

DIVISION-3

NATIONAL CLASSIFICATION OF OCCUPATIONS

DIVISION-3

TECHNICIANS AND ASSOCIATE PROFESSIONALS

Technicians and associate professionals perform mostly technical and related tasks connected with research and the application of scientific or artistic concepts and operational methods, and government or business regulations, and teach at certain educational levels. Most occupations in this Division require skills at the third skill level.

31 PHYSICAL AND ENGINEERING SCIENCE ASSOCIATE PROFESSIONALS

Physical and engineering science associate professionals perform technical tasks connected with research and the application of concepts and operational methods in the field of physical science, as well as computing and engineering, or they control and operate technical equipment, fly aircraft, navigate ships, and investigate safety aspects of manufacturing and other processes and products.

311 PHYSICAL AND ENGINEERING SCIENCE TECHNICIANS

Physical and engineering science technicians perform technical tasks related to research and the practical application of concepts, principles and operational methods particular to physical sciences including such areas as engineering, technical drawing or economic efficiency of production processes.

3111 CHEMICAL AND PHYSICAL SCIENCE TECHNICIANS

Chemical and physical science technicians perform technical tasks connected with research in chemistry, physics, geology, geophysics, meteorology and astronomy, as well as with the development of industrial, medical, military and other practical applications of research results.

3111.10 Laboratory Assistant, Physical assists and carries out routine duties in physical laboratory as directed by physicist in conducting experiments. Sets up required apparatus and instruments in position as directed for conducting experiments and research work. Makes necessary electrical connection to equipment and instruments as required. Records routine and other observations as indicated by instruments and makes necessary calculations as directed. Removes apparatus when not in use, cleans and maintains them in good condition. May do minor repairs to equipment and apparatus. May store and maintain account of instruments, equipment, apparatus etc., if required.

3111.20 Laboratory Assistant, Soil sets up apparatus and equipment, conducts routine soil tests in laboratory for determining soil characteristics to correct soil defects, raise fertility, etc. and assists **Soil Scientist** or **Chemist** as required. Collects samples of

required type of soil. Gets them dried in oven and sieved to get soil of required size. Weighs fixed quantities of soil, sets apparatus and conducts routine tests to determine their physical and chemical properties, such as shear strength, permeability, composition, water content, percentage of nitrogen etc. Adds or eliminates chemicals and salts from soil as directed by **Soil Technologist** or **Chemist** to remove defects, raise fertility etc. to render better yield. Maintains record of reading and observations, for calculating and reference purposes. Prepares standard chemicals and solutions required for testing samples and maintains laboratory clean and tidy.

3111.30 Laboratory Assistant, Chemical arranges and sets various chemicals, instruments and apparatus such as salts, acids, balances, heaters as desired by **Chemists** for conducting experiments in chemical laboratory. Sets up required apparatus and equipment as directed by

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Chemist. Performs routine tasks, such as preparations of standard solutions and common reagents, weighing and measuring of salts and chemicals, filtration, precipitation etc. and conducts simple tests as directed by **Chemist**. Cleans and maintains balances. Changes kipp's apparatus and maintains laboratory clean and tidy. Keeps required chemicals readily available and replenishes stock from stores. May clean special apparatus, if required.

3111.35 Chemical-Radiation Technician tests materials and monitors operations of nuclear-powered electric generating plant, using specialised laboratory equipment and chemical and radiation detection instruments. Collects samples of water, gases, and solids at specified intervals during production process, using automatic sampling equipment. Analyses materials, according to specified procedures, to determine if chemical components and radiation levels are within established limits. Records test results and prepares reports for review by supervisor. Assists workers to set up equipment and monitors equipment that automatically detects deviations from standard operations. Notifies personnel to adjust processing equipment, quantity of additives, and rate of discharge of waste materials, when test results and monitoring of equipment indicate that radiation levels, chemical balance, and discharge of radio nuclide materials are in excess of standards. Carries out decontamination procedures to ensure safety of workers and continued operation of processing equipment in plant. Calibrates and maintains chemical instrumentation sensing elements and sampling system equipment, using hand tools.

3111.40 Laboratory Assistant, Geological sets and arranges apparatus and equipment in geological laboratory for conducting tests or experiments on rocks, ores, minerals etc. to determine location, structure, composition, percentage and specific gravity of mineral present and other necessary details. Arranges microscopes and sets necessary equipment for microscopic study of minerals. Cuts sections of rocks and mineral with diamond and special tools as required, for study of formation of rocks percentage and quality of mineral composition etc.

Prepares micro sections of required thickness of rocks or by cutting rocks with special cutting tools and grinding sections over special grinders. Mounts sections on slides for microscopic examinations. Displays minerals, models, crystals etc. in museum giving correct descriptive nomenclatures. Accompanies students **Geologists** on excursions and assists them in collecting minerals, rocks, fossils etc. and classifying. May perform simple chemical tests on rock, minerals, etc. under guidance of **Geologist** and report observations to him. May maintain stores and laboratory equipment.

3111.50 Slide Examiner, Petrology examines slides under polarising petrological microscope to identify and determine percentage of minerals present in rock. Studies texture of rock for its identification. Studies nature, petrogenesis (origin), petrography (identification), Para genesis (age determination), and other lithological aspects of rocks, minerals and ores and determines economic possibilities of minerals present in rock using microscope. Prepares suitable charts, tables for recording results of examination.

3111.60 Slide Examiner, paleontology collects rock samples and fossils and examines them under microscope to identify and record their lithology (composition of stones and rocks) and other characteristics. Collects rock samples and fossils and examines them under microscope. Studies fossil characteristic and discusses lithology of fossiliferous rocks. Maintains rockslides and records data and frequency of occurrence of various fossils belonging to different geological horizons on prescribed charts to correlate findings and compile reports.

3111.90 Physical Science Technicians, other include workers performing technical tasks such as setting of apparatus in physical science laboratories, not elsewhere classified.

3112 CIVIL ENGINEERING TECHNICIANS

Civil engineering technicians perform technical tasks connected with civil engineering research, as well as with the

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design, construction, operation, maintenance and repair of buildings and other structures, such as water supply and sewage systems, bridges, roads, dams and airports.

3112.10 Overseer, Civil Engineering supervises construction of buildings, roads, canals, dams, airfields, drainage systems, etc. according to specifications and attends to their repair and maintenance under guidance of engineer incharge. Receives drawings and instruction from engineer incharge and studies them. Inspects site, prepares rough estimates and get them approved by senior officer. Undertakes contour surveys and conducts leveling operations. Marks lay out according to plan and instructions of **Engineer** incharge, and commences work under his guidance and supervision. Checks materials and work frequently at every stage of construction to ensure their conformity with prescribed specifications. Measures completed portion of work and gets them checked and approved by engineer concerned. Maintains accounts of departmental work and records of day to day measurements, labour engaged, materials used, etc. Gets wage-bills of work charged establishment prepared. May prepare sketches, drawings, if necessary. May arrange plantation of road side trees and their maintenance.

3112.20 Permanent Way Inspector maintains railway track in his jurisdiction in satisfactory and safe working condition by inspecting it regularly and getting necessary repairs carried out immediately. Inspects railway track under his charge regularly to ensure that track bridges and other structures are in good condition for safe traffic. Supervises repairing of railway track by getting worn out sleepers, rails replaced, and stone ballast spread on track. Arranges for storage of required materials such as sleepers, rails, nuts, bolts, working tools etc. Arranges for patrol of track during rains, snowfalls, floods etc. Reports to superior major damages to track, due to accidents, floods, etc. Supervises laying of diversion track and speedy restoration of permanent track. Ensures that land on either side of railway line are not illegally encroached and reports to superiors cases of encroachments, if any, for voluntary or legal settlement. Maintains record of work done, sends

periodical reports to superiors and arranges to keep accounts of payment of staff. May attend to laying of new rail track.

3112.30 Plain Tabler; Ground Surveyor prepares topographical and cadastral (ground) maps based on control points fixed by **Surveyor, Topographical** by plane tabling method (field operations involving use of plane-table, clinometers, magnetic compass, sight rule, etc.). Plots points in drawing conforming to points on ground using plane table and sight rule, in hills and planes with accuracy. Registers colour and light traces in drawings, project maps, flood surveys, cadastral surveys, etc. Visits area to be surveyed and carries out plotting, sketching, contouring, drawing etc. of territory on basis of control data and other relevant available material. Collects, records and interprets air photographs which lack in such details as small bridges, streams, rivulets, tracks or pillars on account of non-visibility from photographic distances.

3112.40 Topographical Auxiliary participates in field survey by traversing (computing direct distances) leveling, rectangulation (determining a point from 4 ends) recording angular and liner measurements and comparing readings with 100 ft. and 66 ft. chains, (Gunter chains) theodolites levels, etc. Carries out rectangulation for permanently identifying ground marks. Computes measurements using log tables, traverse tables. Makes astronomical observation such as sun azimuth, arc of heaven to know about magnetic meridian. Determines elevation and slope using leveling instruments such as dumpy level, eye level, tilting level, etc. Uses vernier type theodolites for large-scale drawings. Completes all circuits and applies checks to ensure accuracy. May identify or pick points on aerial photographs. May be known as **Traverser or Leveler, Theodolite Surveyor** according to degree of responsibility.

3112.50 Computer, Topographical, Computer Geodetic computes topographical data received from survey parties in connection with figure, shape and structure of earth for mapping. Carries out calculations using mathematical forms and tables, concerning geographical field, e.g.

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geomagnetism, gravity reduction tidal analysis and prediction, etc. for guidance of surveyors. Computes value of control points (longitudes and latitudes) established on ground. Works out and fixes triangulation of points (angles in relation to fixed locations) and of survey parties and guides survey parties to possible errors in establishing control points or triangulations of certain location. May use and construct mathematical table. May be known as **Trigonometrical Computer** according to degree of responsibility.

3112.60 Surveyor, Tidal prepares charts of tidal behaviour in particular region of sea or harbour for each year of coming five years. Sets tidal machine on sea for automatic registering of both high and low tides in graphic form. Interprets, computes and feeds data to time prediction machine to record tidal frequency, depth, strength and volume of each year.

3112.90 Civil Engineering Technicians, other include all other Civil Engineering Technicians engaged in construction, survey, and related fields of civil engineering, not elsewhere classified.

3113 ELECTRICAL ENGINEERING TECHNICIANS

Electrical engineering technicians perform technical tasks connected with electrical engineering research, as well as with the design, manufacture, assembly, construction, operation, maintenance and repair of electrical equipment, facilities and distribution systems.

3113.10 Electrical Engineering, Technician; Overseer, Electrical Engineering receives instructions from senior engineer, studies blue print and working details and directs workers for proper execution of duties allotted. Receives instructions verbally or from duty chart, studies blueprints and working instructions as necessary and determines method of work to be adopted. Instructs workers such as **Electricians, Electrical Fitters, Turbine Operator, Switch Board Operators, Lines Men** etc. and supervises their work. Ensures correct manufacture and stipulated performance of equipment, or scheduled

generation and supply of electricity, etc. according to nature of work in which employed. Checks production, alterations or repairs using instruments such as voltmeter, ammeter, megger, etc. and has any defects corrected. Maintains prescribed records. May undertake complicated installation, maintenance and allied work personally to avoid mistakes and to train workers under him. May be designated as **Shift Engineer, Power House; Maintenance Engineer, Electrical** etc., according to nature of duties performed.

3113.20 Electrical Technician (High Voltage) draws up specifications and instructions for installation of voltage transformers, overhead or under-ground cables and related electrical equipment used, to conduct electrical energy from transmission lines or high-voltage distribution lines to consumers. Studies work order to determine type of service, such as lighting or power for installation. Visits site of proposed installation and draws rough sketch of location. Takes measurements, such as street dimensions, distances to be spanned by wire and cables or space available in existing buildings and underground vaults which affect installation and arrangement of equipment. Estimates materials, equipment and incidentals needed for installation. Draws master sketch-showing relation of proposed installation to existing facilities. Makes other sketches pertaining to wiring connections or cross-sections of underground cables, as required for instructions to installation crew. Consults **Distribution Engineer** on difficulties encountered. May draft sketches to scale. May estimate labour and material costs, using price lists and records on previous projects. May inspect completed installation of electrical equipment and related building circuits to verify conformance with specifications.

