes, and defective milling. Grades lumber, using caliper rule, to ensure specified dimensions. Marks lumber to indicate grade and processing instructions, using marker. Tallies pieces of lumber according to grade and board footage. May determine cuts to be made

NATIONAL CLASSIFICATION OF OCCUPATIONS

to obtain highest marketable value from material. May remove unsatisfactory pieces from conveyor or table and place pieces on stacks, in bins, or on carts. May scale board footage, using calibrated scale on lumber ruler, and record results.

7421.90 Wood Treaters, other include all other wood treaters engaged in forming and preserving wood by application of heat, seasoning and chemical treatment, not elsewhere classified.

7422 CABINET MAKERS AND RELATED WORKERS

Cabinet makers and related workers, by using tools and woodworking or paperboard working machines, make, decorate and repair wooden furniture, wheels or other wooden/paper board parts of vehicles, wooden fittings, patterns, models and other items such as pipes, wooden skis, shoes, or sports racquets and sticks.

7422.10 Furniture Maker, Wood makes and repairs chairs, tables, benches, desks, shelves etc., by common carpentry processes using hand and or power tools or both. Studies drawing or sample, calculates sizes and quantity of timber required. Prepares patterns of different parts of article to be made on card board. Marks off pieces using patterns, square, pencil, rule or scribber and saws and shapes them according to specifications by sawing, planing, drilling etc. Marks and makes, necessary joints such as dove-tail, tenon-mortise, lap etc. Checks dimensions and fitting of joints frequently. Fixes hinges, hooks etc., at required places. Assembles different parts and fits them permanently by gluing, drilling, dowelling, nailing screwing etc., as necessary. Fills up superfluous holes etc., with putty; smoothens surface using sand paper, earth (yellow) and files. Checks completed articles and ensures correct fitting, rigidity and finish. Sharpens his own tools. May polish or paint articles made.

7422.15 Cabinet Maker makes high class wooden furniture such as ward-robres, dressing tables, sofa sets, radio cabinets etc., according to design or specification using power or hand tools or both. Studies drawing or samples. Selects timber and calculates

quantity required. Marks cuts and shapes oversize pieces to required dimensions by sawing, planing, etc. Makes necessary joints such as dove-tail, tenon-mortise, half lap etc. Checks joints frequently and finishes them ensuring firmness and correct fitting. Assembles parts for trial, rectifies defects if any and then dismantles them for further work. Finishes inside portions, which cannot be worked after assembling and smoothens outer portions using plane, shaver (tools) etc. Applies glue in joints and re-assembles parts step by step, securing joints with dowels (wooden or bamboo pins), screws or nails as required. Fixes hinges, brackets etc. where necessary. Finishes outer surface by filling holes and cracks with putty and using different grades of sand papers to ensure better polish. Sharpens his own tools. May fix metal or other fittings on furniture body. May also polish and varnish furniture.

7422.18 Cart Builder, Wood builds and repairs rickshaws and animal or hand drawn carts of various shapes and forms using hand tools. Examines sample if any, selects timber and calculates quantity required. Saws, adzes and planes timber to size using template or foot rule, divider, pencil, scribber etc. Marks and makes necessary joints mostly tenon-mortise or half lap with hammer and chisel. Makes floor, bottom, sides, seats, body, top structure etc., according to type of cart to be built and assembles them step by step by nailing, screwing etc., as necessary. Fixes axle, brackets and metal wheel tyres or other metal fittings. Drives ball or bush bearings, one in each hub and wheels on axle with bolts and nuts. Mounts body structure on wheels using springs and 'V' or 'U' bolts. Fits top structure and other accessories on body with bolts, nuts, brackets etc. as required. Makes beams by sawing, sizing, bending and shaping wood or bamboo, screws metal fittings to them and joins them to body with metal brackets, plates etc. as necessary. Ensures correct alignment. Sharpens his own tools. May make axles, brackets etc. himself by simple blacksmithy and fitting process. May make carving using special carving knives.

7422.20 Bullock Cart Builder; Bamboo Cart Builder builds and repairs bullock carts with bamboo and wood pieces for carrying men and material. Selects bamboo and wood pieces according to size and type of cart to be built.

NATIONAL CLASSIFICATION OF OCCUPATIONS

Cuts bamboo and wood pieces to required shape and size to make joke, side members, axle blocks and other components using chopper, adze and saw. Builds carriage platform to suit requirement (for carrying men or material) by securing bamboo and wood pieces with hoops, ropes and nails. Fastens carriage platform on side members (thick long wooden pieces of specific shape and size), one on each side, as above. Fixes wooden blocks on each axle with clamps or ropes for resting side members. Mounts carriage platform on axle by resting and securing side members on axle blocks with ropes or hoops. Fixes wheels to axle. Fastens yoke across centrally on front end of carriage platform to harness bullocks. Sharpens his own tools. May construct hood for cart made with bamboo, wicker; bamboo mattings, etc., specially if cart is built for carrying men. May build cart in two halves, front and rear, for carrying long iron girders and rods. May construct wooden wheels for bullock carts by sawing, planing, joining etc. May make carving using special carving knives.

7422.22 Wheel Wright makes and repairs wooden wheels for various types of carts, using hand tools. Selects right type of wood and marks out segments of rim using template. Saws lumber for hub and turn it to required shape and diameter. Marks positions of central hole and spoke joints on hub using divider, pencil, template, etc., as necessary. Drills central hole and make slots on periphery of hub according to markings using drills, chisels and hammer. Shapes segments to required curvature by sawing, adzing and planing. Marks segments for mortising (making slots) using template and makes slots in them accordingly with hammer and chisels for fitting spokes. Makes spokes of required size by sawing and planing. Makes tenon (a type of joint) at both ends to suit mortises in hub and segments. Drives one end of each spoke in mortise of hub and other in that of segments ensuring tight tenon and mortise joint at both ends. Drives wedges in them for security. Joints segments end-wise by driving nails at angle through them. Plans periphery half segments to remove unevenness and ensures uniform circle. Heats iron tyre to red hot in low fire for uniform expanding, slides it on wheel and then pours water on it to cool down and

contract on it. Ensures firm grip of tyre on wheel or gets tyre fitted by Blacksmith. Sharpens his own tools. May fix nails on segments side of spokes and drive segments to spokes. May join segments more firmly by fixing wedge along thickness on them. May make iron tyres himself by simple blacksmithy processes. May fit rubber tyres on wheels instead of metal tyres.

7422.25 Body Builder, Automobile constructs rigid body on auto-chassis with or without super-structure using wood and metal frames for passenger buses, goods trucks, lorries, vans, etc. Studies sketches or blue print regarding type of body to be built. Selects required sizes of timber pieces and collects finished metal parts. Cuts and shapes wood for body using hand or power tools. Builds frame work, lining, floors, ceiling and other wooden parts according to drawing and other specifications. Fits longitudinal runners, cross barriers, vertical posts etc. and tightens frame rigidly to chassis. Fits assembled or welded metal frame over wooden longitudinal runners and cross-members and assembles metal panel, roof covers, doors, etc., to wooden frame using nuts and bolts, etc., to wooden attachments such as fasteners, handles, hooks, lockers, etc., to frame or body as required. May fix interior fittings and repair or replace parts. May specialise in building any particular type of coach such as ambulance vans, passenger buses, army vehicles, goods lorries etc.

7422.28 Coach Builder, Railway constructs and repairs wooden bodies of railway coaches, using hand and power tools. Studies sketches or diagram for design of body to be constructed. Estimates and collects timber pieces of required quantity and sizes. Cuts and shapes wood to required shape and sizes, using chisel, planer, saw and other hand tools or gets them cut over power driven machines according to drawing and other specifications. Fits and assembles various parts on chassis or frame of coach. Lays or fixes floor, sides, roof, wooden panels, board, etc. and secures them tightly to frame with screws, pop rivets, bolts and nuts. Replaces broken, damaged or worn out wooden parts for panels of railway coach with new ones and fixes fasteners, fittings, latches, glass on doors and windows etc. as required. May apply wax, french polish or shellac to wooden surface as protective coat of

NATIONAL CLASSIFICATION OF OCCUPATIONS

paint. May engrave or carve decorative or ornamental designs on wooden panels.

7422.30 Body Builder, Other Vehicles assembles and repairs wooden parts of vehicle body on metal frame with specified seating and other arrangements and screws masonite, wooden planks, hard boards, plywood etc., according to specifications for constructing bodies of vehicles not else where classified such as cycle rickshaw, auto-rickshaw etc. (excluded are **CART BUILDERS AND WHEEL WRIGHTS**). Takes exact measurements of metalbody for cutting required sizes of wooden parts. Cuts wooden plank, masonite or hard board to required sizes using hand saw and drills holes with hand drill. Fits cut pieces of plank, or board over metal frame and secures them tightly with bolts and nuts, or screws as required. May fit cushions, seats, arms rests and hoods to rickshaws.

7422.35 Wood Marker marks wood with pencil, scribe, chalk, etc. according to sample or drawing for further operations. Studies drawings and specifications or collects cutting list for marking. Selects required type and quality of wood and position sit on table or floor according to convenience. Measures wood and marks guide lines and reference points according to prescribed specifications using foot rule, scribe, calipers etc. Avoids wastage and ensures convenience of sawing, cutting etc. while marking. May saw lumber to facilitate marking.

7422.38 Pattern Maker, Wood makes and repairs wooden patterns from drawings or samples for making moulds to cast metals using hand or power tools or both. Studies drawings or sample, calculates sizes and quantity of timber required. Selects right type of timber for making pattern. Saws, adzes and planes oversize pieces to required size and marks them with shrinkage allowance, using construction scale calipers, divider, pencil, scriber etc. Drills holes and fixes dowels for assembling detachable parts and screws or nails other pieces permanently as necessary. Builds up undersized portions by nailing or screwing card board, plywood, thin pieces of wood or by applying putty as required. Assembles completed pattern, checks measurements and rectifies defects if

any. Fills superfluous holes with molten sealing wax or with any other filling. Smoothens surface by filling or with sand paper for better finish. Sharpens his own tools. May apply preservative coating of solution of shallac and spirit or any other water proof paint.

7422.40 Cooper; Tank or Barrel Maker makes or repairs wooden tanks, barrels etc., using hand or power tools or both for storing and transporting liquids such as spirits, beer, etc. Studies drawing or sample and selects required type of planks. Saws and planes staves (wooden strips) according to size and capacity of cask to be made. Makes suitable water tight joints along sides and at both ends of staves by power or hand tools. Assembles staves into tabular form along joints made. Prepares two rings of iron strip of required size by heating iron strip in furnace, bending it to circular shape by hammering and rivetting both ends. Heats carefully one end of assembled staves by fire to make wood pliable. Hammers one hoop on to heated end till staves bend to shape. Repeats process at other end to fix other hoop. Prepares top and bottom lids by sawing, planing and shaping wooden planks into form of circular disc. Seals one end of cask permanently by fixing lid in grooves. Applies lacquer to joints to prevent leakage and polishes casks with wood polish. Repairs defective casks by replacing broken staves and hoops and seaming leaking joints. Sharpens his own tools.

7422.42 Wood Carver, Hand carves floral and artistic designs on wooden surfaces for decorative purposes using fine chisels and hand tools. Studies sketches and dimensions of ornamental designs to be carved. Finishes and smoothens required portion of wood surface, visualises finished product and transfers design on wood surface by tracing over drawing and carbon paper with pencil or stylers. Clamps furniture part or wood piece in vice and roughs out design by cutting along marked lines on wood using chisels and mallet. Selects carving chisels, gravers, gauges, files etc. and determines sequence of their use according to intricacy of design. Cuts, trims or touches up roughed out design to desired finish using hand tools. Taps stippling tool with mallet to stipple design (dotted work). Verifies dimensions of carving with foot rule and dividers and makes modifications if necessary. Makes holes to provide for inlay work, if necessary, and

NATIONAL CLASSIFICATION OF OCCUPATIONS

smoothens carved designs by rubbing with sand papers of different grades. May polish finished article. May draw full size design from sample or imagination for tracing on wood. May design and sharpen carving tools.

7422.45 Inlayer, Wood inlays metal, hardwood, ivory, precious stone and like material in furniture, board, door etc. for decorative purposes. Studies sample or design for inlaying. Draws or traces designs on articles to be decorated. Cuts depressions in markings and scoops wood from places where inlaying is to be done, using specially designed chisels. Selects material to be inlaid, marks it out to design, if any and cuts, shapes smoothens and sizes pieces as necessary with fret saw, planer, chisel sand paper, etc. Applies glue or specific adhesive and inserts inlaying pieces in respective depressions, ensuring to fill up gaps if any in scooped portions with saw dust, colour etc. to ensure permanent adherence of inlaid pieces in position. Files, planes and scrapes whole surface to smooth finish. May keep inlaid plank under hand operated nipping press for about twelve hours to secure inlaid pieces in position. May polish inlaid article to high finish. May sharpen inlaying tools.

7422.48 Toy Maker, Wood makes wooden toys of various shapes and sizes according to drawings or specifications using hand and power tools, fret saw machine etc. Studies drawing or sample and traces design on material or marks wooden block according to type of toy to be made. Cuts, shapes, turns and performs other operations according to tracing or marking using fret saw, hand saw, adz, chisels etc. as necessary. Frequently measuring it with calipers and rule to ensure conformity with required specifications. Drills holes where necessary and assembles different parts with nails, wires etc. or glues them together as specified. Smoothens finished toy or its components before assembling with different grades of sand paper and polishes it on completion. May paint or lacquer finished toy.

7422.50 Pith Worker, Wood prepares models, figures and toys from pith (soft wood) using small hand tools. Soaks pith in water for required period to soften it. Washes, removes dirt and saline content from

soaked pith, squeezes out excess water and dries it on platform. Powders dried pith in flour mill or otherwise and strains or sieves powder with hand strainer. Mixes pith powder with other ingredients like saw dust, powder of special type of bark, gum etc. in required proportions and mixes them thoroughly by tramping or kneading into dough. Spreads dough on table to form sheets of clay in required thickness. Cuts and puts sheets of clay required moulds, presses it to give shape to different forms and ties all parts of mould according to shape with string. Fills in hollow spaces with waste paper for strength, removes mould after some time and dries figure in shade. Removes waste paper, gives final touch to form with fine chisel and smoothens it with sand paper. Applies colour, paint, wax and plastic coating etc. as necessary to make it waterproof and effect natural look. May make toys directly from soaked pith by pressing it in mould and shaping with small hand tools. May make different components or limbs of toys separately and then join them with twine or fine wire.

7422.52 Picture Frame Maker makes picture or photo frames from soft wood by sawing, planing, shaping etc. using power and hand tools. Cuts wooden planks or slides into long thin strips with power or hand saw and planes, shapes and sizes them to required thickness, form etc. using power and hand tools according to frame design. Marks frame strip to suit length and width of picture or photo to be framed, places it in mitre box (sawing jig) and cuts it according to markings at 45 degrees angle. Planes rebate (groove) on back side of cut strips with side planer and determines location, size and angle of nail holes to be drilled. Drills partial holes in one end of each piece, applies glue at mitered ends and assembles frame together by holding sized pieces in vice and driving nails through drilled holes. Smoothens frame to required finish by rubbing with sand paper. May polish frame. May set leather, velvet or other material in frame. May set glass, hard board etc. and mount picture in frame.