3113.30 Energy Auditor inspects homes of utility company customers to identify conditions that cause energy waste and suggests actions to reduce waste. Interviews customer to obtain data relating to household energy use, such as type of heating system, number of persons home during day and prior heating costs. Draws sketch of house, measures house perimeter, windows, and

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doors, using tape measure, and records dimensions on sketch for use in heat-loss calculations. Inspects areas of house, such as attics, crawl spaces, and basements, and notes conditions that contribute to energy waste, such as loose-fitting windows, uninsulated pipes, and deficient insulation. Reads geyser to ascertain tank heat-loss rating and determine need for tank insulation blanket. Confers with customer and recommends action to be taken to reduce energy waste, such as weather-stripping, reducing hot water temperature setting, and adding insulation. Gives customer pamphlets describing energy conservation improvements. Calculates area of windows and house volume, using calculator, and records results on computer input form to provide data for computer calculation of heat-loss estimates that are sent to customer.

3113.90 Electrical Technicians, Other include all other electrical technicians engaged in research and testing in various fields of electrical engineering, not elsewhere classified.

3114 ELECTRONICS AND TELECOMMUNICATIONS ENGINEERING TECHNICIANS

Electronics and telecommunications engineering technicians perform technical tasks connected with electronic and telecommunications engineering research, as well as with the design, manufacture, assembly, construction, operation, maintenance and repair of electronic equipment and electronic and electromechanical telecommunications systems.

3114.10 Electronic, Technician applies electronic theory, principles of electrical circuits, electrical testing procedures, engineering mathematics, physics and related subjects to layout, build, test, troubleshoot, repair and modify developmental and production electronic equipment such as computers, missile control instrumentation and machine tool numerical controls. Draws sketches to clarify design details and functional criteria of electronic units. Assembles experimental circuitry (bread board) or complete prototype model according to engineering instructions,

technical manuals and knowledge of electronic systems and components and their functions. Recommends changes in circuitry or installation specifications to simplify assembly and maintenance. Sets up standard test apparatus or contrives test equipment and circuit, and conducts functional, operational, environmental and life tests to evaluate performance and reliability of prototype or production model. Analyses and interprets test data. Adjusts, calibrates, aligns and modifies circuit and components and records effects on unit performance. Writes technical reports and develops charts, graphs and schematics to describe and illustrate systems operating characteristics, malfunctions, deviations from design specifications and functional limitations for consideration by professional engineering personnel in broader determinations affecting systems design and laboratory procedures. May operate bench lathes, drills and other machine tools to fabricate non-procurable items, such as coils, terminal boards and chassis. May check out newly installed equipment in airplanes, ships and structure to evaluate system performance under actual operating conditions. May instruct and supervise lower grade technical personnel

3114.20 Technician, Telecommunication receives instructions regarding work to be done and guides workers in installation, operation and maintenance of television, telegraph, telephone, telex system, radio, radar, sound recording and other equipment under his charge. Studies standing duty chart, sketches, blue prints etc., and determines method of work to be adopted. Calculates data by original observations or from available sources. Draws necessary stores and guides workers in correct manufacture and assembly of units, alignments, synchronizing, tuning, continuity, voltage control, output, etc. according to nature of work in which engaged. Checks work during manufacture, repair or installation and on completion for current consumption, resistance, frequency, output, leakage, performance and other factors, using instruments such as voltmeter megger, frequency meter oscillograph, resonance recorder, etc., and makes adjustments, alterations or replacements as necessary to ensure standard production and

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stipulated performance. May undertake complicated work himself to avoid mistakes and to train workers by actual demonstration.

3114.30 Line Inspector, Telegraph and Telephone Supervises execution of new installations and maintenance of existing telephone and telegraph lines. Estimates expenditure and equipment required for executing new installations. Supervises work of installation of telephone and telegraph lines at site. Checks faulty lines to locate and remove defects, and conducts maintenance check of lines to ensure efficient performance of communication system. Supervises utilization of staff engaged in installation and maintenance work and is responsible for maintenance of line books. May specialise in telephone or telegraph lines.

3114.40 Telephone Inspector; inspects telephone installation to ensure efficient operation of equipment. Scrutinizes complaints by subscribers, visits premises of subscribers, test-checks instruments installed, detects and rectifies faults. Conducts periodical maintenance checks of installed equipment to ensure efficient , uninterrupted operation . Supervises personal engaged in maintenance of telephone equipment. May prepare estimates for new installations and supervise installation work.

3114.50 Wireless Inspector ; Wireless Licence Inspector inspects radio licences and checks unauthorised use of receiving-sets. Visits premises of radio-set users, checks licences and initiates prosecution proceedings against pirates (non-holder of licences) . Makes enquiries about character, antecedents and solvency of new dealers in wireless receiving sets for grant of licences. Maintains liaison with and conducts periodical inspection of premises of authorised dealers in wireless receiving sets. Organises anti-piracy drives. Examines applications of owners of defective sets for exemption of licence fee.

3114.90 Electronics Technicians, Other include all other electronics technicians engaged in research and testing in various fields of electronic engineering, not elsewhere classified.

3115 MECHANICAL ENGINEERING TECHNICIANS

Mechanical engineering technicians perform technical tasks connected with mechanical engineering research, as well as with the design, manufacture, assembly, construction, operation, maintenance and repair of machines and mechanical installations and facilities.

3115.10 Mechanical Engineering, Technicians; Overseer, Mechanical Engineering manufactures, erects, repairs or overhauls tools, equipment, machines, mechanical structure, etc. Receives instructions from appropriate authority. Studies drawings, sketches, specifications, available data, etc. and plans execution of work according to time schedule. Draws necessary stores, examines their suitability, issue them to respective workers or senior mechanic. Instructs them on machine and tools to be used, accuracy required, process of work and other details to ensure correct manufacture, repairs, overhaul or erection work according to type of work to be done. Supervises workers, checks settings of machines, dimensions, dismantling, assembly, adjustments, etc., with appropriate gauges, tools and instruments at different stages of work and guides workers to ensure stipulated performance and accuracy. Checks completed work, makes any necessary adjustments or replacements and gets product approved. Maintains log book and other reports in prescribed form. May prepare sketches. May train workers for better performance. May conduct trade tests for recruitment or promotion of workers. May prepare estimates of materials and cost.

3115.20 Automotive Engineering Technician sets up and operates equipment to test automobile parts and accessories according to standard procedures to discover design and fabrication faults. Studies drawings, sketches, specifications set, and installs units such as assemblies, gears, universal joints in testing equipment and machines and connects wiring, tubing, couplings and power sources using hand tools. Operates test equipment and machines to determine factors such as stress, strain, pressure, flow of fuel, oil and air, wear and useability of installed units under conditions

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of heat, cold, high speeds and load. Conducts investigations into and experimental tests in development of new automotive equipment and accessories to secure more economical operating basis and lowering manufacturing cost. Supervises assembly and repair work, effects necessary modifications and replacements of parts and checks completed assembly for efficiency of performances. Studies in detail costs involved and seeks lighter and stronger metal parts in auto. May specialise in testing or repairs of particular type of auto equipment and accessories.

3115.30 Aeronautical Engineering Technician; Laboratory Test Mechanic; Test Analyst, Aircraft sets up and operates equipment to test metal aircraft parts, according to standard procedures, to discover faults of design and fabrication. Installs units such as rib, assemblies, struts, landing gears, valves, ducts, universal joints and motors in testing equipment and machines and connects wiring, tubing, couplings and power sources using hand tools. Operates test equipment and machines to determine factors, such as stress, strain, pressure turbulences, velocities, flow of fuel, oil and air, wear and usability of installed units, under conditions of heat, cold, high speeds, torque and load. Measures induced variations from normal with precision instruments such as micrometers, venires, calipers, manometers, pressure gauzes, flow meters, strain gauzes, and dynamometers and records results for anlysis by engineering department. May develop devices such as flat patterns, contour templates and forming block, using handtools and machine tools, to make mechanical, sheet metal and plumbing parts and assemblies for experimental test projects.

3115.40 Heating, Ventilation and Refrigeration Engineering Technician tests efficiency of heating and air-conditioning equipment under stimulated operating conditions. Connects heating and air-conditioning equipment to facilities, such as heating unit, water lines and spray devices, to set up control temperatures and moisture conditions. Constructs cardboard air ducts and other accessories for use in testing equipment. Couples gauges and instruments to system and starts equipment.

Observes and records readings of instruments such as thermometers, thermocouples, air flow meters, voltmeters ammeters, and pressure and draft gauges. Informs supervisor of unusual noise and instrument readings during operation of equipment. May plot recoded data.

3115.50 Die Designer develops plans for single stage or progressive stage dies for stamping, forming, forging, or extrusion presses, according to blueprints of product and knowledge of press characteristics and process limitations: Drafts drawings of dies necessary to form complete forging, stamping, or other part. Determines sequence and number of die stages in which single or progressive cutting, punching, and forming will be accomplished, and type of die sets required to produce complete part, based on knowledge of dies, forming processes, and machines. Drafts scale drawings of each die set, delineating contours and dimensions for manufacture of die. Compares part drawings with wood patterns of cast dies to determine correctness of pattern dimensions and form. May observe setup and tryout of newly developed die set in production machine to determine need for redesign or readiness for production use.

3115.60 Loco Foreman supervises and co-ordinates work of all employees of loco-shed under his charge, inspects loco-engine, gets scheduled repairs carried out, maintains ready required stock of loco-engine and details them according to instructions. Details engine crew for duty according to scheduled. Inspects locomotive before run to ensure that it is equipped with fuel, water and other supplies, and is in perfect running condition, examines locomotives after run by tapping parts such as rods , wheels and bolts with hammer to detect rupture, looseness or cracks. Measures wheel flanges with calipers and depth gauge to detect excessive wear or flat spots, directs or guides Fitter-Loco to undertake minor repairs. Reports major defects to superior officers for replacement of defective or broken stock of fuel such as coal, oil and other material etc. and arranges issues economically. Maintains and equips relief train and attends accidents and joint enquiries. May accompany Driver,

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Locomotive on special occasions or in emergency.

3115.65 Yard Foreman Railway; supervises and coordinates activities of yard staff, engaged in formation and breaking up of goods and passenger trains in marshalling order, according to instructions of Yard Master, and arranges for washing and cleaning of coaches. Ascertains that shift workers report as scheduled, and obtains replacement if necessary. Ensures that all incoming and outgoing trains are properly attended and checked by rolling stock staff – on-duty, as well as stationary stock of empty coaches are kept clear and are properly cleaned and washed. May arrange formation of special trains required for special occasions such as melas, marriages and emergencies.

3115.70 Train Examiner examines all trains and ensures that they are fit to run and that they fulfil required conditions. Attends to all incoming and outgoing trains at important railway stations. Supervises work of staff, details them for examination of couplings, wheels, hooks, vacuum pipes etc. of all passenger and goods trains, coaches and parts thereof of important trains using hammer, gauges and other tools to detect mechanical defects or deficiencies, if any. Gets minor defects or deficiencies removed by Fitter Railway Carriage and Wagon and submits fitness certificates or defect report to higher authorities. Detaches coaches which are unsafe for further running or requiring major repairs. Refers complicated cases to Head Train Examiner.

3115.90 Mechanical Engineering Technicians, other include all other mechanical engineering technicians engaged in manufacture, research, testing and other fields of mechanical engineering, not elsewhere classified.

3116 CHEMICAL ENGINEERING TECHNICIANS

Chemical engineering technicians perform technical tasks connected with chemical engineering research.

3116.10 Laboratory Assistant, Glass and Ceramics conducts routine tests of silica,

clay and other ingredients in laboratories for manufacturing glass and ceramic products. Sets up apparatus required for performing test to determine properties of clay, silica, etc. Prepares solution and reagents. Maintains charts and tables for data observed during experimentation. May undertake tests in laboratory independently.

3116.20 Laboratory Assistant, Food and Beverages sets equipment and apparatus and conducts routine test of food, drinks and other edible in laboratory to determine their properties, nutritional value, alcoholic contents etc. and to ensure that they conform to prescribed standards or have not been adulterated. Sets and operates required apparatus such as heaters, hydrometers, thermostats, vacuum pumps etc. depending on nature of test and type of material to be tested such as edibles, butter, milk, cold drinks etc. Performs routine tests of food, beverages, drinks and edibles by chemical processes for determining melting points, specific gravity, boiling point, reaction with chemicals and other factors as directed by **Chemists or Food Technologist** to find their properties, nutritional value, alcoholic contents etc. Ensures that food and beverages tested conform to prescribed standards, as stated on labels. Reports cases of adulteration, fermentation, putrefaction etc. to senior officers. Washes and cleans apparatus, keeps them in safe custody and maintains records as necessary. Keeps laboratory clean and tidy. May prepare standard solution reagents and other testing media.

3116.30 Laboratory Assistant, Chemical Engineering, General conducts chemical and physical laboratory tests and makes qualitative and quantitative analysis of material for purposes such as development of new products, materials, and processing methods and for maintenance of health and safety standards, working under **Biochemists; Chemists, Analytical; Chemists, Inorganic; Chemists, Organic; or Chemists, Physical**. Sets up laboratory equipment and instruments, such as ovens, leaching drums, gas cylinders, kilns vacuum chambers autoclaves, pyrometers and gas analyser. Analyses products, such as drugs, plastics, dyes and paints to determine strength, purity and other characteristics of

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chemical contents. Tests ores, minerals, gases and other materials for presence and percentage of elements and substance, such as Carbon, Tungsten, nitrogen, iron, gold or nickel. Prepares chemical solutions for use in processing materials, such as textile, detergents, paper, felt etc., following standard formulas.

3116.40 Core Analyst, Petrol and Natural Gas analyses cores taken from sub-surface earth formations for porosity, permeability, oil or water saturation, combustible gas content and amount of gas by volume to determine productivity of oil or gas bearing formations. Cleans cores with knife or scraper or breaks off outside surface with hammer to remove drilling fluid deposits. Examines cores under ultra violet light for fluorescence indicating presence of oil. Heats cores in retort, condenses oil or vapours and measures volume of condensates using balance scales and other instruments. Interprets findings to evaluate productive potential of oil or gas bearing formation.

3116.50 Laboratory Assistant, Petroleum and Lubricants; Crude Tester; Oil Tester; Gas Analyst (Petroleum refining) tests and analyses samples of crude oil and petroleum products during processing stages, using laboratory apparatus and testing equipment and following standard test procedures to determine physical and chemical properties and ensures prescribed standards of products manufactured. Tests samples of crude and blended oils, gases, asphalts, and pressure distillates to determine characteristics, such as boiling, vapour, freeze, condensation, flash and aniline points, viscosity, specific gravity, penetration, doctor solution, distillation and corrosion, using test and laboratory equipment, such as hydrometers, fractionators, fractional distillation apparatus and analytical scales. Analyses contents of products to determine presence of gases, such as propane, iso-butane, butane, iso-pentane, and ethane using appropriate distillation columns. Determines hydro carbon composition of gasolines, blending stocks, and gases using fractional distillation equipment and mass spectrometer. Operates fractional columns to separate crude oil into oils with different boiling points to determine their properties.

Analyses composition of products to determine quantitative presence of gum, sulfur, aromatics olefins, water and sediment. Compares colour of liquid product with charts to determine processing factors measurable by colour. Compares test results with specifications and recommends processing changes to improve and control quality of products. May test sub-surface cores during drilling operations.

3116.60 Chemist, Water Purification; analyses water in purification plant to control chemical processes which soften it or make it suitable for drinking: Analyses samples of filtered water to ensure that quantities of solids left in suspension are below prescribed limits. Determines amounts of liquid chlorine to be used in chlorinators to destroy microbes and other harmful organisms, basing amounts on findings of MICROBIOLOGIST. Determines kinds and amounts of chemicals to be used in removing minerals, acids, salts, and other inorganic compounds from water to soften it. Tests samples extracted from various points in distribution system, such as mains, tanks, pumps, and outlets, to discover possible sources of water contamination.

3116.90 Chemical Engineering Technicians, other include all other Chemical Engineering Technicians engaged in manufacture, research, processing and other fields of chemical engineering, not elsewhere classified.

3117 MINING AND METALLURGICAL TECHNICIANS

Mining and metallurgical technicians perform technical tasks connected with metallurgical research to develop improved methods of extracting solid minerals, oil and gas, as well as with the design, construction, operation, maintenance and repair of mines and mine installations, systems for transporting and storing oil and natural gas, and plant for extracting metals from their ores and refining metal.

3117.10 Rock Slicer; Section Cutter Prepares thin sections of rocks or minerals and grain mounts for identification of rocks and ores and for microscopic study and analysis. Holds small chips of rocks and

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grinds then on rotating wheels with carborandum powder to reduce thickness. Polishes one surface of chip by hand grinding on glass plate and mounts (fixes) thin rock slice on glass slide with Canada balsam (gum). Grinds other surface of chip to attain desired thickness and then covers it on top with another glass slide (cover slip) with Canada balsam. Grinds other surface to attain desired thickness of chip. Covers section by cover glass with Canada balsam. Fixes labels for marking. Marks glass slide with diamond pencil for numbering. Makes section finally ready for microscopic study.

3117.20 Petroleum and Natural Gas Extraction Technician records pressure, temperatures and other characteristics of oil and gas well boreholes of producing wells using special surface instruments and interprets findings for use in determining further drilling producing procedures. Directs workers in assembling wire-line hosting gear and attaching line to instruments. Gives directions to **Hoist Operator** to lower clinograph (a form of adjustable setsquare, the two sides forming the right-angle being fixed while the third size is adjustable) into well to determine variation of well from vertical line (instrument records variation on chart). Informs **Rotary Driller** of variation from vertical line. Lowers weighted wire into well and reads depth of well from recording wheel. Lowers depth bomb into well that records pressure at various depths to determine rate of natural flow of oil from well. Lowers thermometers and other instruments with accompanying recording devices through tubing, casing, drill pipe or open bore hole. Raises instruments from well and removes chart recording. Measures, converts, records and interprets data for use by engineering personnel and management in determining drilling or production procedure. May calibrate recording devices. May repair and maintain instruments.

3117.30 Laboratory Assistant, Metallurgical conducts routine tests of metals and alloys to determine their physical and chemical properties. Collects metallic wastes, metal samples or ores to be examined. Sets up scientific equipment required for testing. Assist Metallurgist in

testing and analysing different types of metals, their by-products, waste and alloys. May conduct examination of metals on his initiative independently.

3117.90 Mining and Metallurgical Technicians, other include all other mining and metallurgical technicians engaged in extraction and processing of minerals, manufacture, research, testing, etc. of metals and alloys, not elsewhere classified.

3118 DRAUGHTPERSONS

Draughtpersons prepare technical drawings, maps and illustrations from sketches, measurements and other data, and paintings on to printing plates.

3118.10 Draughtsman Architectural Prepares drawings of buildings, parks, gardens, monuments etc. from sketches, designs or data for construction. Studies notes, sketches and other engineering data of buildings, parks, gardens, monuments, etc. to be constructed. Draws sketches of required construction according to directions of **Architect** to suit purpose and environment; alters them if directed and get them approved by him. Draws to scale drawings according to approved sketches showing plan, elevations, settings, arrangements etc. as necessary. May trace drawing and make blue prints. May prepare architectural designs himself, may prepare estimate schedules for material and labour. May prepare perspectives designs and render them in colour or monochrome. May prepare model of constructions work. May work as **Draughtsman Civil**.

3118.20 Draughtsman, Civil prepares drawings of buildings, stores, high ways, dams, culverts, etc. from sketches, notes or data for purposes of construction or alternations. Takes instructions from **Civil Engineer** studies sketches and calculates dimensions from notes or data. Draws to given scale different elevations, plan, sectional views etc. of desired construction using drawing instruments. Draws detailed drawings of specific portions as required. Indicates types of materials to be used, artistic and structural features, etc. in drawing as necessary. May do tracing and blue printing. May reduce or enlarge

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drawings. May prepare or check estimate schedules for cost of materials and labour. May prepare tender schedules and draft agreements. May work as **Draughtsman Architectural**.

3118.30 Draughtsman, Electrical prepares drawings, diagrams of wirings of buildings, factories, high tension and low tension lines, appliances, motors, generators and other electrical equipment and goods from sketches, designs, data or sample for purposes of manufacture, installation, operation or repairs. Receives instructions from appropriate authority and studies design, sketches, notes, data etc. Draws to scale wiring diagrams, assembly arrangement and other drawings showing electrical connections fittings, sectional view etc. as required. Prints (writes) necessary instructions on drawing such as number of wire, type of insulation etc. to clearly indicate required details. May calculate details from available information by application of standard formulae. May trace and prepare blue prints. May prepare plans of electrical lifts. May prepare estimates, tender schedules and draft agreements.

3118.40 Draughtsman, Mechanical prepares drawings of machines, plants, mechanical components, equipments, etc. from sketches, notes, data or sample for purposes of manufacture or repairs. Takes instructions from **Mechanical Engineer** and calculates dimensions as required, from available materials (notes, data etc.) or sample. Draws to scale detailed drawings, assembly drawings, showing plan, elevations, sectional views etc. according to nature of work and operations required. Prints (writes) dimensions, tolerances, material to be used and other details to give clear picture and facilitate understanding. Maintains copies of drawings and makes blue prints. May trace drawings. May design simple mechanical parts. May prepare estimates for materials and labour required. May specialise in making drawings of jigs and tools and be designated accordingly.

3118.50 Draughtsman, Structural prepares drawings of bridges, steel structures, roof trusses etc. from sketches, designs or data for purposes of construction, alteration or

repairs. Studies sketches, data, notes etc. and receives instructions from **Structural or Mechanical Engineers** regarding details and types of drawings to be made. Calculates dimensions as necessary from available notes, data etc. and by application of standard formulae. Draws to scale detail, assembly and arrangement drawings showing sectional plan and other views as directed and prints (writes) necessary instructions regarding materials to be used, limits, assembly etc. to clearly indicate all aspects of structure to be manufactured. May prepare estimate and operation schedules for labour and material costs. May prepare tender schedule and draft agreements. May prepare tables showing requirements of bars, their numbers, sizes and shapes. May trace and make blue prints.

3118.60 Draughtsman, Topographical Sketches topographical drawings to scale in different colours using blue print prepared from field plane tables. Carries out independently projection of small scale map to predetermined size, incorporating features covered in survey, producing total geographical effect by hill shading, giving contours, profile, cross sections, authorised symbols, etc. Uses grid tables, projection table compasses, pantograph, planimeter, etc.

3118.70 Lithographic Artist; Crayon Artist; crayon lithographer; lithographic designer produces key pattern by copying or creating original designs on prepared medium (polished or grained stone, zinc or aluminium, transfer or glazed paper) with soft greasy crayons for subsequent processing and printing.

3118.80 Tracer makes copies of plans and drawings from original by spreading tracing paper or cloth on original and tracing in ink or pencil. Places original drawing on drawing board and secures it with drawing pins. Spreads tracing paper (transparent paper) or tracing cloth on original drawings. Traces outlines and other details of original drawing on tracing paper with pencil or special ink. Checks and ensures that tracings contain complete and accurate details as shown in original. May trace drawings on tracing tables or tracing boxes fitted with reflected or electric light arrangement. May operate pantograph machine to make

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enlarged copies of maps, layouts, plans etc. and compute area. May print letters uniformly or plans and sketches using special printing set. May take out blue prints, ammonia prints and Ferro prints from tracings using printing frame or machine.

3118.85 Blue Printer prepares prints of drawings and sketches on sensitized paper (blue printing paper) using printing frames or machines. Turns printing frame to get glass side facing ground. Places original drawing or sketch on glass of printing frame to serve as original and spreads sensitive paper (special type of blue printing paper) over it. Closes door of printing frame tightly using paper sheets and felt strips. Pushes trolley frame (in which printing frame is fitted) to sun light and tilts printing frame to bring glass surface to face sun light and tighten it there. Exposes frame to sun light for fixed period as directed depending on season and type of sensitive paper used. Removes exposed paper from frame and develops it in fixing bath (developer). Washes fixed or printed paper (blue print) in water and dries it in shade or in hot chamber. May place role of sensitive paper and original together, expose for specified period and feed back original every time as it comes out of delivery and if engaged in preparing blue prints by automatic printing machine. May develop exposed sensitized paper with fumes of liquid ammonia either separately in special chamber or in second chamber of automatic printing machine if provided. May prepare sensitive paper with special chemical solution. May clean and oil printing trolley and frame. May be designated as **Ferro-printer, Ammonia Printer**, etc., according to type of printing material used.

3118.90 Draughtspersons, other include all other draughtsmen engaged in preparing drawings, maps and like sketches, not elsewhere classified.

3119 PHYSICAL AND ENGINEERING SCIENCE TECHNICIANS n.e.c.

This Family covers physical and engineering science technicians not classified elsewhere in Group 311, Physical and engineering science technicians. For instance in this Family should be classified those who assist

engineers with production engineering matters, time and motion studies, or preparation of cost estimates and bills of quantities.