7422.55 Smoking Pipe Maker makes and repairs smoking pipes, cigarette holders etc. from briar blocks or hard wood by cutting, turning, drilling, aligning etc. using hand and power tools. Studies drawing or sample. Selects right type of wood and cuts it into

NATIONAL CLASSIFICATION OF OCCUPATIONS

suitable blocks by sawing. Draws shape of stem and shank (mouth-piece) and turns bowl on stem on lathe. Turns inside and outside of bowl on lathe using different cutting tools, cuts and shapes stem and shank using suitable chisels and drills hole in them in correct alignment. Fits stem into shank, checks for alignment of hole and completes their final shape by filing. Removes turning and filing marks and finishes surface with sand paper. Dips pipe in stain solution to bring out grain and colour of briar and wipes dry with soft cloth. Coats inside bowl chamber with specified mixture to sweeten bowl and polishes pipe in buffing or sanding machine. May repair pipes by replacing burnt or cracked bowl or shank. May set metal leaf in bowl chamber to avoid burning. May make stem and shank in one piece. May join stem and shank by threading on machine.

7422.58 Sports Goods Maker, Wood makes sports goods such as tennis rackets, cricket bats, hockey sticks, wickets and such other sports accessories from special type of wood using power and hand tools. Selects wood according to requirements such as ash wood, willow wood, mulberry wood etc. and marks it. Shapes stock to specified size and dimensions by sawing, planing, carving, turning, etc. as necessary and bends it to required shape by steaming, softening and pressing. Cuts plies to size, files and fixes them and puts them in frame by screwing for treating and pressing, if engaged in making tennis or badminton rackets. Assembles component parts of article by wedging, bonding, clamping, nailing or screwing them together. Aligns and balances it, smoothens and covers surface of product and attaches fixtures such as strings, ferrules, grips etc. May varnish or paint finished articles and repair damaged equipment.

7422.60 Wood Lacquerer lacquers and polishes small wooden articles such as toys, artistic material, etc. on wood working lathe by applying and spreading lacquer (coating) on them and then polishing them to required finish. Fixes toy concentrically between centres or otherwise in lathe and rotates it either by power or manually with one hand using bow according to type of lathe used. Marks portions of article to suit colour design. Presses lacquer sticks of respective colours as per colour design on rotating

surface of article and spreads it evenly on its body with palm or date leaves according to markings. Rubs lacquered article while in motion with polishing cloth, felt etc. and polishes it to high finish. May prepare coloured lac by mixing and boiling pure lac and coloured powder with water. May do wood turning.

7422.62 Wood Polisher cleans, smoothens and polishes furniture and other manufactured wooden articles to required shade and finish using sand paper, filler, polishing compound, etc. Cleans furniture piece or article to be polished with chemical or sand paper. Fills joints, knots holes etc. with putty or plaster and finishes surface by filing, scraping and rubbing with sand paper. Prepares ground (base) by applying filler or staining (coating with special coloured material) as required and refinishes surface with sand paper. Applies polish on finished surface using soft cloth or cotton and rubs it with fine sand paper, soft cloth or polishing leather to secure desired gloss and finish. Ensures uniform finish everywhere of furniture or article polished. May repeat process number of times to ensure desired finish. May use wood pillar or chalk powder along with french polish for polishing costly articles. May paint cane articles with hand brush. May prepare his own polishing material.

7422.65 Paper Board Makers, Other perform various tasks connected with paper board making such as coating paper board with wax, making water proof paper board, card board, for use as parts of vehicle, fittings & fixtures etc.

7422.90 Cabinet Makers and Related Workers, Other includes all other workers in carpentry joinery, knot plugging, cabinet making etc. not elsewhere classified such as those engaged in making walking sticks, pencils, pen holders etc.

7423 WOOD WORKING MACHINE SETTERS AND SETTER OPERATORS

Wood working machine setters and setter operators set or set and operate woodworking machines, such as precision sawing, shaping, planing, boring, turning and wood carving machines.

NATIONAL CLASSIFICATION OF OCCUPATIONS

7423.10 Wood Machinist, General sets and operates different types of wood working machines for turning, planing, shaping, grooving, jointing etc. of wood according to drawings or required specifications. Studies drawings or sample or product desired. Selects appropriate cutting tools or cutters and fits them to cutter head. Fixes cutter head in machine and adjusts guides and machine table to suit operations. Starts machine, switches on levers and feeds trial piece of wood into machine. Checks specimen with drawing or sample, Readjusts position of tools or machine set up if required and operates machine to plane, mould, shape and process wood stock to requirements. Cleans and oils machine. May sharpen tools in grinding machine. Is designated as **UNIVERSAL WOOD WORKING MACHINE OPERATOR** if engaged in setting and operating universal wood working machine.

7423.15 Wood Turner, Machine sets and operates power driven wood turning lathe to make circular and round wooden objects according to specifications. Studies appropriate tools and mounts them on cutter head. Fixes cutter head in machine and adjusts guides. Mounts required size of wooden stock on machine and aligns it concentrically in position. Starts machine and sets speed. Sets and holds tip of tool against desired portion of rotating wood to be processed. Fashions wood according to specifications or sample using different cutting tools, checking its size and shape periodically with measuring instruments. Finishes processed object by smoothening surface with sand paper. Cleans and oils machine. May sharpen tools. May operate other wood working machines.

7423.20 Wood Turner, Hand turns wood into desired shape by manually operating improvised lathes for making rolling pins, legs of beds, chairs, tables etc. Studies drawings and specifications. Selects suitable piece of wood of appropriate quality and fits it into rotating spindle of improvised lathe. Directs helper to ply attached hand wheel to rotate spindle. Selects required type of hand tool, holes it in position against rotating wood and fashions wood to required specifications, smoothen object with sand paper to finish

product. May cut and saw timber using hand saw.

7423.25 Shaper, Wood sets and operates shaping machine for cutting grooves, angles, designs or irregular shape, etc. on wooden surface. Studies drawing or samples. Selects appropriate cutting blades and fits them securely to rotating spindle of machine. Adjusts machine table to produce required shaping operations and to hold wooden stock in position during processing. Starts machine, feeds suitable pieces of wood and ensures that they are properly guided during cutting operation to obtain required shape. Removes completed pieces from machine and checks them for accuracy with templates and scales. Cleans and oils machine. May grind cutters.

7423.30 Router, Wood; Routing Machine Operator, Wood sets and operates routing machine for making various designs on wood surface by rotary cutter. Clamps and tightens selected tool bit in machine chuck, inserts guide pin and sets table stops. Fastens wood stock securely to table mounted on roller bearings, moves it under routing tool to cut designs according to drawings or sketches and regulates depth of cut by pedal operation as required. Checks accuracy of cutting using measuring instruments and resets machine if necessary to ensure accuracy. Releases pedal to withdraw wood stock from cutting tools and removes stock. May draw and trace outline of design on wood. May operate machine equipped with automatic device for varying depth of cut. May grind cutters and clean and oil machine.

7423.35 Planer, Wood sets and operates single or multiple cutting head machine to plane surface or reduce thickness of wooden stock to required specifications. Selects appropriate cutting blades and fits them into cutter head using hand tools. Turns hand wheel to adjust table for depth of cut and suit thickness of implanted stock. Adjusts pressure bar to hold stock firmly against cutting blades. Starts machine and inserts one end of stock between feeding rolls and guides it through machine. Measures planed stock and resets machine. Turns stock over and re-runs it through machine to surface other side and reduce it to desired thickness. Replaces dull or broken blades and cleans and oils machine. May

NATIONAL CLASSIFICATION OF OCCUPATIONS

sharpen and grind cutting tools. May operate other wood planing and cutting machines.

7423.40 Four Cutter, Wood sets and operates machines for cutting grooves and moulding wood stock for making casing and capping for electrical fittings and such other articles. Sets and fits cutters to vertical and horizontal spindles of machines, adjusting their positions as required. Adjusts machine table to hold wood stock securely in position at required height. Starts machine to rotate cutters at high speed. Feeds trial piece along table guides into machine cutters to cut grooves and shape edges and sides. Checks finished product with drawings or sketches and makes adjustments to cutters if necessary. Feeds wood stock and continues operation. Changes cutters when necessary. Cleans and oils machines. May sharpen tools on grinding machine. May operate other wood cutting machines.

7423.42 Woods Sawyer, Hand operates hand saw to cut logs in to planks or wooden boards of required sizes. Marks lines on the log or timber for cutting it to required sizes. Fixes wooden props or supports at convenient height to place log of timber for sawing and places it securely over supports at inclined position. Selects saw of appropriate size and with assistance of helper cuts or saws log or timber along marked line from one end. Inserts wooden or metal wedges between cut slit along marked line where required to prevent jamming of saw. Sharpens saw teeth with file when necessary. May work singly to size planks to required dimensions using rip saw.

7423.45 Moulder, Wood; Moulding Machine Operator, Wood sets and operates moulding machine for cutting sides of wooden boards, frames etc. to required shape and making specific grooves and profiles with form cutters. Studies drawing or sample to determine shape to be cut. Selects suitable cutting blades and fixes them to rotating spindles of machine. Sets blades in required position or angle and fastens them securely using spanners. Fits different types of cutters to different spindles of machine depending on type of cutting required, such as for grooves, profiles, etc. Adjusts machine table to desired position or height for size of cut to be made and sets guides to hold stock in

position. Starts machine and cuts tripart pairs. Checks trial piece and re-adjusts machine if required. Shoves wood stock between feed rolls which automatically carry pieces through machine for machining and continues operation. Cleans and oils machine. May grind knives to correct profile. May operate other wood cutting machines. May design jigs and fixtures for repetitive or specific machining operation.

7423.50 Mortiser Operator sets and operates mortising machine for cutting slots of prescribed dimension in wooden frames for making joints. Selects and fits appropriate cutting tools to machine spindle. Sets machine table and guides setters to hold stock in position. Collects wood stock and checks marking for dimension of slot to be cut on it. Places wood stock below cutting tool on machine table. Lowers cutting tool over marked area on wooden stock and sets its position for slotting. Starts machine and presses down tool to cut slots of required dimensions. Checks dimensions and removes processed wood on completion. May clean and oil machine. May grind and sharpen cutting tools. May operate other wood cutting machines.

7423.55 Tenoning Machine Operator sets and operates tenoning machine to make tenons in wooden frames according to specifications for making joints. Selects and fits appropriate cutting blades securely on rotating spindle of machine. Adjusts cutters and machine table to suit required size of tenons to be cut. Feeds wood stock between guide plates on table to hold it firmly during operation. Starts machine, pushes wood stock against cutters to obtain single or double tenoning (cutting one or both sides of wood stock) according to type of machine operated and adjusts cutters to obtain tenons of prescribed dimensions. Cleans and oils machine. May grind and sharpen cutting blades. May operate tenoning machine with scribing head, and other wood working machines.

7423.60 Jointer Machine Operator sets and operates specially designed machine for making plough and tang and other water tight joints. Studies drawings. Fits cutter knives in cutter head of machine and tightens set screws with wrench to secure them in position. Collects wood stock and marks cutting line

NATIONAL CLASSIFICATION OF OCCUPATIONS

with pencil. Places fence to guide stock at specified angle to cutting knives and places stock on edge against fence on machine table. Starts machine and slides stock over rotating cutting knives, using fence as guide. Checks cuts on stock against blue prints or sketches using mitre gauges, squares etc. and makes necessary adjustments. Feeds stock across cutting knives and continues operation. Turns stock and machines other edge frequently checking its width with calipers or gauges to ensure accuracy of fitting. May smoothen and reduce wood stock to required thickness. May replace broken or dull cutting tools. May grind and sharpen cutting blades. May clean and oil machine. May operate other wood cutting machines.

7423.65 Driller Wood; Boring Machine Operator, Wood sets and operates wood boring machine for boring holes of required dimensions in wooden frames and articles. Selects drill bit of appropriate size for boring hole and fits it to spindle of machine using chuck, collet or sleeve as necessary. Measures and marks stock for boring or follows markings already made. Clamps stock to machine table and centres drill bit over or in front of marks indicating location of hole. Adjusts spindle stop to regulate depth of hole and starts machine. Moves table upward or forward and bores required hole in stock. Withdraws bit from stock and repeats process. Changes drill bits to bore holes of different dimensions. Cleans and oils machine. May be designated as **HORIZONTAL or VERTICAL BORER WOOD** according to type of boring machine operated.

7423.70 Dowel Machine Operator, Wood; Rounding Machine Operator, Wood sets and operates dowel machine for making round wooden pins of various dimensions for securing joints. Selects and fits cutter blades of required size in cutter head of machine. Sets gap between blades equal to diameter of dowel, using calipers and gauges and adjusts stock guides and feed and take off rollers to size and finish stock to required specifications. Starts machine, places stock on guides and pushes on end of sample between feed rollers. Checks size of rounded stock with measuring instruments. Makes adjustments to machine if necessary, feeds stock and continues operation. May install

cutter heads to cut spirals or longitudinal grooves or both in addition to rounding stock.

7423.80 Wood Wool Machine Operator sets and operates wood wool machine for reducing soft wooden stock into long thin fibres commonly used as packing material. Selects appropriate cutting tools and mounts them on cutter head. Fixes cutter head in machine and adjusts wood stock to tool post. Starts machine to move wood piece to and fro against cutters and moves cam by hand to control speed of tool post to cut fibres of desired thinness from wood stock. Checks fineness of fibres and adjusts operation as required. May clean and oil machine. May sharpen or replace dull blades. May operate other wood working machines.

7423.90 Wood Working Machine Operatives perform variety of routine and low skilled tasks such as assisting in setting tools and lumber in machine, feeding boards and planks, against cutter, driving nails in wooden boards, spreading glue in adjacent surfaces, etc., and may be designated as Wood Working Machinist Helper; Nailing Machine Operator, Glueing Machine Operator Wood; Paster Wood; etc.

7424 BASKETRY WEAVERS, BRUSH MAKERS AND RELATED WORKERS

Basketry weavers, brush makers and related workers make wicker furniture, brushes and brooms and weave baskets.

7424.05 Supervisors and Foremen, Brush Making supervises manufacture of bristles, nylon and other types of brushes, and ensures correct production. Studies specifications of type of brush to be made and instructs respective workers accordingly. Checks setting, sizing, sterilizing and other operations, during manufacture according to processes involved, rejects defective items or gets defects removed and ensures correct production. Maintains prescribed records and registers and evolves methods to minimise wastage as far as possible. May specialise in manufacture of one or more types of brushes.

7424.10 Furniture Maker, Bamboo makes bamboo furniture by sizing and dressing bamboo pieces, drilling holes, building frames and body with strengthening pieces. Studies pattern, size or design of furniture to be made;

NATIONAL CLASSIFICATION OF OCCUPATIONS

collects seasoned bamboo stakes (rods) them and soaks in water; removes stakes from bath when soft and cuts and removes thin splints and splits them into strips of desired size and thickness with selects cut bamboo into specific sizes, drills holes where necessary and sets them into required pattern; completes object by weaving seat, back and other parts as necessary and fastening ends either with bamboo or cane strips. May specialise in a particular article such as Table, Chair, Sofa set, etc. May also undertake repair work.

7424.15 Furniture Maker, Reed makes reed furniture by sizing and dressing reeds and weaving them with rope to desired pattern. Studies pattern, size or design of furniture to be made; collects material, cuts them into required length and fastens them together with strings to desired shape; cuts off, conceals or weaves together loose ends, to finish edges; completes object by setting and fastening dry grass on handles, top, bottom and edges with rope. May use rexine or leather for decoration and durability on bottom, top, and handles. May specialise in fabricating a particular article or part of furniture and be designated accordingly.