3119.10 Laboratory Assistant, Engineering fits and sets model engine, machines, Theodolite, meters and other equipment for conducting experiments and for demonstration in engineering laboratory. Sets up in position required apparatus and instruments either inside laboratory or in open as necessary and makes necessary connections with pumps, gauges, vacuum pipe, electrical lines etc. as required. Conducts routine experiments to explain or establish theoretical principles or observe performance, determine horse power, forces focal length, speed, effect of magnetism, pressure, vacuum, etc. as required. Maintains records of observations for calculation and reference purposes. Assists engineers in conducting study or research on engineering problems. May clean lenses and instruments and oil and grease machinery to maintain them in good condition. May do minor repairs to equipment and apparatus. May maintain inventory of apparatus and equipment and replace defective ones. May specialise in any particular branch of engineering laboratory and be designated accordingly.

3119.20 Forensic Science Technicians collects, identifies, classifies, and analyzes physical evidence related to criminal investigations. Performs tests on weapons or substances, such as fiber, hair, and tissue to determine significance to investigation. May testify as expert witnesses on evidence or crime laboratory techniques. May serve as specialist in area of expertise, such as ballistics, fingerprinting, handwriting, or biochemistry. Analyses and classifies biological fluids using DNA typing or serological techniques. Analyses gunshot residue and bullet paths in order to determine how shootings occurred. Analyses handwritten and machine-produced textual evidence to decipher altered or obliterated text or to determine authorship, age, and/or source. Collects evidence from crime scenes, storing it in conditions that preserve its integrity. Collects impressions of dust from surfaces in order to obtain and identify

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fingerprints. Confers with ballistics, fingerprinting, handwriting, documents, electronics, medical, chemical, or metallurgical experts concerning evidence and its interpretation. Determines types of bullets used in shooting and if fired from a specific weapon. Examines physical evidence such as hair, fiber, wood or soil residues in order to obtain information about its source and composition.

3119.30 Finger Print Expert examines fingerprints in criminal investigation and for identifying persons. Examines finger prints impressions visually or with magnifying glass and scientific apparatus to find out their characteristic. Classifies and arranges finger print impressions according to grouping depending on their characteristics. Compares these fingerprints with those on record to establish identity of persons. Examines finger print impressions found at scene of crime with powerful light and scientific apparatus such as magnifying, glass, microscope, etc. and gets them photographed. Checks and compares photo impressions with those of known criminals on file of police to establish identity. Assists court in identifying thumb impressions in forgery and impersonation cases by comparing disputed impressions with admitted ones. Attends court when required to give evidence in criminal or civil cases to prove identity of impressions. May examine palm and identify footprints by tracing, tracking, casting etc. May take photographs of impressions and develop them to locate fugitives, absconders, establish identity of dead persons etc.

3119.35 Handwriting Expert; Document Examiner examines and identifies handwriting for detecting forgery. Studies hand written letters, documents, etc. to ascertain their genuineness. Examines and compares hand writing or signature on letters, documents etc, referred to with writings or signature of concerned persons. Notes carefully suspicious retouching, erasures, obliterations, etc. Takes photograph of document under ultra violet ray or other filtered lights to make super imposed writing disappear to reveal original writing. Determines genuineness or forgery of signatures and writings by identifying feature using microscope. Reports findings

with reasons to courts or other judicial authorities. Maintains record of photographs or interesting forged documents, signatures, letters; etc. May establish re-use of cancelled postage or other stamps. May attend court to give evidence.

3119.37 Impression Taker (inscription) takes ink impression of inscriptions found on temple walls, stone slabs, pillars and other monuments on paper as required by Epigraphist. Places wet paper on inscribed portion of stone or metal plate. Beats paper over inscribed portion with hand brush so that paper gets into incision of engraved letters and applies black ink on surface of paper. Removes inked paper from stone inscription, showing real inscriptions in white against black background. Hands over paper containing inscription to Epigraphist for deciphering.

3119.40 Weather Observer; Meteorological Technician observes and records weather conditions for use in forecasting. Periodically observes general weather, sky and visibility conditions, and reads weather instruments including thermometers, barometers, and hygrometers to ascertain elements, such as temperature, barometric pressure, humidity, wind velocity, and precipitation. Transmits and receives weather data from other stations over fax machine or e-mails. May collect upper air data on temperature, humidity, and winds, using weather balloon and radio sound equipment. May conduct pilot briefings.

3119.50 Methods and Time and Motion Study Technician studies and records time, motion methods and speed involved in performance of maintenance, production, clerical and other worker operations to establish standard production rate and to improve efficiency. Prepares charts, graphs, and diagrams to illustrate work flow routing, floor lay outs, material handling, and machine utilisation. Observes workers operating equipment or performing task to determine time involved and fatigue rate, using stopwatch, electrical recorder, and similar instrument. Recommends revision of methods of operation or material handling, alterations in equipment lay out, or other changes to increase production or improve standards. Aids in planning work

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assignments in accordance with worker performance, machine capacity, production schedules, and anticipated delays.

3119.90 Physical and Engineering Science Technicians, other perform various routine technical tasks in laboratory or field connected with setting apparatus, conducting tests, making observations, analysing data, writing reports, issuing instructions, etc. and include all other physical and engineering science technicians possessing basic technical knowledge not elsewhere classified.

312 COMPUTER ASSOCIATE PROFESSIONALS

Computer associate professionals provide assistance to users of micro computers and standard software packages, control and operate computers and peripheral equipment and carry out limited programming tasks connected with the installation and maintenance of computer hardware and software.

3121 COMPUTER ASSISTANTS

Computer assistants provide assistance to users of micro-computers and standard software systems at installation and when problems occur, install new computer programmes on particular hardware and operating systems configurations, install new peripheral units, and maintain and update existing programmes by making minor changes and adjustments to them under guidance of Computer Professionals.

3121.10 System Administration Assistant provides assistance to users of microcomputers and standard software systems at installation and when problem occurs. Installation/Reinstallation of new computer programmes on particular hardware and operating systems configurations. Installs new peripheral units and make necessary parameter adjustments in operating systems and drives. Performs back-up operations. Keeps log of computing system. He may receive guidance from Managers or professionals. May supervise other workers also.

3121.20 Programming Assistant installs, maintains and updates computer programme by making minor changes and adjustments to them under the guidance of computing professionals. Maintains and updates documents of computer programmes and installations. Applies knowledge of principles and practices in the area of programming and computing in order to identify and solve problems arising in the course of their work. He may receive guidance from managers or professionals. May supervise other workers also.

3121.30 Computer Security Specialist regulates access to computer data files, monitors data file use, and updates computer security files: Enters commands into computer to allow access to computer system for employee who forgot password. Reads computer security files to determine whether denial of data access reported by employee is justified. Modifies security files to correct error, or explains that employee authorisation does not permit access. Answers employee questions about computer security. Modifies security files to add new employees, delete former employees, and change employee name, following notice received from computer user departments and personnel office. Sends printouts listing employee data authorisation to computer user departments to verify or correct information in security files. Reviews data use records and compares user names listed in records with employee authorisation to ensure that all employees who accessed data files were entitled to do so. Deletes data access of unauthorised users, and for users who have not used data for specified time.

3121.35 Data Recovery Planner; Disaster Recovery Manager develops, coordinates implementation of, and tests plan to continue establishment data processing activities at off-site location in case of emergency, such as fire, at main site. Establishes priority of data processing activities according to importance to business. Determines hardware, software, data files, safe storage facilities, and other resources required. Develops plan to meet emergency data processing needs. Identifies personnel needed to implement plan. Presents plan to management and recommends means of obtaining required facilities, such as

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contracting with off-site vendor. Coordinates implementation of plan. Tests emergency data processing system, using computer and test data. Writes report to document test results and updates emergency recovery procedures.

3121.40 Medical Transcriptionists use computer and transcribing machines with headset and foot pedal or voice mail to listen to recordings by physicians and other healthcare professionals dictating a variety of medical reports, such as emergency room visits, diagnostic imaging studies, operations, chart reviews, and final summaries. Carries out programming tasks connected with the installation and maintenance of computer hardware and software. Transcribes dictated reports and translates medical jargon and abbreviations into their expanded forms. Edits as necessary and returns reports in either printed or electronic form by mail/e-mail to the dictator for review and signature, or correction.

3121.50 Desk Top Publishing Operator lays out pages, selects size and style of type, and enters text and graphics into computer to produce printed materials, such as advertisements, brochures, newsletters, and forms, applying knowledge of graphic arts techniques and typesetting and using computer: Reviews layout and customer order. Enters text into computer, using input device such as mouse, keyboard, scanner, or modem. Scans artwork, using optical scanner which changes image into computer-readable form. Enters commands to position text and illustrations on page grid of computer monitor. Creates spaces between letters, columns, and lines, applying knowledge of typesetting, and enters commands, using input device. Arranges page according to aesthetic standards, layout specifications of Graphic Designer, and applying knowledge of layout and computer software. Prints paper or film copies of completed material. May alter illustration to enlarge, reduce, or clarify image. May operate automatic film developer to process photographs. May assemble artwork into paste-up and perform key lining manually.

3121.90 Computer Assistants, other include all other computer assistants not elsewhere classified.

3122 COMPUTER EQUIPMENT OPERATORS

Computer equipment operators operate and control peripheral and related computer equipment used for recording, storing, transmitting and processing digital data and for displaying data as letters, numbers or graphs on screen, paper or film.

3123 INDUSTRIAL ROBOT CONTROLLERS

Industrial Robot Controllers activate industrial robots, programme or reprogramme them for specific functions, control their operation, and provide basic maintenance and on the spot adjustments.

313 OPTICAL AND ELECTRONIC EQUIPMENT OPERATORS

Optical and electronic equipment operators take photographs, control motion picture and video cameras and other equipment to record and edit images and sound, control broadcasting and telecommunications equipment and systems as well as technical equipment used for medical diagnosis or treatment.

3131 PHOTOGRAPHERS AND IMAGE AND SOUND RECORDING EQUIPMENT OPERATORS

Photographers and image and sound recording equipment operators take photographs, control motion picture and video cameras and other equipment to record and edit images and sound.

3131.10 Cinematographer; Cameraman, Motion Picture photographs persons, scenes and places with motion picture camera for production of feature films. Receives instructions from Producer, **Motion Picture** as to type and photographic effect desired on scenes to be filmed. Directs loading of camera with reel of film. Positions or supervises setting up of camera by assistant; focusses and sets camera on scene or object to be shot; controls lighting for desired

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general detail of scene to be photographed; hooks up motor on camera at starting signal of Director Motion Picture; turns on motor switch of camera, puts his eyes close to view finder or looks through film with eye-piece, and follows scene of action, moving or adjusting his camera by hand. Unloads camera when film reel is fully exposed for further processing. Writes camera reports indicating details of shooting, lighting conditions, types of lenses, filters and diffusers used. May direct setting up and making of various adjustment of power driven motion picture camera.

3131.15 Movie Cameraman; Cine Cameraman photographs persons, places and events with movie camera (cine) for purposes other than production of feature films. Loads cine camera with film either coloured or black and white as required. Visits place of interest, event or assembly. Holds or places camera at desired angle and distance from subject to be photographed; adjusts lens, aperture, depending on type of subject and lighting condition or arranges artificial light for better effect; focusses camera lens or lenses to subject holding his eye close to view finder or looking through film with eye-piece and exposes certain length of film by pressing lever to run motor inside camera. Alters angle or distance of shot as required. Unloads camera when film is exposed and sends film for developing. Views processed film against light and cuts and trims films to make desired strip of subject. Projects or exhibits film on screen using projector to explain events function, for audience. May develop and process films. May enlarge prints. May attend to minor repair to cine cameras. May be designated as **Television Cameraman** if engaged in television studio.

3131.20 Cameraman (Animation) operates special camera to make animated cartoon motion picture film. Discusses with Director and Producer, (Film) and renders advice about camera movements and feasibility of variety of shot; envisages in script and chart and suggests alternatives wherever necessary. Receives animation charts and drawings. Sets and adjusts camera and lighting exposure appropriate to type of film used and mood and effect to be emphasised.

Installs frame on camera table for exposure and positions overhead camera suspended securely over frame. Shoots frame by frame in a predetermined sequence and regulates exposure and aperture to obtain special effect such as fade out or fade in. Instructs Laboratory Technicians about method of processing of films, which need special treatment for effective development of striking feature of certain shots.

3131.25 Photographer, General takes photograph of persons, places, or other subjects, using various kinds of photographic equipment. Measures day light using exposing meter or arranges artificial lighting and holds or places camera at desired angle and distance from subject to be photographed. Focuses lens and adjusts lens opening and exposure time. Loads camera with film or plate. Presses lever to open lens shutter and exposes film or plate by pressing lever, allowing time, if necessary and removes negative from camera. Develops negative in darkroom by dipping it in developer, washing it in fixing solution and further washing it in water and allows developed film to dry. Examines developed film for defects, and retouches negative using pencil or brush after applying retouching medium. Makes prints or enlargements in sensitized paper; dries them by grazing on glazing-sheet or by spreading on flat surface and trims glazed or unglazed prints according to required size and mounts them. May take colour photographs and develop colour films adopting special processes. May specialise in studio photography or take photographs of important events for reproduction in newspapers, buildings, machinery, industrial plants, for trade advertisements.

3131.30 Photographer News; Press Photographer photographs news events, persons or objects for use in news-papers, magazines and other publications. Receives instructions from News Editor or Chief Reporter regarding nature of pictures to be taken. Travels to location; loads camera with film, waits for suitable moment and takes photographs. Attends State functions and parties and takes photographs of important persons arousing special interest of news value for publication. Accompanies important visitors and dignitaries and takes photographs of significant events associating important persons. Removes exposed film for

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developing and printing. Examines print, gives appropriate title or heading, and hands it over to News Editor for publication. Supplies series of pictures on selected topics, for writing feature articles in magazines. May develop films and print copies.

3131.35 Photographer, Aerial photographs objects, places and areas of vital importance from aeroplanes in flight, for use in surveys, planning, development and other scientific and military purposes. Determines number of exposures and time lapse between them by making necessary calculations. Loads camera, adjusts exposure-time and exposes film by opening shutter at calculated intervals. Operates and maintains automatic camera and photo equipment for aerial photographs. Develops aerial films of various types in automatic, semi-automatic or manual tank developers. Makes prints for photo interpretation.

3131.40 Sound Recording Equipment Operator operates electronic equipment which records sound in pulses on composition discs or on reels of tape, wire or film for such uses as film and gramophone record production and radio broadcasting. Places microphones in position and connects them to recording equipment. Places blank discs or reels of tape, wire or film in machine. Sets volume and tone controls and makes other adjustments as necessary. Starts machine, watches its operation closely and listens, by means of headphones or loudspeaker, to sound being recorded. Manipulates controls during operation as required. May perform minor repairs.

3131.50 Film Editor edits motion picture films in sequence as per script by cutting away unwanted portion of film and synchronises picture and sound negatives. Studies script or story of picture. Examines picture and sound negatives over editing table fitted with special lighting effects. Marks unnecessary portions of film and cuts them. Joins ends of selected lengths of films in proper sequence on splicer machine using special adhesives (cement). Arranges film in convenient number of reels or parts and inserts appropriate titles and banners for distinction. Views assembled film on screen for corrections if any. Synchronises picture

negative with sound negative and fills up void portions with necessary music track.

3131.90 Photographers and Image and Sound Recording Equipment Operators, Other take photographs of persons, places and objects and record sound for different purposes & include Photographers, image and sound recording equipment operators not elsewhere classified.

3132 BROADCASTING AND TELECOMMUNICATIONS EQUIPMENT OPERATORS

Broadcasting and telecommunications equipment operators control technical functioning of equipment for transmitting radio and television broadcasts of pre-recorded or live images and sounds, as well as other types of telecommunications signals on land and sea or in aircraft.

3132.10 Supervisors, Broadcasting, Audio-Visual Projection and Sound Equipment Operations supervise upkeep, setting and proper operations of television and radio broadcasting and recording units, cinema projectors and other audio-visual and some equipment and ensures their proper performance. Examines broadcasting, recording, transmitting and receiving units, projectors and other audio-visual and sound equipment for operational efficiency. Checks equipments part by part according to prescribed specifications, gets defects removed and puts them in trial to observe density, linearity, clarity of picture and voice and other factors, as appropriate. Synchronises sound with picture in audio-visual projections such as in television, cinematography, etc., and ensures correct matching. Gets machines and equipment set according to programme set adjusts them as necessary and guides workers in proper operations to audience desired result. Maintains prescribed records and registers and ensures proper upkeep of all machines and equipment under his charge. May be designated as **SUPERVISOR BROADCASTING UNIT; SUPERVISOR RECORDING UNIT**, etc., according to nature of work performed.

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3132.20 Television Broadcasting Station Operator operates and adjusts equipment associated with transmitter of television broadcasting station. Switches on transmitter, views programmes through television monitor and adjusts picture for quality. Listens to programmes through loud speaker or headphone, observes indicators and adjusts tone and volume. Switches off transmitter on completion of programme, gets defects removed if any and keeps it ready for next set. May make minor repairs and replace parts.

3132.30 Radio Operator, Broadcasting Station; Engineering Assistant, Broadcasting Station adjusts tunes and operates transmitting and receiving equipment for broadcasting news and other programmes. Switches on and operates transmitter for broadcasting news or programme. Listens to broadcast through headphone or loudspeaker and manipulates control knobs to adjust volume and tone. Fixes up microphone, adjusts amplifier level and monitors loudspeakers by further tuning, if necessary, to ensure clarity of reception. Adjusts and tunes receivers for relaying different stations. May work at transmitting of receiving station or at Studio Centre. May operate transmitter of television station. May do minor repairs and replace defective parts. May record music, talk etc. for relaying.

3132.40 Cinematograph Operator; Cinema Projectionist; Cinema Operator, Cine Projectionist sets and operates motion-picture projector with sound-reproducing projector with sound-reproducing equipment on screen and attends to their repairs. Winds films on reel, places reel on projector and draws filmstrip through guide rollers and light chamber to collecting film roller below. Starts machine. Adjusts lens and sound reproduction equipment to obtain clear image of projected film on screen, synchronise sound reproduction at required pitch and get machine ready for show. Projects film on screen as scheduled through projection box and checks correct focus and sound reproduction while film is being shown. Stops machine in case of film stripping or breakage, joins ends of film and resumes projection after necessary setting within minimum possible time. Removes collected film on lower reel to rewind and keep it ready for next

show. Cleans and oils projector parts periodically. May project films on portable screens, outdoors, etc.

3132.50 Public Address Equipment Operator installs and operates sound amplifying equipment used at public functions. Places loudspeakers in position and connects loudspeaker wires to amplifiers. Places microphones near speaker, orchestra or other sources of sound. Connects microphone wires to amplifiers. Tests installation by switching it on and listening from various points while some one talks into microphone. Adjusts position of microphones and loud speakers, if necessary, and regulates volume and tone during operation of equipment. May operate tape recorder or record player. May repair sound-amplifying equipment.

3132.55 Station Officer, Overseas Communication Engineer Overseas Communication sets, operates and maintains wireless transmission and receiving equipment on prescribed cycle at scheduled hours for communications of over-seas and long distance(inter-nations) messages. Adjusts communication transmission instrument to have maximum number of messages despatched and receiving stations contacted on allotted frequency channels and prescribed cycles at scheduled hours. Adjusts receiving instruments for selectivity, sensitivity, and clarity of messages received and sent and decides on most appropriate wave length, frequency, aerial etc. Detects disturbances or jamming of communication interference with transmission, etc. and reports unauthorized use of frequency channels by other organisations to higher authorities. Evolves maintenance schedules of equipment power supply, carrier channel, etc. and supervises repairs and replacements of defective parts using test equipment like cathode rays oscillographs and distortion sets. Supervises work of Station Technical Assistants, advises higher formation for speedy clearance of traffic on particular frequency at scheduled hours and guides them where necessary. Maintains necessary records for reference and other official purposes. May specialise in operation, design and maintenance of any particular kind of telecommunication equipment like aerials, transmission equipments, receiving

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equipments, etc. May work at transmitting and receiving stations or at telegraph office.

3132.60 Station Technical Assistant, Overseas Communication; assists Station Officer Overseas Communication in setting, operating and maintaining wireless transmission and receiving equipment. Receives instructions from Station Officer Overseas Communication and sets and operates wireless receiving and transmitting equipment such as radio transmitting and receiving equipment, land line and V.F.T. (Voice Frequency telegraphy) equipment, radio telephone and terminal equipment, transistors, radio-photo equipment (equipment for radio photography), radio facsimile equipment (equipment for radio black and white sketches and diagrams) etc., on prescribed frequency channels and cycles during scheduled hours to receive and transmit messages. Assists Station Officer Overseas Communication in running submarine cable circuits, operating automatic error correcting and detecting equipment, measuring radio frequency, checking radio signals, choosing right aerial to obtain optimum signal; changing transmitter waves, clearing faults, etc. and in their installation and maintenance work. May be designated as PHOTO-RADIO OPERATOR if engaged only for receiving and transmitting radio photographs. May appreciate sub-normal radio condition and assists in improving them. May work as transmitting or receiving station or at central telegraph office.

3132.65 Wireless Operator operates, tunes and maintains wireless equipment for receiving and transmitting messages in code or plain language on particular wavelength and deciphers coded messages received for onward delivery. Operates switches to connect transmitter to generator and telephone or telegraph equipment. Sets wireless equipment to required frequency by turning dial and tunes it to requisite volume and tone. Transmits messages by radiotelephone or radiotelegraph in plain or coded message. Receives messages in coded or plain language, writes them on special forms, deciphers coded messages, if necessary, and delivers them to proper authority through messengers. Maintains records and logbooks of messages received and despatched. May charge

batteries, change valves of wireless equipment and rectify minor faults.

3132.70 Radio Operator, Ship operates radio equipment on board ship for receiving and transmitting code messages by radio telephone or radio-telegraph system. Adjusts and sets apparatus to operate on desired frequency. Maintains regular contact with nearest coastal radio stations to obtain weather reports and time-signals and reports necessary information about ship's navigation and location. Keeps regular watch to pick up signals from ships in distress. Provides navigational warnings and reports weather conditions. Maintains wireless equipment in working order, record of messages received or sent and does minor repairs and replacements of parts. May also maintain radar equipment.

3132.75 Radio Operator, Aircraft; Radio Officer, Aircraft operates and adjusts radio equipment on board aircraft in flight to maintain contact with ground station, exchange messages and to inform Pilot about weather conditions, landing instructions etc. Inspects equipment including radar before undertaking flights. Operates radio to send and receive messages and maintains contact with ground stations. Receives weather information and other messages in prescribed code from Control Tower Operator and transmits them to Pilots during flights. Operates radio navigational equipment and frequently tunes to detect or listen to international distress signals. Maintains log of all messages and instructions received and despatched. May do repairs to radio during emergency. May operate direction finding equipment and report readings to Pilot.

3132.76 Control Tower Operator, Aerodrome Operates and adjusts wireless equipment for transmitting and receiving messages to and from aircrafts for landing, taking off, etc. Adjusts wireless equipments to proper wavelength and correct frequency. Establishes radio contact with incoming air-transport and transmits messages received from Traffic Controller for Pilots to fly on specific course at definite flying level and also communicates other information regarding weather condition at field. Signals aircraft at down-wind end of runway when to take off by means of electric ray gun or flag. Controls airport lights (boundary, runway, hazard and

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flood lights) by electric push batteries. Maintains record of all messages received and despatched for inspection. Reports defects in lighting arrangements to Chief Controller to arrange for rectification. May operate radar for aircraft identification and weather conditions. May signal aircraft not equipped with radio by means of flag or electric-ray gun.

3132.80 Radar Operator operates and maintains radar equipment to give range and direction of targets or objects such as aircrafts, fog, rain clouds and cyclonic storm in sky around operating station. Switches on radar set and opens filaments and blower units. Allows set to warm up and raises high-tension voltage slowly to achieve operating condition. Switches aerial rotation circuit, and observes image on radar screen with aid of short, medium or long range scales to determine distance altitude, direction and speed of object detected. Employs voice communication (Radio-telephone or Morse) to convey information to operating room. May attend to minor faults to maintain set in operating conditions.

3132.81 Telegraphist operates key of morse apparatus to transmit and receive messages in morse code. Fixes messages to be transmitted near morse apparatus. Reads messages and operates morse apparatus key accordingly to transmit message in morse code. Receives message by sound in morse code, deciphers and transcribes it simultaneously on telegraph form. Collects number of messages from receiving station, notes it on local number slip and tallies it. Hands it over to Peon for onward delivery to addressees. Reports improper communication and operational defects to Testing Telegraphist.