7424.20 Furniture Maker, Cane makes cane furniture by sizing and dressing required cane pieces, bending them to shape by heating, fastening parts together with cane strips and nailing. Studies pattern, size and design of furniture to be made; selects cane rods, cuts them to required length; shaves out pieces to remove projections, heats frame pieces and other sticks with blow torch, and bends them to desired shape; fastens sticks together with bolts, nails, and screws; weaves wickers in, through, and around frame cutting off and concealing or weaving together loose ends to finish edges; winds wickers around joints to strengthen and conceal them. May do polishing or painting of furniture. May fit cushions in chairs, sofa sets, etc. May undertake repair work of old furniture. May be designated according to article or part of furniture fabricated as **BACK MAKER; CHAIR MAKER; SEAT MAKER.**

7424.25 Caner interweaves cane strips to make seat, back etc., of chairs, sofa sets and similar furniture. Soaks pre-cut rattan stakes (rods) in water to soften and bleach; removes

stakes from bath when soft, cuts and removes splints and splits them into strips of desired size and thickness; interlaces strips through and around frame of furniture to be made according to pattern, cutting off and concealing or weaving together loose ends to finish edges; winds wickers around joints to strengthen and conceal them. May specialise in weaving a particular article.

7424.30 Basket Maker makes baskets of specified size and shape by interlacing willow, rattan or other materials. Forms bottom of basket by interlacing strips of bamboo or similar material with framework of bamboo ribs; inserts ribs around edge of bottom and between woven sections of bottom to serve as framework of sides; bends ribs perpendicular to bottom and secures to hold them in position for weaving of sides; weaves strips through ribs until sides are completed; tapers or points ends of protruding ribs, and bends and inserts them into spaces in top edge of woven sides. May make solid bottom boards, using bandsaw, drill press, and carpenters' hand tools. May interlace reeds through stakes (rods), secured in screw blocks, to form parts of basket, such as woven bottom. May design baskets. May be designated according to type of basket woven as **HAMPER MAKER; MARKET - BASKET MAKER;** or according to material used as **RATTAN WORKER; WILLOW WORKER.**

7424.35 Mat Weaver, Bamboo makes mats of seasoned and coloured bamboo strips according to pattern or design. Soaks pre-cut bamboo stakes in water to soften and bleach them; removes stakes from bath when soft, cuts and removes splints and splits them into strips of desired size and thickness; dresses bamboo strips to remove sharpness; colours strips according to desired pattern and weaves them into mat, cutting off and concealing or weaving together loose ends to finish edges; weaves thicker strips and ornamental borders on edge or end of mat. May make own designs. May weave window and door screens. May make fans, fruit baskets etc.

7424.40 Mat Weaver, Grass and Leaves makes mat from palm, coconut tree leaves and grass materials. Removes central rib from leaves; dries leaves in sun to remove extra moisture; cuts and dresses leaves to desired size; inter-weaves dressed leaves to form mat

NATIONAL CLASSIFICATION OF OCCUPATIONS

of required size and design, cutting off and concealing or weaving together loose ends to finish edges. May stitch them with twine for strength and durability.

7424.45 Broom Maker fastens material such as palm leaves, coconut leaf ribs, broom - grass or bamboo wickers together or to broom handles with rope or wire to form brooms. Selects and sorts material according to length and quality of broom to be made; examines and removes stems which are short, broken or do not otherwise meet standards; arranges and fastens material together or around end of wooden handle by winding and stappling wire, rope, leather or metal strips; trims broom material to uniform length. May be designated according to type of broom made or material used.

7424.50 Chick Maker makes reed or bamboo chicks by sizing and dressing reeds or bamboo wickers and fastening together by twine. Collects material, cuts and sizes them into thin strips according to design; assembles and fastens strips together with thin rope or twine to form into mat of desired size; trims edges and fixes cloth piping on four sides. May stitch coloured cloth over chicks.

7424.55 Khas Tatti Maker makes Khas Tatties; (screens made with khas) a type of aromatic grass roots used for keeping room cool from summer heat when cold water is sprinkled on them. Collects dry khas roots; prepares bamboo frames of required size; spreads layers of khas roots to make bed of required thickness and fastens it into bamboo frame with bamboo splinters to support on both sides and binds them with thin rope or sutli; trims edges to complete screen.

7424.60 Brush Material Preparer prepares hog bristles and other brush filling materials, such as horsehair, nylon and vegetable fibres for use in brushes. Aligns bristles to ensure that flagged ends are together and discards defective ones. Ties bundle of bristles to prevent bending and places it on rack. Lowers rack of bundles into vat of boiling water to remove natural curl of bristle. Removes rack after specified time and places it on dolly or in oven to dry. Places bundle of bristles in carton and labels carton according to length, origin, grade and colour of

contents. Prepares other brush-filling materials by straightening, combing, cutting and tying them according to type of material and intended use. Holds bundle of material against grinding wheel to flag ends to trim butt ends, and to polish material. Selects filling material according to formula and lays it on work bench in prescribed manner prior to processing by mixing machine. May sterilise bristles and pack material in carton.

7424.65 Brush Maker, Hand selects and prepares brush materials, such as bristles, fibre, nylon or wire, and sets them in brush handle or base. Grades and mixes filling material according to type of brush made and cleans and otherwise prepares it; sorts and arranges material in tufts; inserts them in prepared holes and secures them with glue, cement, pitch or wire; trims brush material to uniform length. May be designated according to type of brush made or material used.

7424.90 Basketry Weavers, Brush Makers and Related Workers, Other include all other workers who make wicker furniture, brushes and brooms and weave baskets not elsewhere classified.

743 TEXTILE, GARMENT AND RELATED TRADES WORKERS

Textile, garment and related trades workers prepare natural textile fibres, threads and yarns, and make fabrics by weaving, knitting and other means, make and repair garments and other textile and fur articles, or they upholster furniture.

7431 FIBRE PREPARERS

Fibre preparers prepare wool, cotton, flax, jute, hemp and other natural textile fibres for spinning and winding.

7431.10 Bale Breaker Tenter, Cotton; Bale Opener, Cotton; Lattice Feeder, Cotton tends bale breaking machine for opening and mixing cotton of various grades and partially cleaning it. Presses switch to start bale breaking machine. Pulls out and collects armful of cotton layers from stack and spreads it on creeper lattice of machine for breaking and uniform mixing. Ensures regular feeding of cotton into lattice in prescribed proportion; Stops machine if jammed with cotton. Removes surplus cotton

NATIONAL CLASSIFICATION OF OCCUPATIONS

and regulates feed to avoid further jamming. Restarts machine and watches operation of cleaning by beater and exit of cotton through delivery cage under guidance of Mistry. Cleans waste, trash and dust periodically from dust chamber. Removes wastes cotton from machine and cleans machine. May perform any other miscellaneous work in blow room.

7431.12 Batching Mistry, Wool; Batching Jamadar, Wool; Batching Supervisor, Wool checks bags of wool received from godown to ensure correct quality, colour and weight of wool to be mixed and supervises batching work. Receives bags of wool from stores and checks them for correct specifications. Allots bags of wool to Batchingman and directs him to spread wool of different quality, colour and weight in layers one upon another in required proportion to be mixed. Supervises mixing of wool by Batchingman and checks formation of batch to ensure that wool of correct quality, colour and weight is used. Maintains record of quantity and quality of wool received from store and batches formed. Controls and supervises work of Batchingman and Teaserman.

7431.14 Wool Sorters; Wool Picker sorts and grades wool according to length, colour and quality of wool judging by touch and sight. Picks fleece and wool and breaks them by hand into pieces. Separates them into heap according to colour, quality, etc. Picks out foreign matter such as sticks, knots etc. May use knife for cutting out sewn edges of old garments and removing unwanted portion.

7431.16 Selector, Jute opens bales of jute and sorts, grades and classifies contents according to colour, softness, strength and texture. Receives bales of jute from godwon and cuts ropes of bales with knife to open them. Spreads jute on floor manually, picks up samples to examine softness, strength, texture and colour of fibres by touch and sight and places different grades of jute separately for classification. Prepares jute by twisting ends of form Morahes (twisted jute) for stacking. May cut long and hard roots with knife. May carry jute to **Softener Feeder** for processing.

7431.18 Grader, Coir sorts coir yarn according to grade. Examines thickness and colour hanks of coir yarn and separates them into lots accordingly.

7431.20 Porcupine Tenter, Cotton; Hopper Feeder Tenter, Cotton tends porcupine machine which opens and clean cotton. Lifts armful of cotton from open stack and spreads on feeder lattice of machine. Stops machine when jammed, takes out surplus cotton and restarts machine. May clean and oil machine.

7431.22 Waste Machineman (Cotton Textile) tends machine for cleaning cotton waste for re-use by beating and pulling it apart. Lifts waste roving, yarn or other matted cotton and spreads it on feeder apron or lattice of waste machine. Takes out by hand surplus cotton from machine when machine becomes jammed. Stores cleaned cotton in gunny bags. Cleans and oils machine. Is designated as **WILLOW TENTER; ROVING WASTE OPENER; THREAD EXTRACTOR MAN; BONDA MACHINEMAN**; etc. according to type of machine on which worked.

7431.24 Teaserman, Wool ; Teasing Machine man ,Wool tends teaser machine for mixing wool of different qualities and shades . Operates lever to start teaser machine. Picks up wool by hand from stack uniformly from top to bottom, spreads it on floor to mix with emulsion and then passes it on feeder lattice of teaser machine . Receives softened wool at delivery end and packs it in bags. Removes surplus wool when machine gets choked. Cleans machine.

7431.26 Scouring Mistry, Wool; Scouring Jamadar, Wool; Scouring Jobber, Wool supervises work of Scouring man, Wool and Drying Machine man, Wool. Prepares chemical solution or instructs scouring man in preparing it. Adjusts scouring and drying machines and does running repairs.

7431.28 Scouringman, Wool; Scouring Machineman, Wool; Scourer, Wool tends scouring machine for washing raw wool in chemical solution to prepare it for dyeing and carding. Receives instructions from Scouring Mistry and prepares chemical solution by mixing soda, soap and other scouring agents in proper proportion in hot water tank. Pours it into bowls of machine. Operates scouring

NATIONAL CLASSIFICATION OF OCCUPATIONS

machine and uniformly spreads wool by hand on feeder hopper of machine to obtain even flow of wool at delivery end. Regulates flow of wool from one bowl to another. Collects clean wool at delivery end and feeds wool on lattice of drying machine. Regulates flow of feeds and removes wool from drying rollers. Cleans machine and bowls periodically.

7431.30 Cooker (Silkworm) boils cocoons to kill pupa inside cocoon and trace end of silk filament for reeling silk. Fills tube containing water with cocoons and lets in steam to heat it. Allows cocoons to remain in boiling water for specified period. Ensures that all pupa inside cocoon are killed and water is kept at prescribed temperature. Stirs cocoons and boiling water with wooden stick to which they get attached. Collects in laddle cocoons whose filaments are drawn out. Delivers such cocoons at reeling section for Reeler to draw silk. May reel silk over reeling machine.

7431.32 Softener Feeder and Receiver Jute tends softener machine for moistening and softening jute. Starts softening machine, picks up handful of jute (moral) or jute cuttings placed near feed-end of machine and places it evenly upon travelling apron or lattice of softening machine. Ensures that jute is uniformly and continuously fed. Stops machine when choked and removes surplus jute to clear choking. Receives softened stricks or portion of jute while working at receiving end, and gives twist to stricks lunch of handled jute. Ties them up and places them on barrow or semi-cylindrical containers for removal for further processing. Watches steady flow of emulsion through valve to ensure required quantum of moisture for processing as directed. Cleans and oils machine and reports defects in machine for rectification. May bring sorted jute from bins and stack it near feed-end of machine.

7431.34 Root Cutter, Jute cuts hard and surplus roots of jute by knife. Carries softened jute from file to root cutting knife. Picks up handful of softened jute and arranges hard and surplus jute ends evenly. Places root ends over knife at Breaker dollop table, clips them off and carries root cuttings to weighing scale. Ensures that usable jute is not cut and wasted. May carry jute to softening machine. Is designated as

CHOPPER, JUTE if engaged in chopping off hard root ends of special quality jute by heavy knife and combing large morah (twisted jute) prior to selection by Selector, Jute.

7431.40 Teaser (Feeder and Receiver), Jute tends teasing machine which breaks up matted jute fibre and remove dust and foreign matter. Starts teaser machine. Picks up handful of waste jute, cuttings, hard roots, thread waste, ropes, etc. placed near feed end and spreads them evenly on lattice of machine. Ensures continuous feeding to obtain regular flow of teased and cleaned jute and delivery end. Stops machine when jammed and removes surplus jute to clear obstruction. Reports defect if any for rectification. Receives teased and cleaned jute at delivery end. May carry teased material to breaker feeding line. May also oil and clean machine.

7431.42 Fibre Preparer Coir prepares fibre from coconut husks. Dumps coconut husks in convenient place in lake, covers them completely on top with strong net or palm leaves and places stones over dump to sink coconut husks under water. Keeps dump under water for specified period. Removes husks(now called retted husk) from water to open space to drain off water. Holds one small piece of retted husk on wooden block with one hand and beats it with iron or wooden rod with other to release fibres from husk. Pulls out outer cover of husk by hand. Continues beating till all fibres in husk are released. Spreads fibres in sun for drying. Collects dried fibre in one place, beats them with long thin stick; removes remnant of pith; if any and loosens and softens fibre. May spin coir yarn from fibre by hand or hand spinning wheel (charkha).

7431.44 Fibre Preparer, Grass; prepares fibres from hemp. Grass, etc. for making ropes, cords and like materials. Collects hemp, grass, etc. and cuts off ends and unnecessary portions using knife. Submerges them in standing water to allow them to decay for specified period. Takes them out and washes off decayed matter in running water. Extracts fibres and dries them in sun. may manually make ropes, cords, etc. with dried fibres.

7431.46 Carder, Cotton, Hand; Teaser, Cotton, Hand breaks and cleans cotton by hand using bow string and mallet. Receives

NATIONAL CLASSIFICATION OF OCCUPATIONS

cotton from customers or godown for breaking into fluff. Spreads cotton on clean floor generally in closed place. Suspends bow with cord over cotton so that bow string touches cotton. Holds bow with one hand and strikes mallet on bow-string with other ensuring that cotton gets wrapped on string and is broken into fluff by tension and vibration created in string. Manipulates bow to reach cotton at different places. Removes cotton stuck to bow string with hand. Replaces string if broken. May supply cotton to customers on payment. May also stuff pillows, cushions, quilts, etc. when engaged in such work.

7431.48 Finisher Scutcher Tenter; Scutcher Tenter; Breaker Scutcherman; Inter-Scutcherman; Finisher Attendant (Cotton Textile) tends scutcher machine for opening and cleaning cotton and transferring it into lap (roll of cotton sheet of prescribed yardage). Fixes lap spindle on machine at delivery end. Adjusts rack (cover, lever, etc.), pulls layer of cotton by hand from feed- end of machine and sets it under roller for rolling. Moves wheel by hand to uncover roller. Starts machine for opening, cleaning and rolling of cotton and ensures continuous flow of cotton through automatic control feed. Fixes roving bobbins (filled bobbins) on machine and observes process of binding each layer of lap with cotton yarn. Inserts iron rod into spindle when lap is near completion to facilitate removal of cotton lap. Stops machine when prescribed yardage is rolled. Doffs (removes) lap from machine. Carries lap to weighing machine and weighs lap to check that it conforms to prescribed weights. Discards lap if does not conform to prescribed weight for reprocessing. Removes waste cotton and cleans machine. May adjust machine. May prepare preliminary lap on breaker scutcher machine and conduct finishing of lap by transferring preliminary lap into finishing scutcher.