3132.82 Telegraphist, Overseas operates telegraph equipment such as keyboard perforator, puncher, printer, undulator, etc. for transmitting and receiving overseas and long distance signals and messages. Receives messages to be transmitted from general section and checks their correctness with regard to writing, number of words, nature of message such as urgent, priority, ordinary, etc. Places manuscript of messages on electrical telegraphic type-writer and operates keys accordingly to type out message for further processing. Processes message

accurately into perforations on paper tape by another machine without omissions or mutilations. Feeds perforated slip into automatic transmitter which transmits message to destination where they are received, transcribed or printed by receiving set. Loads magazine of receiving machine with roll of blank white paper tape and draws its end (tape) through machine. Watches machine receiving and transforming message into perforations on paper tape. Tears strip from printer machine and pastes or gums message on message pad in reading or letter form. Ensures that message received is correct and complete in every respect and contains necessary particulars like office of origin, place of destination, number of words charged, priority or ordinary etc. Places received message at central or specified place for collection and delivery to addressees. Reports defects of machine or equipment to superiors for rectification. Performs non-manipulative duties such as entering date and time of receipt of messages, ensuring that messages have been correctly billed, amount charged has correctly been entered in foreign exchange amount, etc.

3132.83 Signaller, Ship; Signaller, Ship signals messages by waving flag or flashing semaphore(light) depending on natural light and weather conditions to port authorities and nearby ships. Keeps watch at port, observes approaching ships with binoculars and informs authorities accordingly. Obtains instructions from superiors regarding place or position where incoming ship is to be communicated to ship authorities at sea. Passes messages in inter-national signalling system to ship authorities by signalling with flags or flashes of semaphore depending on visibility and weather conditions. Maintains record of all messages sent out or received. Receives messages from ships, informs Pilot and arranges for piloting ship in to port. Arranges launches and board for shipping crew or Pilot for going to ship or coming to shore. Takes barometer readings, observes force and direction of wind, wave positions, etc. and records them in log book. Attends to telephone calls regarding movement of ships and any messages to be sent. Maintains shipping register indicating name of ship, time of arrival and departure, place where berthed, etc. Hoists weather signals or flags at time of emergency, warning ships to stay at sea.

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Performs watch duty by shifts from observations tower.

3132.84 Light Keeper, Light House operates light house signalling equipment to guide incoming or passing ships, keeps watch during night and maintains equipment in working order. Lits gas lamp (lighting equipment) at dusk by lighting its burner with spirit lamp. Opens valve of oil drum to supply oil under pressure through pipe to gas lamp. Cleans nozzle hole of burner using pin to remove obstruction if any. Maintains supply of oil to burner at prescribed pressure as indicated in meter of oil drum. Ensures that mantles of gas lamp burns brightly without any flame. Winds machine to full tension by rotating or winding driving pulley with hand lever or handle and then releases it to rotate lens around light or lamp to throw out light rays at set speed. Winds driving pulley at prescribed interval (once an hour) to keep it under full tension. Records meteorological data, direction of wind, temperature (both inside and outside) of lamp-room, condition of seas (whether calm, moderate or rough) etc.; at prescribed intervals. Puts out light at sunrise by cutting off oil supply to gas lamp. Cleans and polishes lenses, lamp and glass panes daily using special cloth and solution. Oils bearing wheel, clock work, weight shaft mechanism and other equipment during day. Ensures that oil drum is full and is maintained at prescribed pressure. Submits periodical reports regarding condition of light-house, meteorological data etc.; to superiors. Attends to minor breakdowns and replaces parts such as burner, mantle etc; as required. Reports to superiors cases of major breakdowns for rectifications. Maintains general cleanliness and ensures that ladder platform, galleries, dome, etc. are in perfect service condition. Replenishes stores as required. May light buoys in harbour.

3132.90 Broadcasting and Telecommunications Equipment Operators, other include those who control technical functioning of equipment for transmitting radio and television broadcasts of pre-recorded or live images and sounds, as well as other types of telecommunications signals, not elsewhere classified.

3133 MEDICAL EQUIPMENT OPERATORS

Medical equipment operators control technical equipment used to diagnose or treat illnesses and disorders.

3133.10 X-Ray Technician; Radiographer; Radiological Assistant takes X-ray skiagraphs (Photographs) for diagnosis of ailments or gives ray treatment by operating X-ray equipment and exposing patient to rays. Prepares or gets patient prepared by Nurse for ray exposure. Regulates duration and intensity of exposure by adjusting machine and exposes patient to rays as directed by Radiologist. Positions patient on Xray couch to ensure correct exposure of part of body required to be X-rayed and for ray exposure taking care to protect patient and himself from harmful exposure to X-ray. Adjusts X-ray tube at proper distance and angle, by rotating pivot etc. to ensure centering of tube on part of body to be X-rayed. Regulates controls of Xray machine or therapy equipment, for duration intensity of exposure and exposes film or patient to rays as directed by Radiologist. Removes cassette with exposed film and hands over to **Dark Room Assistant** where available for developing fixing, washing, Labelling (date and name of patient) etc. mixes develops fixers etc. and processes X-ray films in accordance with techniques and instruction of Radiologist. Keeps records of raw and exposed films, spare parts and of patients X-rayed or treated. May mix developers and process film in accordance with prescribed techniques.

3133.20 Biomedical Equipment Technician electronics technician; biomedical engineering technician Repairs, calibrates, and maintains medical equipment and instrumentation used in health-care delivery field: Inspects and installs medical and related technical equipment in medical and research facilities for use by physicians, nurses, scientists, or engineers involved in researching, monitoring, diagnosing, and treating physical ailments or dysfunctions. Services various equipment and apparatus, such as patient monitors, electrocardiographs, blood-gas analysers, x-ray units, defibrillators, electrosurgical units, anesthesia apparatus, pacemakers, blood-pressure transducers, spirometers, sterilisers, diathermy equipment, in-house television

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systems, patient-care computers, and other related technical paraphernalia. Repairs, calibrates, and maintains equipment, using handtools, power tools, measuring devices, and knowledge of manufacturers' manuals, troubleshooting techniques, and preventive-maintenance schedules. Safety-tests medical equipment and health-care facility's structural environment to ensure patient and staff safety from electrical or mechanical hazards. Consults with medical or research staff to ascertain that equipment functions properly and safely, utilizing knowledge of electronics, medical terminology, human anatomy and physiology, chemistry, and physics.

3133.90 Medical Equipment Operators, other includes those who are engaged in controlling technical equipment used to diagnose or treat illnesses and disorders not elsewhere classified.

3139 OPTICAL AND ELECTRONIC EQUIPMENT OPERATORS n.e.c.

This Family covers optical and electronic equipment operators not classified elsewhere in Group 313 Optical and electronic equipment operators.

3139.10 Laser Technician constructs and tests prototype gas or solid-state laser devices, applying theory and principles of laser engineering and electronic circuits: Reviews project instructions, such as assembly layout, blueprints, and sketches, and confers with engineering personnel to clarify laser device specifications. Interprets production details, such as dimensions and functional requirements, for workers engaged in grinding mirror blanks, coating mirror surfaces, and machining metal parts. Installs and aligns optical parts, such as mirrors and waveplates, in laser body, using precision instruments. Turns controls of vacuum pump and gas transfer equipment to purge, evacuate, and fill laser body with specified volume and pressure of gases, such as helium, neon, or carbon dioxide, to test laser beam. Assembles completed laser body in chassis, and installs and aligns electronic components, tubing, and wiring to connect controls, such as valves, regulators, dials, and switches. Sets up precision electronic and optical instruments to test laser device, using specified electrical or optical inputs. Tests laser for gas leaks, using

leak detector. Analyses test data and reports results to engineering personnel.

3139.90 Optical and Electronic Equipment Operators, other include all other technicians engaged in optical and electronic equipment operations not elsewhere classified.

314 SHIP AND AIRCRAFT CONTROLLERS AND TECHNICIANS

Ship and aircraft controllers and technicians command and navigate ships and aircraft and perform technical functions to ensure safe and efficient movement and operations.

3141 SHIPS' ENGINEERS

Ships' engineers control and participate in the operation, maintenance and repair of mechanical, electrical and electronic equipment and machinery on board ship, or perform related supporting functions on shore.

3141.10 Chief Engineer, Ship; Chief Engine Officer, Ship ensures safe and economic running of all engines, boilers, electrical, refrigerating and sanitary equipment deck machinery and steam connections aboard ship. Directs and controls work and conduct of engine room crew of vessel. Keeps log of performance of engines and equipment on voyage. Supervises repairs and overhauling of engines and accessories. Looks after fueling of ship. Looks to proper storage and maintenance of all engine room stores. May himself attend to repair work in case of breakdown.

3141.20 Second Engineer, Ship; Second Engine Officer, Ship functions as second-in-command, to **Chief Engineer** and ensures general upkeep and cleanliness of machine on board ship. Distributes work to engine room crew. Checks and keeps rough ledgers relating to stores. Tests all machinery to ensure that they are in good order. Supervises personally setting of valves, pistons etc. of main engine under instructions from Chief Engineer. Keeps watch in engine room and stoke-hole during specified hours in mornings and evenings.

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3141.30 Third Engineer Ship; Third Engine Officer, Ship keeps watch in engine room and stoke-hole during specified hours while at sea, alternates with **Fourth Engineer Ship** for day duties during specified hours while in port and performs other duties assigned by **Second Engineer, Ship**. Ensures proper adjustment of bearings of main engine and moving parts. May take charge of maintenance of all electrical fittings and stores in absence of electrician. May keep rough ledger of electrical stores and equipment.

3141.40 Fourth Engineer, Ship; Fourth Engine Officer, Ship assists **Second Engineer, Ship** in maintenance of main engine, pumps, boiler mountings and other auxiliary machinery on board and keeps watch in engine room and stoke-hole during specified hours in mornings and nights while ship is at sea. Carries out daily maintenance work and does day duty alternating with **Third Engineer, Ship** while ship is in port.

3141.50 Fifth Engineer, Ship; Junior Engineer, Ship looks after maintenance and overhaul of winches and other machinery under guidance of **Second Engineer, Ship**. Keeps night watch on engine room and deck. Carries out day work while at sea assisting senior engineers.

3141.90 Ship's Engineers, Other include all other ship's engineers engaged in maintenance of ship and deck machinery, ledgers, etc., not elsewhere classified.

3142 SHIPS' DECK OFFICERS AND PILOTS

Ships' deck officers and pilots command and navigate ships and similar vessels, and perform related functions on shore.

3142.10 Captain, Ship; Master, Ship functions as head of ship ensuring safe navigation, exercises complete control over officers and crew on board and carries on ship's business at ports of call. Directs navigation of vessel, assisted by other deck officers. Lays course of voyage for officers on watch follow. Manoeuvres vessel under adverse weather conditions and emergencies. Alters course at discretion. Maintains day-to-day log of events during voyage. Carries

on ship's business with Customs and Port Services such as, entering and clearing ship, submitting cargo manifesto to custom authorities, etc. Maintains discipline on vessel. Submits periodical reports to owner suggesting measures for increasing efficiency of service.

3142.20 Chief Officer, Ship; First Mate, Ship functions as second-in-command to **Captain**, supervises activities of deck workers and loading, storage and discharge of cargo. Exercises control over deck crew, assigns duties to **Serang** and apprentices and maintain discipline. Plans and executes work related to loading, storage and unloading of cargo. Maintains cleanliness and upkeep of equipment. Keeps watch on bridge in mornings and evenings at sea during specified hours and assists Captain in navigation. Fixes ship's position by starlights at dawn and dusk, and maintains Mate's logbook, cargo books and store books. Imparts necessary training to indentured apprentices. May assume duties of Captain in case of emergency.

3142.30 Second Officer, Ship; Second Mate, Ship assists **Captain, Ship** in navigation and **Chief Officer, Ship** in supervising loading and discharge of cargo. Performs night duty in port while important cargoes are being loaded and unloaded, takes turn with **Third Officer** on cargo while in port. Maintains all navigational equipment on board in good order. Winds chronometer daily, and starts and stops gyrocompass. Keeps watch on bridge during specified hours of day and night for ensuring safe navigation. Fixes position of ship at sea by taking morning, noon and afternoon readings with sextant and reports to **Captain**. Keeps watch on anchor, when ship anchored out side port. May look after sick on board in absence of **Medical Officer**.

3142.40 Third Officer, Ship; Third Mate, Ship assists **Captain, Ship** and **Chief Officer, Ship** in navigation and maintenance of life boats, safety and signaling equipments on board and loading and discharge of cargo in port. Remains on bridge while ship enters or leaves port and passes orders of **Captain** or **Pilot, Ship** to engine room and relays messages to **Chief Officer** and **Second Officer, Ship**. Ensures that helm orders are

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correctly executed by **Seaconny**. Maintains log book of all engine and helm orders and other silent features of manoeuvres. Assists **Second Officer** in fixing position of ship. Keeps watch on bridge during specified hours of day and night for ensuring safe navigation. Performs day and night duty in port alternating with **Second Officer, Ship** in supervising, loading and discharge of cargo.

3142.50 Harbour Master exercises administrative control of docks and wharves and controls movement of vessel in and out of port. Allocates duty to **Pilot, Ship** and controls floating crafts and marine staff of port. May pilot vessels to and from harbour if necessary

3142.60 Pilot, Ship directs movement of ship in and out of confined waters such as canals, rivers, harbours, etc. Boards vessel out side confined waters and assists **Captain, Ship** in navigating, manoeuvring vessel safely into port, assists Captain also in manoeuvring vessel when leaving port. May moor or unmoor ship in harbour.

3142.70 Berthing Master moves ships from berth to berth in enclosed harbour. Takes over from **Pilot, Ship** for docking ship on wharf, unloading and hands over ships to **Pilot** while ships leave harbour. Maintains necessary record as prescribed.

3142.80 Inland River Master; Ship's Captain, Inland Waterways controls and directs navigation and other activities of vessels sailing in inland waterways for transport of passengers and cargo, fishing etc. Takes complete charge of vessel confined to inland waterways and safeguards passengers, crew, ship and cargo. Controls speed and directs course of vessel by use of compasses, charts, radar and other navigational aids. Organises and supervises work of crew and ensures maintenance and cleanliness of vessel. Maintains daily record of events during voyage and directs subordinate officers in performance of their duties. Is designated as **FIRST MATE, SECOND MATE** or **THIRD MATE** according to seniority, charge held and duties performed to assist Ship's Captain. May conduct tugboat operations in salvaging

his vessel if disabled. May direct loading and unloading.

3142.85 Ferry Officer directs arrival of boats, steams etc. at ferry crossings. Controls and co-ordinates work of staff employed at ferry station. Displays time schedules, instructions, changes in timings of ferry service etc. prominently at ferry station. Prepares duty roster of boat crew and arranges substitutes for absentees. Ensures that service boats are provided with life saving equipments such as life belts, first aid kits, fire fighting appliances etc. and are adequate. Attends to all passenger enquires. Checks periodically certificate issued on safety survey of seaworthiness of vessel. Attends to embarkation and disembarkation of passengers, weight and charging of luggage etc. as necessary. Receives and issues signal messages to guide boat through water-way. Despatches relief boats and other assistance on receipt of S.O.S. from boat on course. Collects and remits to treasury levies from private boats for services rendered. Maintains prescribed statement of accounts and returns and forwards them to higher authority as required.

3142.90 Ship's Deck Officers and Pilots, Other include all other Ship's Deck Officers and Pilots engaged in seafaring, navigation, berthing, harbouring, etc. not elsewhere classified.

3143 AIRCRAFT PILOTS AND RELATED ASSOCIATE PROFESSIONALS

Aircraft pilots and related associate professionals control the operation of mechanical, electrical and electronic equipment, in order to navigate aircraft for transporting passengers, mail and freight and perform related pre-flight and in-flight tasks.

3143.10 Chief Pilot Aircraft; Aeroplane Pilot, Chief directs operation of flight department of airline. Conducts indoctrination training for new **Pilots** and refresher training for experienced **Pilots**. Reviews reports on pilot performance and forwards reports to airline control authority. Discusses operation and personal problems with subordinates to improve morale and

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efficiency. Studies technical manuals of Aeroplane and equipment manufactures and government regulations affecting flight operations to ensure that company training manuals adhere to legal requirements and are adopted to type of aircraft in use. Represents company in advisory capacity during contract negotiations with Pilots Union. Accompanies flights to observe performance of **Pilots**. Conducts training classes for flight personnel covering emergency procedures and use of survival equipment. Directs preparation of flight crew schedules and assignment of personnel. May interview and hire flight personnel. May pilot airplane on scheduled flights, for testing performance of aircrafts, drawing up new air-routes, conducting aerial surveys and on reconnoitering missions.

3143.20 Check Pilot, accompanies **Aeroplane Captains** on periodic flights to observe their ability and to evaluate their proficiency. Accompanies **Pilots** on periodic flights over established air routes to observe their proficiency in maneuvering of aircrafts and notes compliance with and infringements of company or aviation regulations. Checks navigational and meteorologic facilities available enroute. Compiles report on findings, for management remedial action. May fly aircraft during emergency.

3143.30 Pilot, General; Aeroplane Pilot, General flies aircraft to transport passengers mail or freight, or for other commercial purposes. Reviews flight papers to ascertain factors, such as load weight, fuel supply, weather conditions and flight route and schedule. Orders changes in fuel supply, load, route or schedule to ensure safety of flight. Reads gages to verify that oil, hydraulic fluid, fuel quantities and cabin pressure are at prescribed level prior to starting engines. Starts engines and taxis aeroplane to runway. Sets breaks and accelerates engines to verify operational readiness of components, such as super charges, carburetor-heaters and controls. Contacts control tower by radio to obtain take-off clearance and instructions. Releases brakes and moves throttles and hand and foot controls to take-off and control aeroplane in flight. Pilots aeroplane to destination adhering to flight plan and

regulations and procedures. Records information, such as time in flight, altitude flown and fuel consumed. May instruct students or pilots in operation of aircraft. May be designated as **Transport Pilot** according to aviation licence held **Airline Pilot** or **Corporate Pilot** according to commercial activity in which engaged or as **Aeroplane Captain**, if placed in command of aircraft and crew; and as **Aeroplane First Officer** or **Co-Pilot**, if engaged as second in command.

3143.40 Pilot, Aircraft, flies aircraft for specialised purposes such as testing aircrafts, instructing trainees in flying, dropping supplies, making aerial surveys, spraying pesticides etc. Operates controls of aircraft on scheduled routes or chartered flights; observes gages, meters and other cockpit instruments to control aircraft and detect engine irregularities; uses navigational aids to direct course of aircraft in flight; trains **Pilots** in operation of particular types of aircraft such as jet aircrafts, single or multi-engined aircraft, helicopters etc. Demonstrates and explains methods of control and operation of aircraft to students-trainees, flies aircraft or helicopters at low altitude with slow speed over agricultural fields to spray or dust fields with fertilizers or pesticides; flies aircraft at high altitudes, over hills and dales to drop supplies and make aerial surveys and take aerial photographs. May be known as **Instructor, Pilot** or **Instructor, Flying**, if specially engaged in instructing students or **Pilots** in operation of aircraft.

3143.50 Pilot Glider operates glider to glide and soar in air with help of rising air-currents (thermal currents). Takes position in glider and secures himself with strap. Checks controls fitted in glider. Ensures that end of wire-rope stretched from wire-rope drum of stationary winch engine stationed at other end of field is fixed to glider and Signalman and Traffic Hand Gliding are ready at their posts. Directs Signalman to signal **Winch-Engine Operator** about readiness for take off. Releases wire-rope from glider by manipulating release knob after glider is airborne and gains maximum height through air-currents. Maintains flight for required time, lands glider at landing area by manoeuvring controls. May fly glider

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towed by power-driven airplane. May be designated as **Glider-Pilot; Glider-Instructor**, if employed in flying clubs to train members in gliding.

3143.60 Chief Navigator, Aircraft controls and supervises work of **Check Navigator** and advises management on feasibility of undertaking flights on new routes. Checks log-book maintained by **Navigator**. Examines reports compiled by **Check Navigator** on work performance and efficiency of **Navigator**. Studies working difficulties experienced by **Navigators** and suggests remedial measures. Maintains navigational charts and maps and advises management on condition of terrain when considering flights over new routes. Studies latest advances in navigational equipment etc. and makes recommendations regarding their purchase and installation. May check work of **Check Navigator** and **Navigator** by surprise visits.

3143.65 Check Navigator, Aircraft observes periodically **Navigator** during flights and reports on his abilities and efficiency of various navigational aids used to higher authorities. Accompanies **Navigator** periodically in aircraft and observes his working. Checks accuracy of charts and time taken by him in plotting position of aircraft not equipped with automatic position indicator. Submits reports on **Navigator's** ability and efficiency. May test **Navigator's** ability to handle difficult situation in breakdowns, accidents, etc. by asking questions. May recommend **Navigator's** promotion, demotion or further training to appropriate authorities.

3143.70 Navigator, Aircraft advises **Pilot, Aircraft** on position of aircraft, weather conditions and deviation from course during flights, using radar charts and other navigational aids. Checks automatic position indicator, navigational instruments, radio direction-finding equipment, etc. before flight and ensures that they function properly. Establishes position of aircraft during flight using navigational instruments and radar charts. Plots position of aircraft on charts using navigational instruments and radio direction-finding equipment as necessary. Directs course of aircraft in

accordance with flight plan. Informs **Pilot** about unforeseen weather conditions, such as storms and other atmospheric changes and suggests any necessary deviation from course of flight. Maintains logbook of flights undertaken. May act as **Pilot** in case of emergency.

3143.80 Chief Flight Engineer plans, coordinates, controls and supervises work of **Check-Flight Engineer, Flight Engineer** and ensures removal of defects or deficiencies in aircraft observed during flight and pointed out in flight reports. Studies flight reports and logs prepared by **Checked-Flight Engineer** and **Flight Engineers** regarding working of aircraft, fuel consumption, engine performance and its malfunctions etc. amends logs when any technological change is made in aircraft, or when any statistical data is required to be collected. Maintains liaison with engineering department in technical matters affecting flight engineering. Recommends adequate standard operations in force to **Director of Flying** or planned operations. Represents operations department in technical conferences. Undertakes yearly flight checks of all flight engineers working under him. Conducts surveys of engineering and refueling facilities on new routes to be opened. May assist in investigation of important events like crashes, break-down etc.

3143.82 Check Flight Engineer checks work of **Flight Engineer** and ensures correct execution of his responsibilities with regard to pre-flight, in-flight and post-flight, and renders report to **Chief Flight Engineer**. Ensures that proper checking of fuel loading, oxygen, forms and manuals on board, engine parameter, pressurization and air-conditioning has been done by **Flight Engineer** before flight of aircrafts. Accompanies **Flight Engineer**, periodically, during flight and observes that he maintains constant watch on performance of aircraft, engine and components and keeps accurate hourly log of all instruments readings; ensures speedy and proper rectifications of all defects by engineering personnel during flight emergencies, renders reports of his observations to **Chief Flight Engineer** after flight and suggests improvements for efficient working of aircraft or **Flight**

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Engineer. May draw attention of training department to any short-comings noticed in “**Cadet Flight Engineer**”, may supervise work of ground crew at transit stops.

3143.84 Flight Engineer makes pre-flight, in-flight, and post-flight inspection, adjustments, and minor repairs to ensure safe and efficient operation of aircraft. Inspects aircraft prior to take-off for defects, such as fuel or oil leaks and malfunctions in electrical, hydraulic, or pressurization systems according to pre-flight checklist. Verifies passenger and cargo distribution and amount of fuel to ensure that weight and balance specifications are met. Monitors control panel to verify aircraft performance, and regulates engine speed according to instructions of **Pilot, Aircraft**. Makes in-flight repairs, such as replacing fuses, adjusting instruments, and freeing jammed flight control cables, using hand tools, or takes emergency measures to compensate for failure of equipment, such as autopilot wing heater, and electrical and hydraulic systems. Monitors fuel gauges and computes rate of fuel consumption and engine performance. Records malfunctions which were not corrected during flight, and reports needed repairs to ground maintenance personnel. May perform repairs upon completion of flight.

3143.90 Aircraft Pilots and Related Associate Professionals, other include associate professionals who control the operation of mechanical, electrical and electronic equipment, in order to navigate aircraft for transporting passengers, mail and freight and perform related pre-flight and in-flight tasks not classified elsewhere.

3144 AIR TRAFFIC CONTROLLERS

Air traffic controllers direct aircraft movements in airspace and on the ground, using radio, radar and lighting systems, and provide information relevant to the operation of aircraft.

3144.10 Air Traffic Control Specialist receives and transmits flight plans, meteorological, navigational and other information in air traffic control station to perform pre-flight and emergency service for Aeroplane Pilots and controls air traffic on

and within vicinity of airport. Accepts flight plans from Pilots and reviews them for completeness. Routes plans for operating under instrument flight rules to station near destination airport. Provides meteorological navigational and other information to Pilot during flight, using radio. Relays traffic control and other instructions regarding safety of aircraft to Pilots. Answers radio calls from arriving and departing aircraft and issues landing and take-off instructions and other information such as runway to use, liquid velocity and directions, visibility, etc. May keep written record of messages issued to and received from aircraft.