7431.50 Cardtenter, Cotton; Liner; Can Carrier; Can Minder; Can Boy (Cotton Textile) tends carding machine which cleans and transforms lap of cotton into sliver (rope like untwisted strand). Fixes and adjusts laps of cotton on brackets at back of machine for carding. Places end of lap (roll of cotton sheet) between feed roll and feed plate. Places empty cans in front machine to receive

sliver. Starts and cleans machine after stripping (removing of short fibres) of cylinder and doffer done by Card Strippers. Collects web (thin fibres formed of matted fibres), ensuing from doffer, threads it through calender rolls and pieces (joins) with sliver in can. Ensures regular feeding of cotton into machine and attends to breaks in web and sliver front (delivery end). Replaces filled cans with empty ones. Removes filled cans to draw-frame section and fetches empty ones. Locates operational defects in machine, and sets them right. Reports major defects to Jobber for rectification. Cleans and oils machine.

7431.52 Set Framer, Silk operates set frame machine to make silk into sliver. Switches on set frame to move comb up and down which carries fibres through it. Feeds silk laps one after another. Pieces broken ends with hand to keep continuous flow. Condenses fibres coming out through trumpet (part of machine) into one sliver. Oils and cleans machine.

7431.54 Sliver-Lap-Man; (Cotton Textile) tends sliver lap-machine to convert several slivers into single lap for feeding ribbon lap or combing machine. Collects and arranges sliver cans at feed end of sliver-lap-machine. Pulls out ends of slivers and feeds them on to rollers through guides by hand. Starts machine, watches sliver ends running through machine and joins broken ends. Maintains continuous flow of sliver by regular feed avoiding jamming. Stops machine when jammed and draws out surplus sliver to clear jamming. Moves wheel with hand to remove lap cover. Pulls out spindle wheel to facilitate removal of lap at delivery end. Removes lap from delivery disc and places it on creel and refixes bobbin, cover, etc. Starts machine to transform lap. Cleans machine and removes sliver dropping. Locates operational defects on machine and removes them. May carry lap to **Ribbon-Lap-Man** or **Comber** and bring back empty spools. May tend ribbon-lap-machine.

7431.56 Ribbon-Lap-Man tends ribbon-lap-machine to convert number of sliver laps into single ribbon-like lap for feeding combing machine. Receives sliver laps from Sliver-Lap-man and places and adjusts them on ribbon lap machine. Pulls out lap ends by hand and feeds them through draw rolls over guide plates and then through calender rolls. Starts machine. Watches running of sliver ends through ribbon

NATIONAL CLASSIFICATION OF OCCUPATIONS

plates and ensures smooth running of machine to avoid jamming. Keeps up regular feed of sliver laps into machine, picks broken ends of sliver and joins them after stopping machine. Stops machine and pulls out surplus material by hand to clear jamming as necessary. Moves wheel by hand to remove lap cover and pulls out spindle wheel to facilitate removal of lap at delivery end. Removes lap from delivery disc and places it on creel of comber. Refixes bobbin, shuts lap cover, etc., and starts machine to continue processing. Cleans machine and removes sliver dropping. May carry lap to combing machine and bring empty spools. May tend sliver-lap machine. May locate operational defects and rectify them.

7431.60 Condenser Minder; Condenserman; Condenser Tenter (Woollen Textile) tends condenser machine for cleaning and transforming wool into slubbing (loosely twisted strands). Fixes empty bobbins on machine. Starts machine which cleans and divides carded sliver into narrow divisions and rubs sliver on leather roll for shaping it into firm and round wool rovings, threads, slubbings, etc. Sets condenser tape and arranges its repair when broken. Loops slubbing ends or wool rovings coming out of machine rollers round empty bobbins. Locates and joins broken ends and replaces filled condenser bobbins with empty ones. Observes operation of machine to ensure regular flow of sliver and removes wool waste from machine to avoid jamming. Cleans and oils machine.

7431.62 Card Feeder; Hopper Feeder; Carder (Woollen Textile) tends carding machine for opening wool. Starts machine and draws wool by hand from wool box. Weighs wool on scale attached to frame of machine. Breaks open knotted wool with hand and spreads fixed quantity of wool evenly on feeder lattice between marked portions to ensure that rolls of uniform weight are delivered by machine after carding. Maintains regular feed of wool and watches operations to ensure proper processing. Avoids jamming by adjusting feed and removing surplus wool. Removes waste from machine and oils and cleans it.

7431.64 Punch-Box-Man; Punch-Ball Maker Wool; Punch-Box Minder (Woollen

Textile) tends punch-box-machine for making balls of sliver for combing. Arranges cans of sliver at feed end of machine. Draws ends of wool from each can. Passes ends together through guide to press rollers. Collects and wraps wool on spindle roller. Operates presser lever and starts machine to make punch balls of sliver of required yardage for combing fibres. Breaks wool between spindle and can by hand when machine stops automatically on formation of punch balls of required yardage. Removes punch ball.

7431.66 Comb Minder; Comber (Woollen Textile) tends combing machine for combing wool to remove foreign matter and to separate short fibres from long fibres required for worsted yarn. Places balls of sliver on creel of machine. Passes ends of sliver from balls through guides and places ends on comb circle. Starts machine and threads sliver, coming out of drawing rollers, through funnel into can at delivery end. Joins broken ends and places new balls on creel of machine when necessary. Replaces full cans with empty ones at delivery end. Removes noil (short fibres of wool separated from longer fibres by combing) from underneath machine. Oils and cleans machine.

7431.68 Gill-Box-Man; Gill-Box Minder (Woollen Textile) tends gill-box machine for placing wool fibres in line and blending several slivers of wool into one sliver of uniform thickness. Places cans or balls of sliver in positions on floor at feed end of machine. Takes ends of sliver from each can or ball, passes them through back roller, and squeezes them through gathering eye to front roller. Starts machine. Passes end of sliver combing out at delivery end through guide into receiving can or loops it around spindle or empty bobbin. Watches processing from feed to delivery end. Joins broken ends as and when necessary. Fixes new balls to replace exhausted balls at feed end to ensure regular feed. Removes fibres from leather sheet after sopping machine when jammed. Collects processed sliver and removes filled cans, wound balls or full bobbins at delivery end. Removes waste from machine and leather sheet. Cleans machine. May operate finishing gill-box-machine on which sliver balls are fixed at creel and bobbin at delivery end.

7431.70 Spreader Feeder, Jute tends goods jute spreader machine to spread, smoothen and

NATIONAL CLASSIFICATION OF OCCUPATIONS

transform jute into sliver. Starts machine and feeds jute by hand to lattice feeder of machine to carry hard jute through rollers, fast chain, slow chain, etc. for softening and transforming jute into sliver. Spreads jute by hand, uniformly on lattice. Watches indicator to check weight for regulating feed. Switches off machine when jammed and pulls out surplus or jammed jute by hand to clear jamming. Cleans and oils machine. May work on jute softener machine.

7431.71 Spreader Receiver, Jute removes balls of jute sliver from delivery end of goods jute spreader machine and carries them to Breaker Feeder. Guides flow of jute by hand into emerson tray. Sprays emulsion (emerson solution) through pipe to moisten jute. Observes emerson watch reading and regulates feed of solution according to requirement. Watches formation of sliver lap into rolls by automatic roll former. Avoids jamming at delivery end. Removes sliver roll from automatic roll stand and carries it to feed end of breaker feeder machine for further processing. Cleans delivery end of spreader. May tend spreader feeder machine.

7431.72 Breaker Feeder, Jute tends breaker machine for cleaning jute and transforming it into sliver. Starts machine. Picks up jute from boxes at feed end of breaker to feed it on lattice placing root ends of jute fibres on top of feed cloth. Opens with hand knotted bundles of jute and spreads jute evenly on lattice. Observes weight indicator to regulate and ensure continuous feeding of jute. Stops machine when jammed and pulls out surplus jute to clear jamming. Removes waste jute and cleans machine.

7431.73 Breaker Receiver and Finisher Feeder, Jute collects sliver coming out from breaker in cans at delivery end of machine for feeding finisher machine. Places required number of empty cans at delivery end of breaker machine for collecting sliver. Adjusts flow of sliver coming out from breaker into can. Replaces filled cans with empties. Carries cans to finisher machine for further processing. Removes waste from machine and cleans it. May feed sliver in finisher machine. May tend breaker and finisher machines.

7431.75 Finisher Feeder, Jute tends finisher machine which tears and sets jute fibres parallel. Places sliver cans at feed end or fixes rolls of one quality of jute on machine. Starts finisher machine. Pulls out sliver ends for feeding into feed rolls, adjusts sliver into guides and watches proper running of sliver through machine. Maintains and regulates flow of feed. Detects and joins broken ends. Stops machine when jammed and takes out jammed sliver by hand. Removes waste sliver and cleans machine.

7431.90 Fibre Preparation Operatives perform variety of routine and low skilled tasks in connection with ginning, cleaning, scouring, carding etc., for preparation of cotton, wool, silk, jute, coir or other fibres and are designated according to nature of work performed such as:

Batchingman, Wool; Batcher, Wool;

Blender, Wool mixes and stacks wool by spreading layers of different qualities or shades on top of each other according to instructions from batching **Mistry, Wool;**

Drying Machineman, Wool gathers wool received at delivery end of wool drying machine and fills wool in bags;

Cross Feed Minder, Wool looks after cross feed of scribbled material to carding machine ensuring its regular flow;

Mixing Attendant mixes and stacks cotton, wool, etc., of different grades;

Lap Carrier; Lapman carries laps of cotton from blow room to carding machine and places laps on brackets at back of carding machines. May also lead ends of laps into feed rolls of carding machine;

Fly Gatherer, Cotton; Flyman, cotton removes cotton waste and lint from floor and gutter and collects it in bags;

Hopper Feeder feeds wool or cotton by hand, to hopper of breaker-picker machine;

Waste Picker Wool picks and separates, by hand, different kinds of wool waste such as hard waste, soft waste, sweepings, etc;

NATIONAL CLASSIFICATION OF OCCUPATIONS

Shoddy Cleaner removes wool waste dropping on floor from wool carding machine and collects it in bags;

Wool Carrier carries wool from stacks in hand carts for supply to bins near card machines, etc.

7432 WEAVERS, KNITTERS AND RELATED WORKERS

Weavers, knitters and related workers spin and wind yarn by hand, weave materials on hand looms, make carpets by using a knotting technique, knit garment fabrics by hand or hand operated machine or perform similar manufacturing tasks by hand or hand operated machine.

7432.10 Drawingman; Drawer; Reducer (Woollen Textile) tends drawing frame for drawing wool sliver into yarn. Fixes empty bobbins on spindles. Arranges sliver cans at feed end of drawing frame. Draws sliver from can and passes them through guides, rollers and gill-box and loops them around bobbins on spindle. Starts drawing frame. Detects broken ends, stops machine and pieces (joins) them by hand. Ensures continuous flow of sliver. Removes jamming when necessary by stopping machine and withdrawing surplus wool. Replaces filled bobbins with empty ones. Removes waste wool from machine and work area. May clean and oil machine.

7432.12 Doffer, Fly Frame: Doffer Boy (Textile) replaces bobbins filled at slubbing, inter or roving frames with empty bobbins. Brings empty bobbins and keeps them in between spindles. Removes filled bobbins from spindles and places empties instead. Loops ends of rovings around empty bobbins for winding. Cleans frames.

7432.20 Hand Spinner,(Cotton and Woollen Textile) spins yarn from cotton or wool using 'charkha' (spinning wheel). Loops small length of yarn around spindle of charkha, holds end of yarn length along with sliver of cotton or wool in left hand, turns spinning wheel by right hand simultaneously withdrawing left hand slowly to draw and spin yarn. Stops charkha when arm length of yarn has been drawn and spun and winds yarn on spindle. Removes cop of yarn from

spindle when it is full. May also spin yarn using 'Takli'(hand spinning spindle).

7432.22 Piecer; Ring Spinner; Ring Piecer; Sider(Cotton and Woollen Textile) tend number of spindles on ring frame for converting rovings into spun yarn. Puts bobbins filled on inter or roving machines in creel of ring machine and threads ends through guides and drafting rollers. Locates broken ends of yarn, lifts bobbin from live spindle and unreels some yarn from it, replaces bobbin on spindle, threads yarn through guide and ring traveller and joins it with other end. Replaces empty roving bobbins in creel with filled ones, joining tail end with leading end. Gets filled yarn bobbins replaced with empty ones by Doffer, Spinning. Cleans top clearers and machine.

7432.24 Mulepiecer; Mule Spinner (Cotton and Woollen Textile) tends mule spinning frame for spinning rovings or condensed sliver into yarn. Places filled roving bobbins, or condenser bobbins (a reel with about 15 to 30 ends) on creel of mule machine. Passes ends through guides and drawing rollers and loops them on spindles. Moves backward and forward with carriage of 'mule' and joins broken ends of yarn. Replaces empty bobbins with full ones. Takes off cops when spindles are full. Cleans machine.

7432.26 Spinner, Jute tends number of spindles on spinning frame for converting jute sliver received from drawing frame into yarn. Arranges sliver cans at back or spinning frame. Lowers spindles on frame and directs Doffer to fit empty bobbins on spindles. Pulls, ends of sliver on bobbins and passes them through guides and drafting rollers. Switches on spinning frame to get slivers spun and converted into yarn. Pieces (joins) broken ends and ensures regular flow of slivers from cans. Replaces filled bobbins by empty ones. Checks jamming of machine, removes surplus jute yarn, and ensures that machine and bobbins run properly. Cleans and oils machine.

7432.28 Spinner, Coir spins coir yarn from coconut fibres by using spinning wheel. Collects small quantity of fibre and puts it in lap, Loops fibre on spindle of spinning wheel. Rotates wheel by turning its handle. Walks backward with twisted fibre in hand and feeds required fibre from lap to form coir yarns.

NATIONAL CLASSIFICATION OF OCCUPATIONS

Stops rotation of wheel when yarns on both spindles reach specified length. Pieces together ends of two yarns and loops it on spindle of another spinning wheel placed opposite to first. Rotates wheels of both spinning wheels. Holds oblong wooden device with grooves in between two yarns. Moves wooden device and second spinning wheel forward to get two yarns twisted and form into one yarn. Removes ends of yarn loops on spindle of first spinning wheel and twists two ends together by hand. Makes hank of yarn by hand and keeps hank aside. May prepare coir fibre from retted coconut husk.

7432.30 Twister; Doubling Piecer; Doubling Sider; Thrower (Textile) tends twisting machine for twisting yarn to give it strength. Mounts filled bobbins, cheeses or ones on creel of machine. Places empty bobbins on spindles of machines. Threads ends of yarn from filled bobbins through guides and travellers and loops them on empty bobbins. Starts machine. Joins ends when yarn breaks. Removes bobbins when filled with twisted yarn. Is known as DOUBLER when twisting two or more strands of yarn.

7432.32 Doffer, Spinning; Doffer, Ring Frame; Gaiter; Shifter replaces filled bobbins with empty one on spindles of spinning frame. Brings and arranges sliver canes behind spinning frame. Brings empty bobbins in doffing boxes or baskets and set them in spindles of spinning frame. Watches winding of yarns on bobbins. Lifts filled bobbins from spindles and collects them in tray or baskets. Collects waste and removes them to godown. Keeps machine sides and department clean. May help Piecer in piecing broken ends of yarn and creeling and changing ring travellers. May clean bobbins. May perform miscellaneous duties as required.

7432.40 Knotter, Silk tends reeling machine to draw composite silk filament from reeling basin to wooden reel. Collects and mounts wooden reel on machine. Draws and wraps ends of silk filament on reel. Switches on machine by releasing brake to wind filament on reel. Watches operation and joins ends when filament gets broken. May do reeling and cooking of cocoons.

7432.42 Beam Gaiter; Beam Binder(Textile) prepares loom for weaving cloth. Checks that warp beam is properly mounted on brackets of loom. Sets healds, reed and dropwires into position, ties warp ends to tail ends of cloth beam and places weft bobbins in shuttles. Operates loom manually to check movements of healds, shuttle and reed and makes necessary adjustments. Hands over loom to Weaver, Power loom for operation.

7432.45 Lacer ,Hand(Textile) laces together punched cards in proper sequence to be used on jacquard ;loom for weaving cloth of different designs. Collects punched cards and arranges them in proper sequence on lacing table or stand. Cuts required length of lace. Passes lace by hand through holes made particularly for tying cards together to make design to be used on jacquard machine for weaving cloth of different patterns. Carries card chain to loom. May fix card chain on jacquard loom. May assist in handling defective jacquard.

7432.50 Lattice Pegger; Latticeman fixes pegs on lattice(wooden pattern chain) used on dobby loom for controlling fancy pattern weaving. Collects graph paper with marked draft and peg plan. Calculates number of pegs of lattice required to make out complete design. Studies peg plan to know places where warp is to be raised over weft. Inserts wooden pegs into lattice as per diagram to control pattern on cloth to be woven. Carries lattice to dobby loom. Fixes and adjusts heald and pegged lattice on loom. Repairs old, broken and defective lattice. May assist in handling dobbies. May make draft, prepare peg plan and sketch designs on graph paper. May cut and lace cards.

7432.52 Reacher,Hand(Textile) assists Drawer in drawing ends of yarn through healds and reeds. Picks up correct ends of yarn and lays them over drawing hook to be pulled by Drawer. Cleans healds and reeds.

7432.53 Comber-Boardman (Textile) draws heald cords by hand through holes of comber board(small wooden board with holes) used on loom for pattern weaving. Obtains pattern of cloth to be woven, respective graph conforming to pattern, heald cords and comber board. Draws heald cords through comber board by hand to weave given pattern. May set and

NATIONAL CLASSIFICATION OF OCCUPATIONS

adjust comber board on loom. May replace broken or worn out heald cord.

7432.55 Weaver Powerloom operates and tends powerloom to weave cloth, checks that shuttles are in position and supplied with full weft bobbins, no wrap yarn is broken and that set-up is ready. Starts loom. Watches looms under his charge for defects in weaving. Locates broken ends of warp yarn, ties short length of yarn to broken end from warp beam, draws end through drop wire, healds and reeds using reed hook, ties it to other end with a weaver's knot, and starts loom again. Stops loom to remove defects caused by mispicks. Cuts and pulls out filling of weft yarn up to point of defect, adjusts and starts loom. Replaces empty bobbin in shuttles. Cuts cloth when cloth roll becomes full.

7432.56 Ribbon Weaver; Tape Weaver; Ribbon Loom and Auxiliary Machine Operator operates ribbon loom on which a number of ribbons or tapes are woven at a time performing duties similar to Weaver Powerloom except that there are many more shuttles to be kept filled. May also wind yarn on ribbon beams and pirns.

7432.57 Smash Hand; Smash Picker; Smash Drawer joining warp ends on loom when large number of them are broken at one time due to trapping of shuttle etc. Ties piece of yarn to each broken warp end, draws end through heald and reed and places ends on feel cloth (edge of cloth in loom). Operates loom slowly ensuring that all ends are taken up firmly and weaves a small length. Cuts protruding threads and hands over loom to weaver.

7432.58 Weaver Handloom weaves cloth from yarn on handloom. Mounts warp beam on loom. Sets heald frame in position. Draws ends of warp yarn from beam through comb and fastens them together to cloth winding roll. Places full bobbins of weft yarn in shuttle. Operates loom by pressing and relieving two foot levers alternately to raise and lower heald, simultaneously pulling string with jerk with one hand so as to throw shuttle across warp yarn from side to side and by moving comb forward and backward with other hand to properly fill weft yarn. Draws broken ends of yarn through heald and comb and knots them. Replaces empty bobbins in

shuttles. Removes cloth from roll when required length has been woven. May size and dye yarn, wind yarn on bobbins or beam and draw ends of yarn from warp beam through healds preparatory to weaving.

7432.59 Carpet Weaver, Hand Knotting weaves woollen or cotton carpets and druggets on handloom. Studies design and colour combination from chart. Determines number of knots involved in pattern by counting graphical squares as instructed. Counts and determines number and length of warp strands required in single colour weaving of particular size of carpet. Prepares cotton yarn for warp by processes of bleaching, dyeing as required. Wind by hand requisite number of cotton strands on warp beam according to quality and number of stitches required. Draws ends from warp-beam and ties them to carpet beam. Collects woollen yarn and winds it by hand into balls. Hands woollen balls from roof near loom to facilitate pulling and weaving of yarn. Sets and adjusts loom. Determines number of weavers required according to size of carpet. Passes and draws weft yarn through alternate warp strands by hand to weave fringe of carpet. Ties knots of woollen yarn on each strand of warp. Cuts yarn after each knot at fixed length to maintain required thickness. Moves heald (part of loom mechanism) through control string for interlacement of warp; Passes and adds two layers of thread or jute yarn through warp sheds for holding woollen knots or pile; presses knots and weft filling by hand work to ensure even stiffness. Trims off extra fibre at intervals using hand shears.

7432.60 Carpet Clipper, Hand; Carpet Trimmer, Hand clips extra fibers from upper side of carpet to give it smooth finish. Spreads carpet on even surface and rubs and scraps surface with scraper or metal comb to align and raise fibres. Clips excess fibres with and shears. May mend and repair carpets.

7432.61 Carpet Embosser; Carpet Carver trims edges of floral designs or patterns on carpet to give raised appearance. Spreads carpet on even surface. On floral design cuts wool with hand scissors to give raised appearance to design. Chalks around or stencils outline of designs on carpet and creates embossed effect by clipping wool either wholly under or wholly outside design. May prepare designs.

NATIONAL CLASSIFICATION OF OCCUPATIONS

7432.62 Carpet Repairer repairs and gives final finish to carpets and rugs. Stretches carpet on flat surface. Rubs red or coloured chalk on separate string. Sets it straight against edge of stretched carpet. Strikes coloured string over edge of carpet to mark straight line. Cuts marked edges, using knife, to bring carpet to required measurement. Binds and trims cut edges using needle and thread. Checks front and back of carpet for gaps in knots and badly woven parts, and corrects any defects by stitching loose knots and repairing cuts and damaged portions. May apply stiffening solution to back of loosely woven carpet.

7432.63 Coir Weaver (Matting) weaves coir matting on handloom. Mounts wrap beam on loom. Sets heald frame in position. Draws ends of warp yarn from beam through healds and reeds (beater) and fasten ends to mat winding roll. Places quill of required colour into shuttle. Presses and relieves levers alternately to raise and lower heald according to weaving design, operates shuttle from end to end to weave matting. Moves beater forward and backwards forcibly by hands to fill weft yarn. Passes wooden rod between weft and beater and moves beater forward and backward again to fill weft. Removes rod and repeats operation using quills of specified colour according to pattern of matting required. Draws broken ends of yarn through heald and reed and knots them. Cuts fibres projecting upwards with shears according to thickness of mat required. Rolls matting on mat winding roll by pressing lever. Removes matting from roll when required length is woven. May do bleaching and dyeing of coir.

7432.70 Net Maker, Hand makes nets and meshes by weaving twine and thread with netting needle or shuttle. Selects design of netting and kind of twine or thread required. Plaits (interweaves) and knots twine or thread with netting needle or shuttle to prepare selected patterns. Waxes twine while weaving to smoothen and strengthen it. Trims excess twine or thread.

7432.72 Crochet Worker Hand; Crocheter, Hand; Lace Maker, Hand knits lace, trimmings, etc. with hand crocheting hook or needle. Selects pattern of lace or trimmings to be prepared and studies it for size and

number of stitches to be made. Selects suitable colour and quality of thread and required type of crocheting needle. Rolls thread into balls for convenience of knitting. Threads hand crocheting needle and moves it around thread for making loops and knots to knit desired pattern. Checks work while knitting to ensure conformity with pattern and smoothen out knitted article on finish. May operate crocheting machine.

7432.74 Knitter, Hand knits sweaters, dresses, socks and other articles by hand with woollen yarn according to specified pattern. Decides shade, number and type of woollen yarn to be used and selects pair of knitting needles accordingly. Measures sample or determines size of article to be knitted and knits it by making loops and picks with knitting needles, according to specified or selected pattern. Knits article part by part and finishes it by sewing them together and pressing. May use single flexible wire needle or more than two needles for knitting specific items according to pattern of knitting desired. May knit articles with cotton or silk yarns.

7432.76 Braid Maker, Hand makes braid by hand. Interlaces and entwines strands of wool, silk, linen or thread to make ribbon-like or cord-like fabrics for binding or for ornamental purposes.

7432.90 Weavers, Knitters, & Related Workers, Other include all other workers engaged in knitting articles by hand or machine, not elsewhere classified.

7433 TAILORS, DRESS MAKERS AND HATTERS

Tailors, dress makers and hatters make suits, dresses and other garments from textile fabrics, leather or any other material except fur, carry out alterations and repairs, or make hats, or participate in the manufacture of ready-to-wear garments.

7433.05 Supervisor and Foreman, Tailoring and Dress Making supervises and guides workers engaged in production of readymade garments and ensures standard fittings and finish at reasonable cost. Guides workers in making patterns for cutting, adjusting electrical and special purpose sewing machines, setting, joining and sewing parts, button matching, etc.,

NATIONAL CLASSIFICATION OF OCCUPATIONS

and ensures standard fittings and finish. Checks work, and directs or makes alterations where necessary and keeps machines and equipment in working order. Maintains production register and delivers goods against receipts. May copy or develop new designs to boost sale. May train new entrants. May be designated according to section or work supervised. (Excluded are Garment Designers and Cutters described elsewhere).

7433.10 Tailor, General makes ladies and gents' garments and children's clothes by stitching various components together according to pattern, by hand or sewing machine. Measures customers for size with inch-tape and record measurements for making garments. Cuts material according to pattern and size and assembles garment parts by sewing. Fits stitched garment on customer, marks alterations to be made and finishes garments. May prepare new designs and Masden Lays and supervise sewing, stitching, button holing, etc. delegated to other workers. May also repair and renovate garments.

7433.15 Dress Maker stitches together parts of women's garments such as dresses, blouses, jumpers, brassieres, etc., according to instructions of Master Cutter. Stitches together parts by hand and machine. Inserts inner material, makes embroidery work, button-holes, etc., and attaches lining, lace, button, etc. Carries out alteration as directed. May press garments and supervise work of Sewer, Hand.

7433.20 Coat Maker stitches together, by hand and machine, parts of coat, shervani and other body garments according to instructions of Master Cutter. Joins parts together by basting ensuring that they are properly aligned. Stitches them together by hand and machine. Inserts inner material and attaches lining as required. Carries out alteration according to markings. Makes button-holes, stitches buttons and performs other finishing tasks. May press garment and supervise basting, filling, button holding, button stitching, etc., by Sewer, Hand.

7433.25 Trousler Maker: Pant Maker stitches together by hand and machine parts of trousers, breeches and other leg wear according to instructions of Master Cutter.

Joins parts together by basting, ensuring that they are properly aligned. Stitches them together by hand and machine. Inserts inner material and attaches lining as required. Carries out alterations according to markings. Makes buttonholes, stitches buttons and performs other finishing tasks, or supervises performance of these tasks by Sewer, Hand.

7433.30 Shirt Maker stitches together parts of shirts, under vests, pyjamas etc., according to instructions of Master Cutter. Stitches collars and cuffs. Makes button holes stitches buttons and performs other finishing tasks. May press garments and supervise work of Sewer, Hand.

7433.35 Milliner makes women's and children's hats. Prepares own or copies existing designs. Marks and cuts materials such as felt, silk cloth, fur or straw, according to pattern or own judgement. Adds trimmings and decorations such as ribbons or feathers. Smoothens, wires and shapes hat parts and sews them together. May make and alter hats to individuals requirements.

7433.40 Hat Maker, General makes various kinds of hats by marking, cutting, sewing and joining components and finishing them by trimming and decorating. Prepares own design or copies and adapts existing designs. Marks and cuts material according to pattern or own judgement. Smooths, wires and shapes hat parts and sews them together. Adds trimmings and decorates hat as required. May make and alter hats to individual requirements.

7433.45 Pith Hat Maker assembles pith hat by cutting and joining components and adding trim and decoration. Cuts edges of pith block for contour using sharp hand knife and scissors. Rubs surface with sand to secure smooth finish. Cuts cloth of required size and shape. Stitches cut pieces of cloth to make surface cover for pith hat block. Fits stitched cloth cover on pith block. Fixes circular wire or panama leaves with mid rib covered with cloth and rexin strip for crown band of required size. Stitches celluloid lining inside hat to protect pith from grease and perspiration. Fixes leather or cloth chin-strap as necessary. Irons surface to provide good finish and shine. Fixes eyelets at side of hat for air circulation. May fix celluloid piece over front rim of hat to prevent soiling while handling.

NATIONAL CLASSIFICATION OF OCCUPATIONS

7433.50 Cap Maker makes various kinds of caps from cloth, felt, fur, velvet and other fabric by marking, cutting, joining and sewing and finishing them by trimming and decorating.

7433.60 Wig Maker makes wigs according to specifications, fastening strands of hair to cloth base. Studies requirements; cuts paper pattern to shape and size according to customer's measurements; fits and pleats pattern on to head block and fixes pleats with silk tapes; cuts silk and silk gauze to shape, fits over paper pattern and sews to silk tapes; trims and binds edges; selects hair to suit requirement and knots them to wig mount on head block by inserting hook-pointed needle in gauze to catch, twist and pull hair through; makes partings, combs and oils wig, curls hair by water-waving or with paper spills; places wig (on head block) in open for drying and setting. For theatrical wigs, makes stock size mounts which can be adjusted as required to suit wearer. May prepare and dress wigs for dolls.

7433.90 Tailors and Dress Makers, Other include all other tailors, dress and garment makers such as those making ladies and gents' underclothing; altering, renovating and repairing garments in retail establishments etc., not elsewhere classified.

7434 FURRIERS AND RELATED WORKERS

Furriers and related workers make, alter, repair and restyle garments and other articles made of fur, or participate in the manufacture of ready-to wear fur garments.

7434.10 Tailor, Fur performs all or several of more difficult tasks in manufacture, alteration, renovation and repair of garments and other articles of fur. Prepares patterns for cutting out and finishing fur articles. Grades, matches, sorts and prepares furs to be used. Cuts fur according to pattern. Sewes pieces together, usually by machine. Stretches and trims sewn parts to conform to pattern. Finishes article by machine and hand sewing. Presses, repairs, alters and renovates fur articles. Estimates cost of new articles and of alteration, renovation and repair of used articles and charges customer accordingly.

May work as paid employee or on own account.

7434.20 Pattern Maker, Fur prepares patterns and full-size canvas models of garments and other articles of fur to guide Cutters and Finishers. Draws pattern on paper in accordance with garment design or customer's measurements. Makes canvas model of garment according to pattern. Checks patterns and model for accuracy and makes necessary alterations. Passes them to garment Cutters or Finishers. Examines completed garment for defects. Cuts patterns for fur trimmings, accessories and other fur articles and for alteration of fur articles. May cut patterns for fancy leather goods.

7434.30 Grader and Matcher, Fur examines furs and sorts them prior to cutting and making up into garments or other articles. Compares furs visually and sorts them according to quality. Selects furs that match in colour, thickness and length of hair and makes them into bundles ready for Cutter. May specialise in one or more types of fur.

7434.40 Cutter, Fur cuts fur according to pattern for making or repairing garments or other articles. Selects required number of furs. Arranges fur on pattern outlines, ensuring that parts to be joined together match in quality and colour. Cuts furs to required size and shape with hand knife. May also perform some or all duties of Grader And Matcher, Fur.

7434.50 Nailer, Fur stretches and trims dressed furs to conform to pattern outline of garment or other articles. Draws outline of pattern on work table. Dampens skin side of fur with water. Places fur, skin side up, on table, stretches it to cover outline and nails it in position. Allows fur to dry in stretched position and removes nails. Draws outline of paper pattern on skin side of fur and trims fur along outline with knife.

7434.90 Fur Tailors and Related Workers, Other include all other fur tailors and related workers such as those engaged in beating, dyeing and trimming hair or fur; assisting in cutting furs for garment manufacture, etc., not elsewhere classified.

7435 TEXTILE, LEATHER AND RELATED PATTERN MAKERS AND CUTTERS

NATIONAL CLASSIFICATION OF OCCUPATIONS

Textile, leather and related pattern makers and cutters make patterns and mark and cut textile, leather and other materials in the manufacture of garments, gloves and miscellaneous products.

7435.05 Supervisor and Foreman, Textile and Related Products (Except Garments) supervises and guides workers engaged in making cushions, tents, parachutes, upholstery and like products and ensures production to required specifications. Guides cutting, joining, folding, stitching and other operations according to specifications, drawing or sample and ensures correct finish and size. Gets necessary fittings done as detailed. Checks work or gets it checked at every stage of production and directs alterations as necessary. Keeps machines and equipment in working order and maintains prescribed records and registers. May set related power driven machines and equipment. May be designated according to type of production or section supervised.

7435.10 Designer; Pattern Maker (Garments) develops, designs and makes pattern for new styles of men's, women's and children's garments. Studies existing styles, develops new ideas and draws out full scale drawing of garments on paper. Marks and cuts out paper patterns of different parts of garments. Gets cloth cut according to paper patterns and gets sample garment stitched as required. Tries garment on model and makes changes in pattern, if necessary. May make specifications and supervise production.

7435.15 Designer, Leather Articles develops designs and cuts patterns for small leather articles. Studies designs of leather products from catalogues. Considers purpose, market trend, preferences of potential users, technical specifications and develops improvements or new designs keeping economical aspects and method of production in view. Prepares sketches showing style, shape, size and similar characteristics of product, and submits them to management or customer for approval. Alters designs if necessary. May make technical drawings, models, and prototype patterns. May specialise in designing particular type of article such as gloves, hand bags, etc.

7435.18 Case Finisher (Leather Prod.) assembles and finishes suitcases and radio, jewellery, and instrument cases, and lines or covers them with material, such as leather, velvet, or satin, performing any combination of following tasks: Inserts hinge wings into slots in top and bottom sections of case and secures them in grooves, using pinch pliers, or rivets, nails, or screws hinges in position. Opens case and verifies lid angle, using table gauge. Cuts specified material to size, using pattern and shears, or obtains precut fabric. Brushes glue on area to be covered. Positions material on inner or outer surfaces of case and smooths out wrinkles, using fingers. Trims excess fabric from joints, seams, and edges, using knife. Glues or nails bracing blocks to case and covers blocks with material. Presses cushion or pad into upper and lower sections of case. Examines case for misalignment of edges, and opens and closes lid to test action of hinges and spring. Holds case over air nozzle and presses pedal to remove dust and lint. Packs cases in shipping cartons. May crimp lids to case or crimp bottoms to case frame, using pneumatic-powered crimper. May repair or replace hinges, linings, and springs.

7435.20 Shaper, Pith Hat shapes pith hats for making crown block for pith hats. Cuts pith sticks into thin slices, places sheet of paper over mould and joins pith slices with thick paste. Prepares mud mould of hat of specified shape using water and clay. Places pith in mould for giving shape of hat to pith and allows pith to dry. Removes pith block from mud mould, trims edges and surface with knife and scissors and rubs with sand to secure smooth finish.

7435.25 Frame Maker, Cap prepares cap frames for cap using metal pattern, hand scissors and jute canvas. Marks paper to required size and cuts it using hand scissors. Pastes paper on metal pattern with thick paste. Cuts jute canvas as per specifications using measuring tape and hand scissors. Applies thick paste to jute canvas. Fixes pasted canvas to metal pattern. Allows canvas to dry. Cuts round edges of canvas and separates canvas from metal pattern using sharp knife. May give finishing touches by putting plastic inner cover, fixing eyelets, etc.

NATIONAL CLASSIFICATION OF OCCUPATIONS

7435.30 Master Cutter (Garments) measures customers and cuts parts of garment from cloth for making garment of required size and style. Measures customers for size with inch-tape and records measurements. Cuts out paper patterns with given measurements. Places patterns on cloth and marks around with pencil. Cuts various parts along marked lines and gives them for stitching, Supervises stitching and making of garments. Tries garment, when prepared, on customer and marks with chalk any alterations to be made. Supervises making and finishing work and finally fits garment on customer.

7435.35 Cutter, Hand (Textile Products) cuts garment parts and other articles to be sewed together from cloth, canvas, etc., using scissors. Spreads single or multiple layers of cloth, fabric or other material to be cut on table or board. Places pattern on material in such position as to have least wastage. Marks outline on material with chalk. Cuts along outline marked in chalk or around edge of pattern using scissors.

7435.40 Cutter, Machine (Textile Products) cuts parts of garments, bags and other articles from single or multiple layers of cloth, knitted or other fabric, hessian, canvas, etc., using electrically driven cutting machine. Places pattern in such a position over material as to have least wastage. Cuts around edge of pattern or along outlines marked in chalk on material.

7435.45 Cutter, Garment (Leather) cuts leather for manufacture of garments. Examines leather to ensure that it is cut in most suitable and economical way. Cuts leather according to pattern of garment parts by shears, scissors, hand knife, hand operated guillotine, power driven oscillating knives or by machine which presses shaped knives through leather. May specialise in one or more types of cutting and be designated accordingly.

7435.50 Cutter, Gloves (Leather) cuts leather for manufacture of gloves. Dampens and stretches leather to ascertain flexibility, location of flaws and most suitable and economical way of cutting. Cuts leather according to pattern of glove parts by shears, scissors, hand knife, hand operated guillotine,

power-driven oscillating knives or by machine which presses shaped knives through leather. Trims edges of finished gloves. May specialise in one or more types of cutting and be designated accordingly.

7435.55 Button-Hole Marker; Button-hole Marking Boy marks positions for button-holes on garments. Places required pattern on garment in correct position. Marks positions for button-holes with pencil or chalk on garments through holes in pattern. May also mark positions for stitching buttons.

7435.60 Cutter, Tent marks and cuts tent cloth according to specification. Studies design or specification and plans cut out of parts to avoid wastes. Marks outline of pattern with crayon or chalk and cuts material with scissors. May sew tent by machine or hand.

7435.90 Textile, Leather and Related Pattern Makers and Cutters, Other include workers who make patterns and mark and cut textile, leather and other materials in the manufacture of garments, gloves and miscellaneous products not elsewhere classified.

7436 SEWERS, EMBROIDERS AND RELATED WORKERS

Sewers, embroiders and related workers sew together, repair and decorate garments, gloves and other products of textile, fur, leather and other materials by hand or by using simple sewing machines, and perform various related tasks.

7436.10 Sewer, Hand; Stitcher Hand; Hemming Boy sews together by hands parts of textile, fur and leather garments, furnishing and other textile and fur products using needle and thread. May repair garments, stitch buttons and do decorative stitching. May be designated according to type of article or material stitched such as **SEWER, HAND (fur); SEWER, HAND (Leather); SEWER, HAND (Garments);** etc.

7436.15 Hand Embroiderer, General sews ornamental designs by hand over printed or stencilled patterns on cloth using needle and coloured thread. Fastens embroidery hoop or frame over area of cloth to be worked to keep cloth taut while being embroidered. Threads needle with proper kind and colour of thread,

NATIONAL CLASSIFICATION OF OCCUPATIONS

embroiders along or over lines of printed or stencilled design on cloth using knowledge of various types of stitches required.

7436.20 Hand Embroiderer, Zari; Zari Worker; Zardozi Worker sews ornamental designs by hand over stamped or stencilled patterns on fabric, using special embroidery material(zari) such as kora, kangani, sadi, nakshi, beads, tikli, sitare, etc. Stitches 'baithan' (cloth which forms base) to string loops of 'Karchob' or 'adda' (embroidery frame), adjusts 'Karchob' so that 'baithan' is evenly taut on all sides. Stitches, cotton, wool or silk fabric to work on 'baithan' in frame. Stencil design to be embroidered on fabric. Cuts zari material into pieces of required size with scissors. Threads needle with yarn and stitches neatly 'zari' pieces and beads etc., of proper size, colour and kind over stencilled design on fabric to make required pattern. Removes embroidered fabric from frame. May trace designs on fabric.

7436.25 Hand Embroiderer, Kamdani embroiders ornamental designs on cloth by hand using needle and gold and silver threads. Selects gold and silver threads required and cuts them into convenient lengths. Threads needle with cotton yarn and ties two ends of yarn making loop. Hooks gold or silver thread to yarn loop and embroiders designs according to required pattern or imagination by stitching gold or silver thread on cloth by one hand, holding cloth with other hand. May do zari and chikan work also.

7436.30 Embroiderer, Chikan; Chikan Worker embroiders floral designs by hand on cloth using needle and thread. Collects printed or sketched cloth piece of muslin, cambric or 'Adhi' (thin cambric) to be embroidered. Decides type and nature of embroidery work to be done. Fixes cloth on embroidery frame for even tension and threads embroidery needle with required kind and colour of thread. Embroiders along printed pattern or design made by hand with chalk on cloth (usually muslin), using knowledge of different kinds of stitches required. Cuts thread with embroidery scissors or pulls it on completion of each item. May do other types of embroidery work.

7436.35 Darner; Cloth Mender repairs defective or damaged portion of cloth or garment by hand using matching thread and needle. Spreads cloth or garment and checks it thoroughly to locate defects and damages. Selects or dyes thread to match colour and shade of cloth to be darned. Removes miswoven threads or knots by nipper. Re-weaves or darns missing threads by needle, using thread of required shade and colour. Trims ends with scissors to make mended portion look uniform with pattern of cloth. May press darned cloth or garment with electric or ordinary iron.

7436.40 Sewer, Tent (Hand); Tent Sewer (Hand) sews together by hand pieces of cloth or canvas to make tents. Lays pieces to be stitched back to back, places tape(niwar)between edges and temporarily stitches parts together leaving gaps for eyelets, loops and rope. Reshapes any portion not fitting properly and sews parts with final stitching. Stitches rope loops to bottom of tent. May stitch floral designs on tent, if desired.

7436.45 Umbrella Maker assembles complete umbrella by fixing various component parts such as collapsible metal frame, springs, and umbrella cloth, to stick. Uses jig to mark points on cane stick for cutting and fixing different fixtures. Uses saw to cut grooves of desired length. Affixes box cup to hold in closed position. Inserts metal runner into stick for holding ends of ribs together and top spring grooves cut in stick. Fixes 'U' shaped nail in stick near top to stop metal runner going beyond limit. Assembles metal notch into stick and running metal wire through eyelets of ribs to keep ribs in secured position in notch. Fastens ribs to runner by wiring eyelets to runner. Fits other components such as leather washer, top cap and ferrule. Attaches handles by glueing to stick. Checks frame by opening and closing it to ensure its correct assembly. Is designated as **TAKEWALLA** if engaged in cutting umbrella cloth according to pattern and stitching or fixing to frame. May repair defective umbrella by replacing worn cloth or other component parts.

7436.50 Umbrella Examiner examines finished umbrellas for proper assembly. Examines fitting to secure fastening and opens and closes umbrella to see that ribs and runners function smoothly. Gets defective parts

NATIONAL CLASSIFICATION OF OCCUPATIONS

replaces with new ones. May assemble and fit covers to umbrellas.

7436.60 Sail and Awning Maker lays out thick cloth, canvas and like materials, fabricates and assembles them into sails, awning (shamiana) and tarpaulins. Lays out full scale drawing on floor according to blue prints or sketches, using chalk. Cuts pattern from paper according to full scale drawing. Marks outline on material with crayon. Cuts material with shears or power cutter. Sews section of material together on power sewing machine. Installs grommets, metal fittings, and fasteners by machine or measures and marks off grommet holes, punches them and sews galvanized iron rings to edge of holes by hand. Splices, inserts and hems manila, wire rope or any other type of strong rope in edges to relieve strain. Secures rope or cable to finished article. Wraps and sews parts of rope or wire which are subject to chafing. Installs and adjusts completed product according to requirements. Stuffs padding material where necessary for protection. May be designated according to type of product made.

7436.70 Tailor, Tent (Machine) sews or joins cloth pieces on machine to make tent. Assembles pre-cut pieces of tent cloth. Studies pattern of tent by examining each part and connecting them temporarily. Inserts proper size needle and cotton thread in machine. Overlaps adjacent segments and sews them together. Sews cord and tape and attaches rope at required places to strengthen tent. Makes holes in tent at appropriate places and stitches around them to support bamboos. May cut tent cloth. May sew leather around stitched holes for strength.

7436.80 Doll Maker performs one or more hand or machine tasks in making of moulded or stuffed dolls or stuffed toys. Moulds doll parts from composition material by operating a press or stuffs previously sewn parts with cotton, excelsion or other material to give them shape; fastens legs and arms on to torso; affixes artificial eyes in head; secures head to shoulders by means of a shank collar so that head may be turned at will; dresses dolls by hand with under and outer garments, fastens them with hooks, buttons or ribbons. May be designated according to type of work performed.

7436.90 Sewers, Embroiderers and Related Workers, Other include all other sewers, embroiderers and related workers engaged in other types of sewing and embroidery work, not elsewhere classified.

7437 UPHOLSTERERS AND RELATED WORKERS

Upholsterers and related workers upholster furniture, make mattresses, or make and install interior decorations of textile, leather and similar materials.

7437.10 Upholsterer; Furniture installs, repairs or replaces upholstery of furniture. Removes old upholstery. Stretches and tacks new webbing to frame. Fastens springs by nailing them to frame and tying them to each other with cord. Covers springs with binding material, places cotton, rubber composition or other soft material over springs for padding, then tacks another layer of binding material to secure padding. Cuts covering fabric to size and tacks it in place. Tacks braid over end of covering material to conceal rough edges. May replace damaged springs, may do minor repairs to broken wooden parts of furniture and may sew covering material.

7437.20 Upholsterer, Orthopaedic Appliances installs, repairs and replaces upholstery of wheeled chairs, and makes and repairs other appliances for physically handicapped persons. Receives directions regarding type of upholstery or repair work to be done. Cuts and fits cotton, rubber foam moss, other padding materials, rexin, leather, etc. as required. Cuts and tacks hessian cloth, sets padding and fastens it in position. Measures and cuts covering material and tacks it in position. Trims excess materials and conceals edges by tacking leather or rexin tape. Replaces or repairs raw hide covering of artificial limbs. May renew upholstery of wheeled chairs and orthopaedic appliances. May repair shoes for deformed feet.

7437.30 Upholsterer, Vehicle installs covering and cushioning for seats and for other furnishings on motor cars, carts, railway coaches, aircrafts and other types of vehicles. Takes measurements for furnishings or works from drawings. Cuts out materials. Makes and fits springs, padding and covering to seats. Fits

NATIONAL CLASSIFICATION OF OCCUPATIONS

lining to roof, doors and other parts. Cuts out and fixes materials for excluding sounds and draughts. May lay floor covering and make and fit vehicle blinds and fabric roofs.

7437.40 Cushion Maker; Cushion Stuffer; Cushion Mat Maker makes cushion covers and stuffs them with moss, hair, feather, coir jute or cotton. Cuts upholstery cloth according to size of cushion and sews pieces together, leaving opening at one end. Stuffs material into cushion and beats cushion with hand or stick to make packing even. Sews open end of cover and stitches piping along edges to preserved shape of cushion. May repair and rebuild cushions. May be designated as **MATTRESS MAKER** if engaged in making mattresses.

7437.45 Mattress Maker(Spring) pads and covers innerspring assemblies to form mattress. Cuts cover material, using cutting knife and scissors, and spreads and stapples burlap, leno, or sisal cloth to both sides of innerspring assemblies. Spreads padding over sides of innerspring and tends tape-edge machine that sews cover over padding. Tufts mattresses by hand or by tending machine to hold padding in place. Sews roll edges on mattress by hand or by machine.

7437.90 Upholsterer and Related Workers, Other include all other upholsterers and related workers such as those engaged in cutting out or completely making curtains, palmets, wall and furniture covers, quilts and other soft furnishings, not elsewhere classified.

744 PELT, LEATHER AND SHOE MAKING TRADES WORKERS

Pelt, leather and shoe making trades workers prepare fur-and –wool-bearing pelts for further use, make leather from hides and skins, make and repair footwear and other articles made of natural or synthetic leather with the exception of garments, hats and gloves, or make various other articles from leather and similar materials.

7441 PELT DRESSERS, TANNERS AND FELLMONGERS

Pelt dressers, tanners and fellmongers prepare fur-and –wool-bearing pelts for making garments and other products, and make leather from hides and skins.

7441.10 Sorter, Hides and Skins sorts and grades hides and skins before or after processing . Examines hides for weight, thickness and colour and checks quality by touch; inspects hides for defects, such as bran into groups; selects hides suitable for processing;' examines and grades processed hides rejecting and returning hides for reprocessing where necessary. May be designated according to material sorted as **CALF SKIN SORTER, PATENT LEATHER SORTER.**

7441.15 Flayer removes skin or hide of slaughtered or dead animal using different types of knives by cutting skin from tail end to neck on abdomen side and releasing skin from body by pulling by hand. Positions carcass of slaughtered or dead animal by suspending hind legs to a beam with rope or iron hooks at convenient height or laying it with legs turned upward on ground or work bench necessary to assist flaying; selects suitable knife and cuts skin from tail end to neck on abdomen; cuts tissues and separates skin from body; releases skin from body by cutting tissues and pulling skin gently with hand avoiding damage to skin; sprinkles water frequently to soften flesh to release skin from body by cutting tissues and pulling skin gently with hand avoiding damage to skin and to avoid damage while cutting and pulling. May remove head and forelegs of animals before flaying. May dress meat for consumption. May tan skins. May work as one of a team and be designated according to particular operation performed.

7441.18 Line Pitman, Leather; Lime Yard Jobber; Paddleman Leather prepares lime solution in pits, tanks or vats and treats hides and skins by thoroughly soaking them in lime solution to soften hair for de-hairing. Fills pit or tank with required quantity of water; prepares lime solution by mixing specified quantity of lime powder with water; pours lime solution in pit or tank containing water and stirs with stick for proper mixing of solution with water; collects salted skins and cleans them with water to remove salt and other foreign matter; dumps cleaned skins in lime tank to soak thoroughly(completely immersed in lime

NATIONAL CLASSIFICATION OF OCCUPATIONS

solution for a specified time);changes positions of skins or hides periodically in tank to ensure that all skins and hides are properly soaked in all parts; transfers periodically lime soaked skins from tank to tank containing different strengths of lime liquor to complete cycle of proper treatment of skin for further processing, removes lime treated stock from tank and staks them separately, empties and cleans tank. May de-hair skin or hide. May tan leather.

7441.20 De-hairer , Hand removes hair from skin or hide soaked in lime water by hand ,using blunt knife to prepare for further process of tanning . stretches wet hide over iron piece fixed in inclined position with hair side upward ; scraps hair off hide using circular or two handled knife ensuring that skin is not damaged and all hairs are removed completely from skin ; piles scraped hides . May remove superfluous flesh from skin .

7441.22 Flesher, Hand removes superfluous flesh and fat from de-haired skin or hide using sharp curved hand knife for further processing. Collects de-haired skin or hide from central point for fleshing. Places de-haired skin, stretching it by hand on beam(a curved piece of wood) with flesh side turned upward; holds knife with both hands and moves it downwards at inclined angel on fleshing surface to remove flesh and fat from skin taking care not to damage skin; changes position of skin on beam frequently for fleshing skin completely; places fleshed skins at central point. May be designated as BEAMER, LEATHER if engaged in removing flesh from hide or skin soaked in bark or myrobalan liquor. May sharpen knife on stone or machine.

7441.24 De-limer processes hides or skins treated with lime in fat-and-de-liming solution for required period to remove lime, reduce their swelling and make them flexible. Prepares de-liming solution in vat by mixing chemicals, acids and other de-liming materials in prescribed quantities in water; fills pit or tank with required amount of water and pours de-liming solution in tank; stirs solution and changes position of skin or hide in de-liming tank using wooden paddle; removes de-limed leather after prescribed period; rinses de-limed skin or hide in water thoroughly; hangs skins to ooz out excess

water; drains out used de-limed solution from tank; cleans tank with water and repeats process. May operate revolving drum for de-liming skins and hides by filling drum with de-liming solution and dumping limed hide in drum.

7441.26 Scudder, Hand removes epidermis hair roots, pigment cells and lime salts from grain side of hide or skin, before tanning by hand, using double handled curved knife. Collects de-haired and fleshed skins or hides from central point for scudding. Places de-haired skin with grain side up on beam (a rounded board on which wet hides or skins are stretched to remove flesh and hair prior to tanning) stretching it by hand. Scrapes surface to remove hair roots, pigment cells and lime salts with double handled blunt knife. (scudding knife). Ensures that skin is not damaged or cut during process. Soaks scudded skin in water for a prescribed period; repeats process of scraping of left over hair and soaking in water till skin or hide is cleaned off hair roots, lime salts, etc.

7441.28 Hide and Skin Setter; Hand; Slickerer removes wrinkles and sets grains on wet hide or skin using a flat edge metal plate(slicker). Spreads oiled hide or skin on table; rubs surface of skin or hide exerting pressure with flat edged metal plate to remove wrinkles and smoothen leather; repeats process on grain side of skin or hide to set grain.

7441.30 Fluffer, Hand removes fluff from flesh side of skin by rubbing whole surface of skin with burnt stone or brick. Spreads skin stretched over table with flesh side upwards; rubs entire surface applying pressure by hand with burnt stone or brick to remove fluff from skin till surface of leather becomes smooth and soft.

7441.32 Staker, Hand softens leather end by placing it on blunt metal plate and by pulling it backwards and forwards over edge of stake. Conditions hides on previous day by keeping them in moist sawdust; inserts blunt metal plate (staking plate) over fixed rod; holds ends of skin or leather with both hands and rubs surface of leather vigorously back and forth over blunt blade to make it soft and pliable. May apply chemical solution to leather surface to make it soft preparatory to further process. May operate staking or glazing machine.

NATIONAL CLASSIFICATION OF OCCUPATIONS

7441.34 Bark Pitman (Tanning) prepares bark and myrobalan liquor and treats hides or skins in them for tanning. Mixes prescribed quantity of tanning bark or myrobalan powder with water to make liquor or solution; pours prepared solution into pit or vat containing water and agitates mixture vigorously with paddle; tests mixture for specific gravity and adds materials to mixture to obtain solution of specified gravity; immerses hides or skins in bark pit or vat placing one above other for a specified period to allow hides or skins to soak in solution; changes positions of hides or skins periodically in pit to ensure that all are properly saturated with tanning solution; removes hides or skins from bark pit after a specified period; extracts sample piece of leather and boils it in water to test completeness of tanning and continues tanning if necessary. Stacks or hangs them in shade for drying. May retain hides to restore colour lost in bleaching, splitting or other processes. May be designated according to type of tanning solution used as **BARK TANNER; CHESTNUT TANNER; CHROME-TANNING WHEETMAN; OAK TANNER.**

7441.36 Drum Man; Drum Operator(Tanning) operates rotary drum containing tanning solution to convert hides and skins into leather, according to specifications. Weighs tanning agents, such as bark powder or chemicals, following tanning formula; loads agents and hides or skins into drum; turns valve to fill drum with water, and turns steam valve to heat water to specified temperature observing meters and gauges; locks drum door and moves lever to rotate drum for specified period of time; removes drum door, replaces it with grating, and rotates drum to drain tanning solution through grating. May boil sample of tanned hide or skin in water to determine thoroughness of tannings. May specialise in particular type of tanning and be designated accordingly.

7441.38 Leather Currier treats tanned leather with fats and oils, softens it by flexing, rolls it under pressure for converting into finished form. Scrapes hide with tool to expel moisture and scum left from tanning; applies grease, oil, soap or other compounds

to hide by hand or machine; softens hide by stroking it with knife blade, flexing it over rigid blade or by rolling it under pressure in machine; rubs hair side of hide against itself to bring out grain; removes rough spots and blemishes from hides by hand scraping or by machine; polishes hide by hand or machine. May also dye and stain leather. May operate staking, buffing and glaxing machine.

7441.40 Dyer, Leather; Colourer, Hides and Skins prepares colour solutions, dyes and stains to match specified colour samples or according to formulae and applies or supervises their application to dressed leather. Weighs and mixes specified ingredients with water to prepare colouring solutions; pours colouring solution into tray or drum and adds oil (softening agent); pulls hide through tray until specified colour is obtained or places hides in drum and starts machine to tumble hides in solution for specified time; examines test piece of hide and bleach or further colouring if necessary to obtain desired effect; removes dyed leather; drains colour solution and washes drum and equipment. May be specifically designated as **GLOVE DYER, VAT DYER, CHROME DYER, DRUM DYER.**

7441.42 Embosser, Leather; Embosser-Press Man; Embossing-Press Operator operates machine to imprint designs on leather or leather articles, such as wallets, cushion and key cases. Selects specified embossing plate, bolts plate into chase, positions and secures chase into ram of machine ; turns switch or steam valve to heat plate to specified temperature according to type of leather; pulls level that lowers ram to impress designs on leather or article. May make bed for embossing plate, using card board and paper.

7441.44 Seasoner, Leather seasons leather by applying chemical solution or oil evenly on surface by hand brush and allowing it to dry in open air. Mixes different seasoning chemical compounds such as nitro cellulose, lacquer, resin, oil etc. in prescribed proportions; spreads leather on table ; coats seasoning solution over surface of leather evenly using hand brush; hangs leather (seasoned) in open air for drying. Is designated as **SPRAYER LEATHER** if uses spray gun to spray chemical solution on leather to give desired pigment or dye finish.

NATIONAL CLASSIFICATION OF OCCUPATIONS

7441.46 Pelt Dresser, General prepares finished furs from raw pelts by de-fleshing with knife, removing superfluous hair; treating and pickling pelts with chemicals and solutions; simulating hairs with dyes, stretching and softening finished pelts etc. treats flesh side of skin with salt or other chemicals for preserving or tanning; scrapes particles from raw pelt with knife or stretches skin over fixed steel blade and works it back and forth, taking great care not to damage hair roots embedded in skin; tacks skin, fur side up, over beam, removes loose hair, and blattens fur by stroking it with double handled, blunt edged knife, occasionally dusting fur with powder to make hair more visible; evens length of fur over entire skin with thin, keen-edged knife, scissors or shears; treats skin with necessary chemicals and solution for preservation of hair on pelt; applies dyes to pelt with feather or brush to improve appearance of fur or to simulate hair of another fur-bearing animal; smooths and stretches dressed pelts and dries them in shade. May be designated as **PELT GRADER; PELT DYER; PELT FINSIHER**, if engaged in grading and dyeing or finishing pelts only.

7441.48 Pelt Grader sorts fur or wool-bearing pelts before or immediately after they have been dressed. Compares untreated pelts visually and sorts them according to type, quality, size, colour and markings. Sorts pelts after they have been dressed, dyed or otherwise treated. May be designated according to nature of work, such as **GRADER FUR; MATCHER FUR;** etc.

7441.50 Pelt Flesher removes particles of flesh and fat from fur or wool-bearing pelts prior to curing or other processing. Scrapes particles from pelt with knife or stretches skin over fixed steel blade and works it back and forth, taking great care not to damage hair roots embedded in skin. May remove particles by use of power-operated revolving knife. May reduce thickness of hides by paring with machine or hand knife.

7441.52 Pelt Plucker and Trimmer removes long coarse hair from fur pelts and trims underlying hair to even length. Tacks skin, fur side up, over beam. Removes hair and flattens fur by stroking it with double-handled blunt-edged knife, occasionally

dusting fur with powder to make hair more visible. Evens length of fur over entire skin with thin, keen edged knife scissors or shears.

7441.55 Pelt Dyer, Hand applies dye to fur-bearing pelts by hand. Applies dyes to felt with feather or brush to improve appearance of fur or to simulate hair of another fur-bearing animal. May spray dyes on fur, mix own dyes and be designated according to type of dyeing performed.

7441.60 Pelt Stretcher stretches, or smooths and stretches, skins of dressed pelts. Pulls softened and greased pelts over fixed blade by hand to enlarge area and smooth texture of skin. Stretches pelt by feeding it through power-operated machine or by holding pelt flat on table with one hand and pulling it taut with other. May also finish pelt by fluffing, beating, brushing and combing fur.

7441.90 Pelt Dressers, Tanners and Fellmongers, Other include all other workers engaged in grading, fleshing, stretching, dressing, tanning, seasoning etc, not elsewhere classified.

7442 SHOEMAKERS AND RELATED WORKERS

Shoemakers and related workers make and repair standard or special footwear and, except for leather garments, hats and gloves, make natural or synthetic leather articles, such as luggage, handbags, and belts, or participate in the manufacture of shoes and related goods.

7442.10 Shoe Maker, Hand; Shoe Maker, General makes complete shoe or other footwear mainly of leather for each individual customer. Takes measurement of customer's feet and studies design of shoe or footwear to be made. Selects and estimates material required for making different components such as upper, lining, sole, etc. Marks leather components with patterns and cuts them with knife (rapi) ensuring accuracy and minimum wastage. Skives leather edges with skiving knife to reduce thickness of different sections to be joined together. Prepares and carefully applies cementing solution by brush at skived portion for joining, taking care not to splash solution on leather surface while joining. Glues lining to leather parts and sews sole, upper and other components by hand or sewing

NATIONAL CLASSIFICATION OF OCCUPATIONS

machine. Punches eyelet holes and inserts eyelets in position, for lacing, by hand or machine. Rolls and pulls upper on last, nails it, keeps perfect alignment of toe and heel and shapes it according to pattern by light hammering and stretching. Sorts out twists and applies wax on thread to make it stronger. Stitches sole and other portions using awl and waxes thread. Cuts and prepares heel and attaches it to sole by nailing. Trims and finishes edges of shoe using knife (rapi) and glass piece. Cuts and fixes thin inner-sole with glue. Applies colour or polish and gives finishing touches to shoes. Checks each pair of completed shoe for uniformity rectifies defects if any and puts them on lasts for retention of shape and form. May repair footwear.

7442.12 Shoe Maker, Orthopaedic makes complete footwear, mainly of leather, for customers with foot or leg deformities. Studies drawings and other specifications or takes necessary measurements to make footwear according to customer's need. Selects leather and gets special last made to suit necessity if required. Prepares patterns, chooses materials and cuts out parts by hand as per patterns made. Thins edges of parts of upper by cutting or shaving. Presses and bends parts into shape, glues lining to leather parts and sews them together. Punches eyelet holes and inserts eyelets. Tacks insole to last, pulls upper on to last to give it required shape and checks alignment of toe and heel of upper. Builds up sole where required, folds bottom of upper over edge of insole or built-up middle sole, fixes them together and fixes outer sole to upper. Builds up and fixes heel. Trims and smooths where necessary, applies inked wax stain or paint where required, inserts thin inner sole and gives final finish. May do ornamental nicking. May take plaster casts of deformed leg or foot and prepare drawings. May use prepared uppers with necessary modifications.

7442.14 Shoe Repairer; Cobbler; Mochi repairs and reconditions old, worn out and defective shoes, sandals, slippers, etc. using hand tools to make them serviceable. Carries own tools and materials goes round different localities, and collects worn out footwear from customers for repairs. Examines defects, determines repairs to be done and settles repair charges with customer.

Removes or cuts off worn out portion of footwear and repairs them by re-soling (either full or half) attaching heels, stitching ripped seams, skiving and patching with new pieces of leather after softening in water, etc. as necessary, using. Knife (rapi) awl, hammer, last, nails, waxed thread, glass, etc. Fixes nails where necessary by placing shoe on iron last and ensures that sharp ends of nails are well bedded inside leather. Polishes shoes after repairs if desired by customer. May repair other leather articles. May work as paid employee at big repairing shops.

7442.16 Pattern Maker (Footwear) prepares patterns for cutting or trimming parts of footwear. Makes temporary paper pattern of various parts of shoes, such as ramp, tongue, or toe-box by sketching part (using drawing or written directions as guide) and cutting around outline, or by fitting paper over shoe last to obtain contour. Stenciles papers pattern into sheet metal, thin wood, or millboard, and saws out finished pattern. May bind edges of pattern with thin metal strip. May cut patterns for article other than shoes.

7442.18 Cutter, Hand; Clicker Hand (Footwear) cuts components of shoes from tanned hides. Selects and spreads on wooden clicking board leather of thickness and quality appropriate to component to be cut (heel, tongue, sole, toe-cap, etc.). Notes direction of stretch and any defective spots. Plans cutting to obtain maximum number of useable pieces from leather. Stretches leather, places tin pattern on it and cuts out pieces with knife, continuing cutting until leather is used up. Counts pieces cut, stamps them with his identification number and bundles them. Sharpens his cutting knives. May prepare his time sheets.

7442.20 Skiver; Hand (Footwear) tapers leather components of footwear with knife to reduce thickness of parts to be joined. Determines amount of tapering required on parts to be joined. Softens edges of leather in water and tapers (skives) thickness of edges by cutting off leather at angle with skiving knife. Matches parts skived by putting one over other to assure that they fit properly and that no ridge will be formed. May join components by adhesive and stitching.

7442.30 Closer, Shoe Upper; Fitter, Shoe Upper; Upper Maker fits and sews various

NATIONAL CLASSIFICATION OF OCCUPATIONS

upper shoe-components to make complete upper for lasting. Collects leather and lining parts. Checks corrections of numbering of parts to identify pairing and sorts out upper parts of shoe separately. Examines their correct matching by placing one over another and skives vamp, quarter, back strap, etc. by hand knife or machine where necessary. Applies rubber solution with brush on inside edges (flesh side) of components, joins corresponding parts, conducts beading by hammering and sews them using sewing machine. Sews and attaches lining to uppers. Divides backstrap into two portions, applies solution, fixes them in centre of back and sews halfstraps on machine. Trims off edges and threads with scissors. Passes on closed upper to next section or worker for further operations. May perforate upper on perforating machine or by hand punch. May press seam by passing duly wet components between manually operated iron rollers.

7442.32 Laster, Hand joins upper of shoe to sole by pulling upper over last and nailing to sole. Applies french chalk or wax to proper size and shape last to prevent stitching of lining. Tacks insole lightly to last; inserts shoe counter and toe-puff in upper; pulls upper on last and tacks to sole, checking frequently to avoid folds and wrinkles. May nail metal or bamboo shank to insole. May tack rand pieces and heel lift to seat. May mount sandals on last.

7442.34 Bed Toe Laster draws toe of shoe tightly over last on bed lasting machine. Inserts toe plates of required size in machine. Softens toe leather by applying water and steaming it in steam chest for short period. Fastens shoe on last, using back supporter (mechanical device) to hold it in place. Moves lever on machine that causes fingers to grab and pull shoe upper tight over insole at toe. Drives anchor tack on each side of insole and winds wire tightly from one tack around drawn-in upper to other tack. Snips off surplus wire and passes shoe on to other workers. Cleans and oils machine and requests any needed repairs.

7442.36 Sole Presser; Sole Sticker operates machine to glue sole and midsole of footwear together. Places footwear on machine bed. Presses pedal causing pressing rod to squeeze two soles together and to set glue. Removes

shoe after required period and examines edges of sole to ensure firmness of seal. Cleans and oils machine and requests repairs when needed.

7442.40 Scourer; Scouring Machine Operator; Buffer; Sand Paper Machine (Footwear) operates scouring machine to buff edges of heels and smoothen surfaces of shoe-bottom. Switches on machine. Holds shoe components against revolving abrasive covered rolls of machine with requisite pressure and manipulates its movement according to scouring desired. Watches operation and ensures proper scouring. Replaces abrasive as and when necessary. Cleans and oils machine and gets defects removed if any. May be designated according to part of shoe scoured such as **HEEL, SCOURER, WAIST SCOURER, SOLE SCOURER, BOTTOM BUFFER, etc.**

7442.45 Counter Moulder; Stifner Moulder (Footwear) operates counter moulding machine to mould counters or stifners (shoe component) to shape of heel. Sets mould of required shape and size in machine. Places counter or stifner in (mould). Depresses foot pedal to start machine which bends and presses counter into required shape. Releases foot pedal and takes out mould at counter. Cleans and oils machine.

7442.50 Sole Channeller; Channelling Machine Operator (Footwear) operates channelling machine to cut slits in outsole or insole of shoe. Selects knife and sets it in position in machine. Switches on machine. Feeds sole into feeder of machine and depresses pedal to raise sole to level of knife for cutting slit. Controls channelling, break, etc. by manipulating pedals and ensures that channel of required depth is cut at even distance around edge of sole. Cleans and oils machine, replaces knife when necessary and gets defects removed, if any. Is designated as **INSOLE CHANNELLER, OUTSOLE CHANNELLER, etc.** according to type of sole channelled. May do double channelling to make double lip which is later cemented together for forming ridge around outer edge of insole to which welt is sewed.

7442.55 Rand Tacker (Footwear) operates tacking machine to fasten rand (Leather strip) with heel lift to make heel flat when attached to outer sole of shoe. Places wire coil in machine

NATIONAL CLASSIFICATION OF OCCUPATIONS

container. Draws end of wire through guide to awl and cutter. Puts heel-lift on cogwheel of machine, sets rand on heel-lift to make hollow and depresses pedal to start machine which cuts wire and drives tack to fasten rand with heel-lift. Releases pressure on pedal, removes nailed piece and visually examines for correct tacking. Examines awl, cutter etc. frequently while working and replaces them when necessary. Cleans and oils machine and gets defects removed, if any.

7442.60 Sole Stitcher; Hand; Sole Sewer, Hand (Footwear) sews out-soles to shoes by hand using sole-stitching awl (tool) and waxed cords. Collects out-soles and shoes to be stitched together. Sorts out thread, twists it into cord and draws it through wax ball to strengthen it. Positions outsole to shoe and marks guide line for stitching around welt of shoe. Cuts groove manually with knife along guide line in sole if channelled stitch is required. Softens sole and welt with water to facilitate stitching. Pierces awl through welt and sole, draws one end of cord through hole, punches another hole and draws cord through hole from opposite direction to form lock-stitch. Levels sole when sewed to welt by beating it with hammer. Feels by touch and sight and ensures correct stitching of sole. Trims off edges of sole if necessary. May nail iron tips in sole. May operate welt grooving machine.

7442.65 Heel Attacher, Hand (Footwear) fixes leather and rubber heels to shoes by driving nails with hammer. Collects heels to be attached according to size and shape of shoes. Selects well pointed nails of required size. Sets shoe on iron last (metal devices to hold shoes) with sole upward. Places heel on shoe and adjusts its position. Drives nails with hammer through heel and heel-seat to clinch them to insole. Checks frequently while nailing and ensures proper nailing and adjustment of heel to insole. Trims off edges of heels with knife to give desired shape. May attach iron-tips to heel.

7442.70 Trimmer, Hand (Footwear) trims and smoothens edges of soles and heels of shoes using hand knives, glass pieces and sand paper. Examines shoe and determines extent of trimming required. Selects sharp edged glass pieces, knife and sand paper. Trims edges of soles and heel of shoe with

knife. Scrapes trimmed portions of shoe with glass piece and rubs it with sand paper to make trimmed surface uniform and smooth. Checks trimming and scouring frequently while working to avoid damage to shoe and to ensure correct finish. May do trimming and scouring by machine. May colour edges of sole and heel with chemical dyes.

7442.72 Harness Maker makes and repairs harness by cutting, fitting and stitching parts together. Cuts various parts from leather stock according to design or pattern. Gives leather required colour and forms it by shaping; rivetting, and trimming. Sews parts by hand or machine. Attaches buckles, rings and other metal devices to strap ends by looping over ends by stitching or rivetting. Punches buckle holes in strap. Applies dressing to harness by hand. May repair items. May design patterns.

7442.75 Saddler; Saddle Marker makes new or repairs and adjusts old saddles. Cuts needed parts out of leather required size as per sample or pattern as guide quality and size. Stitches pieces into various saddle components by hand. Prepares saddle tree, web or woollen lining. Stuffs seat with sheep wool. Makes panels and fits different leather components to saddle by stitching, rivetting or tacking as necessary. Trims excess thread, leather or wool. Colours edges and cleans saddle with soap. Repairs old and defective saddles by changing parts, trimming, stitching and making necessary adjustment. May design new patterns.

7442.76 Leather Cutter, Hand (Harness and Saddle Making) cuts leather pieces for use in making harness and saddles. Places pattern on hide and marks around with pencil. Cuts on marked lines, using saddlers' knife (rapi). May cut leather pieces for other uses.

7442.78 Stitcher, Hand; Mochi (Harness and Saddle Making) makes and repairs leather belts and sews different leather parts of harness and saddlery. Selects leather and marks portion to be cut, using sample or pattern. Skives leather at seams and pricks marks on it to guide sewing. Applies wax on thread and leather to facilitate stitching. Stitches pieces together with waxed thread to form required part for harness and saddle. Finishes side of leather using edging tool, creases line with hot creasing tool for decoration and hand punches holes where necessary. Affixes buckles and

NATIONAL CLASSIFICATION OF OCCUPATIONS

metal parts, scrapes or cuts away extraneous material and dresses and treats leather parts with leather soap, oil, etc. to effect finished appearance. Applies required colour and polishes to high finish.

7442.79 Assembler, Hand (Harness and Saddle Making) joins leather parts to make harness and saddlery products. Skives (tapers) portions to be joined. Applies wax to facilitate stitching. Joins and assembles parts by hand stitching or nailing. Finishes sides of leather with edging tool. May put creasing lines on leather with hot creasing tool. May punch and bore fastening holes, and may give colour finish to assembled parts. May operate pricking machine.

7442.80 Suit Case Maker makes suitcases, attache cases and similar articles from leather or synthetic material. Cuts two sets of component parts, one from leather or other basic material to be used and other from cardboard, using guides or patterns. Glues together corresponding parts of cardboard and basic material. Assembles sections by glueing, machine sewing, rivetting and otherwise fastening, affixes attachments such as rings, guessests, buckles, locks and handles. Applies dyes, and polishes and buffs. May design or copy patterns. May repair damaged articles. May finish edges of material and apply decorative marking by using heated edging and creasing tools.

7442.81 Purse Maker; Wallet Maker; Document Case Maker makes purses, handbags, wallets, document cases, etc. from leather, rexine, plastic or other synthetic material. Marks measurements of different parts of article to be made on sheet of leather, plastic or other synthetic material and cuts them out with pair of scissors or rapi. Skives parts where necessary using skiving knife. Cuts grooves along edges and folds parts as required. Joins parts together with glue and stitches them along grooves on machine or by hand awl and cord making lock-stitches. Attaches handles, locks, straps, buttons, etc., and pastes lining cloth from inside. May perform decorative stitching where required. May attach steel frames.

7442.82 Whipmaker makes leather whips by interlacing leather strips. Cuts leather strip of required length, width, and grelity into four

strips leaving some portion uncut at end for handle. Trims, smooths and interlaces strips and adds wax to hold them together. Shapes handle to complete whip. Colours and polishes entire whip.

7442.83 Belt Maker makes and repairs leather belts, both for personal and industrial use. Follows sample or instructions and marks and cuts off needed leather pieces from roll. Skives (tapers) ends when pieces must be joined. Sews parts together, using waxed thread and awl to punch holes. Uses heated edging and creasing tools to aid in forming and decorating belt and hand tools to attach buckles, metal fixtures, and other parts. Trims belts with knife (rapi) and finishes it, by treating with oil, dyeing; and buffing. May make or repair canvas belts by stitching on leather parts, buckles and metal fixtures. May design new belts for personal use. May polish metal fixtures. May operate leather machines. May be designated as **BELTMAN** if engaged in repairing belts, installing them on motors and machinery, and fixing fasteners in factory or workshop.

7442.85 Horn Comb Maker (Hand) makes horn combs from buffalo horns by using hand tools. Selects horns to suit requirements. Marks and saws them to required sizes. Scraps out outer rough layer, heats pieces in oven to make these soft, applies oil on heated pieces, places them in wooden mould and rolls cylindrical wooden rod by hand to straighten them; shapes pieces to desired size and thickness by planing and cutting using adge and hand saw; marks edges to cut teeth and saws teeth at equal distances to required depth; sharpens teeth edges with file; smoothens surface with sand paper and applies wax to shine and finish. Sharpens his own tools. May make other fancy horn products.

7442.90 Shoe Makers and Related Workers, Other include all other shoe makers and related workers who are engaged in making and repairing standard or special footwear and, except for leather garments, hats and gloves, make natural or synthetic leather articles, such as luggage, handbags, and belts, or participate in the manufacture of shoes and related goods not elsewhere classified.