3144.20 Traffic Controller, Air Service; Air Traffic Controller directs take off and landing of aircraft at airports by issuing radio instructions to flying crafts within his range. Directs take-off and landing of aircraft at airport by radio, lights and flags. Contacts flying aircraft to give warnings and instructions regarding landing and information about whether condition at airfield. Guides Pilots of aircrafts in distress. Arranges search and rescue operations of lost aircraft. Controls airport lights for taking off and landing of planes at night. Arranges for rectification of defect in lighting system and in other facilities to be corrected. Keeps record of all instructions issued, messages received, and landing and departure of aircraft. May operate radar for close watch and identifying aircraft on flight.

3144.90 Air Traffic Controllers, other include associate professionals engaged in aircraft movements in airspace and on the ground, using radio, radar and lighting systems, and provide information relevant to the operation of aircraft not elsewhere classified.

3145 AIR TRAFFIC SAFETY TECHNICIANS

Air traffic safety technicians perform technical tasks concerning the design, installation, operation, maintenance and repair of air traffic control and air navigation systems.

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315 SAFETY AND QUALITY INSPECTORS

Safety and quality inspectors, on behalf of the government or industrial and other enterprises, examine the implementation of rules and regulations relating to fire prevention and other hazards, occupational safety, protection of health and the environment, safety of production processes, and goods and services produced, used or sold, as well as those relating to the quality, standards and specifications of manufacturers.

3151 FIRE INSPECTORS

Fire inspectors, on behalf of the government or industrial and other enterprises, inspect new and existing houses, industrial plant, hotels and other buildings and structures to ensure compliance with central/state governments laws and with approved plans, specifications and standards, or inspect fire prevention systems and investigate fire sites to determine cause of fire.

3151.10 Fire Prevention Officer; Fire Station Officer detects and eliminates or reduces fire hazards in industrial plants, factories, warehouses, place of public assembly and other establishments. Inspects fire extinguishing and fire prevention equipment at regular intervals. Determines temperature, pressure etc. using instruments and by special tests to study and investigate conditions and practices likely to cause fires and reports findings and recommends fire preventive measures, such as provision for exits, adequate floor area and height of building, storage of combustible and explosive materials at required distance and under proper conditions, provision of hydrants and water supply resources etc. to eliminate undesirable conditions. May establish and operate fire safety programmes. May train personnel in fire-fighting and guide operations in case of fire.

3151.20 Fire Officer directs fire fighting and rescue operations, trains fire fighting personnel and maintains fire fighting appliances and equipment in operational condition, studies fire report and address from Fireman on watch. Decides nature of operation and proceeds on fire fighting

vehicle to scene of fire with required number of fire fighting personnel and equipment. Assesses intensity of fire and rescue operations required and deploys men and equipment for its control. Cordons off area, and directs operations to extinguish fire with water or chemicals or use of portable fire extinguisher as appropriate and orders demolition of any part of building and structures to prevent further spread of fire. Arranges and aids rescue operations to rescue entrapped men, animals, property and to render first aid to injured. Investigates causes of fire and arson and submits report as required. Performs other services during emergencies or natural calamities where specialized equipment is useful such as rescuing people in danger of flood, storm, manning hoses to control rioters, and extricating persons or animals from places not easily accessible.

3151.90 Fire inspectors, other include all other associate professionals engaged in the government or industrial and other enterprises, who inspect different structures to ensure compliance with central/state governments laws and with approved plans, specifications and standards, or inspect fire prevention systems and investigate fire sites to determine cause of fire not elsewhere classified.

3152 SAFETY, HEALTH AND QUALITY INSPECTORS

Safety, health and quality inspectors, on behalf of the government or industrial and other enterprises, inspect places of work on the ground for occupational safety, and safety of production processes, or of goods produced, used or sold, and ensure compliance with health and environment protection rules and regulations, as well as with the quality standards and specifications of manufacturers.

3152.10 Cloth Examiner; Cut Looker; Table Folder; Piece Examiner (Cotton Textile) examines cloth received from Folder, Machine for defects and checks width and yard-age. Compares quality (sometimes using a magnifying glass) and yardage etc. of each piece of cloth with list supplied to him and notes discrepancies. Checks every fold for defects and puts aside

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defective cloth to be shown to Weaver Powerloom. Marks yardage, quality and his own number on cloth with pencil.

3152.20 Examiner; Cut Looker; Percher; Picker(Woollen Textile) examines woollen cloth for defects. Spreads cloth and examines it carefully. Marks any defective portions with chalk or ties string or cloth near spot shade and separates pieces as "good", "seconds", and "fents" (damaged piece of cloth). May remove jute fibres, cotton, threads knots found in cloth with hand nippers. May report any major or continuing series of defects.

3152.30 Examiner (Footwear) examines finished and unfinished shoes and shoe components for faults. Inspects items for defects such as irregularity of surface, misplaced or incompleteley driven tacks, uneven or defective stitching, improperly proportioned toe-tip. Returns items with major defects for reprocessing. May correct minor defects with hand tools. May be designated according to part of shoe inspected or department in which employed such as **HEEL EXAMINER (FOOTWEAR), LINING EXAMINER (FOOTWEAR), UPPER EXAMINER (FOOTWEAR), CLOSING EXAMINER (FOOTWEAR), FINAL EXAMINER (FOOTWEAR), etc.**

3152.40 Examiner, Drycleaning examines garments, text ile furnishings or any other similar articles after dry-cleaning to detect and remove spots, stains or damage caused by process. Examines garments after dry cleaning for defects and damage. Passes on defective articles to Spot Remover or to Darnar according to nature of defect for mending. May get garments washed or dry-cleaned afresh.

3152.50 Examiner, Wood Working; Viewer Wood Working; Wood Grader examines wood and finished wooden articles on completion or at different stages of production and ensures adherence to prescribed tolerances and specifications. Studies drawings and specifications and notes types of articles to be made. Examines type and quality of wood for grains, knots etc. for grading and to ensure adherence to prescribed specifications. Checks marking, sawing,

shaping, joining, setting etc. along with drawing or sample using foot rule, calipers and other instruments at various stages of production and ensures required finish of completed article. Records defects where noticed, rejects defective pieces or suggests rectifications, if possible. May check machine set up, blending of patches, inlaying, seasoning of wood and like factors for manufacture of particular items such as sports goods, cabinets, furniture, rifle butts etc. May estimate material and labour cost.

3152.60 Television Chassis Inspector inspects television receivers during final assembly for defective reception, loose components and incorrect wiring. Connects set to electrical outlet and turns receiver controls, Examines reflection of televised picture in micro for specified horizontal and vertical hold tolerance, picture quality, contrast and lightness. Taps chassis and tubes with cork hammer and observes picture to note flutter that indicates defective components. Examines wiring, soldered joints and splices and shakes components to locate defective connections. Traces wiring to verify connections between specified components and ensures that wires of specified colour codes follow wiring diagram. Marks type of defect requiring further testing adjustment or repair, on face of picture tube. May solder defective connections and replace defective components.

3152.90 Safety, Health and Quality Inspectors, other include associate professionals who are engaged in occupational safety, and safety of production processes, or of goods produced, used or sold, and ensure compliance with health and environment protection rules and regulations, as well as with the quality standards and specifications of manufacturers not elsewhere classified.

32 LIFE SCIENCE AND HEALTH ASSOCIATE PROFESSIONALS

Life science and health associate professionals perform technical tasks connected with research and the practical application of concepts, theories, principles and operational methods particular to life sciences, including agriculture, forestry, sanitation, medicine, veterinary medicine, pharmacy and related

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fields, and provide nursing, midwifery, traditional medicine and faith healing care.

321 LIFE SCIENCE TECHNICIANS AND RELATED ASSOCIATE PROFESSIONALS

Life science technicians and related associate professionals perform technical tasks related to research and the practical application of concepts, principles and operational methods particular to life sciences, such as biology, botany, zoology, bacteriology and biochemistry, as well as to agriculture, agronomy and forestry.

3211 LIFE SCIENCE TECHNICIANS

Life science technicians perform technical tasks connected with research in biology or other life sciences, as well as with the development of industrial, agricultural, medical, public health and other practical applications of research results.

3211.10 Laboratory Assistant, Zoological arranges microscope, dissecting trays, instruments, reagents etc. in zoological laboratory for conducting experiments by **Zoologist** to perform routine test for classification and analyses and preserves zoological specimens. Sets up in position required apparatus. Arranges standard solutions, reagents and other preservative solutions. Collects required specimens such as insects, frogs, fishes, birds, animals etc. administers or guides administration of chloroform to them and supplies dead, living or unconscious specimens to laboratory for research and practical experiments. Performs routine test by dissections, studying growth, nature physiological reactions etc. and records observations as necessary. Classifies and catalogues preserved specimens and arranges them in proper order in museum. Preserves specimens by properly mounting them in preservative media like formalene, alcohol etc. Dissects animals and birds and stuffs them properly to retain their natural colour, appearance etc. Accompanies students and **Zoologists** on excursions and assists them in collection and preservation and zoological specimens. Checks animals room and ensures proper maintenance of animals meant for laboratory use. Keeps apparatus and instruments such as balances, paraffin baths,

incubators microtones etc, in good condition. May prepare slides and cut sections for practical demonstration.

3211.20 Laboratory Assistant, Botanical sets up microscopes, dissecting tables, instruments reagents etc. in botanical laboratory. Conducts routine tests for classification and analyses and preserves botanical specimens. Sets up in position microscope, dissecting tables, apparatus etc. and prepares or arranges standard solution, piths, alcohol and reagents required for conducting experiments. Cuts and mounts section, dissects flowers, seeds, etc. as desired **Botanist** and conducts routine tests for classification of plants, cataloguing of specimens and studying their characteristics. Preserves herbarium and other specimens in special media. Accompanies students and **Botanist** on excursion and assists them in collection and preservation of botanical specimens. Keeps apparatus and instruments in good condition. May operate microtome (instrument for cutting very thin sections). May maintain stock register of specimens, instruments etc. of laboratory.

3211.30 Taxidermist prepares, stuffs and mounts skins of animals and birds in lifelike form. Removes skin from carcass of animal or bird using special knives, scissors etc., taking care to preserve coat and skin and other outward features in their natural state. Applies preservative solutions to skin. Makes artificial structure or body frame using wires, wood, papier-mache or other media to cover preserved skin over it using special adhesives. Fits artificial or real eyes, claws, teeth etc. to specimen. Mounts prepared specimen on suitable pedestal. May display stuffed specimen in natural surroundings. May articulate skeletal parts of birds and animals for preservation and scientific study. May paint faded portions of specimen with appropriate colours. May specialise in preparing stuffing and mounting of particular type of animals.

3211.40 Operation Theater Technician performs any combination of following tasks before, during, and after surgery to assist surgical team: Places equipment and supplies in operating room and arranges instruments, according to instructions. Assists team members to place and position patient on

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table. Scrubs arms and hands and dons gown and gloves. Aids team to don gowns and gloves. Maintains supply of fluids, such as plasma, saline, blood, and glucose for use during operation. Hands instruments and supplies to surgeon, holds retractors, cuts sutures, and performs other tasks as directed by surgeon during operation. Puts dressings on patient following surgery. Counts sponges, needles, and instruments before and after operation. Washes and sterilises equipment, using germicides and sterilizers. Cleans operating room.

3211.50 Dialysis Technician

sets up and operates hemodialysis machine to provide dialysis treatment for patients with kidney failure: Attaches dialyser and tubing to machine to assemble for use. Mixes dialysate, according to formula. Primes dialyzer with saline or heparinised solution to prepare machine for use. Transports patient to dialysis room and positions patient on lounge chair at hemodialysis machine. Takes and records patient's predialysis weight, temperature, blood pressure, pulse rate, and respiration rate. Explains dialysis procedure and operation of hemodialysis machine to patient before treatment to allay anxieties. Cleans area of access (fistula, graft, or catheter), using antiseptic solution. Connects hemodialysis machine to access in patient's forearm or catheter site to start blood circulating through dialyser. Inspects equipment settings, including pressures, conductivity (proportion of chemicals to water), and temperature to ensure conformance to safety standards. Starts blood flow pump at prescribed rate. Inspects venous and arterial pressures as registered on equipment to ensure pressures are within established limits. Calculates fluid removal or replacement to be achieved during dialysis procedure. Monitors patient for adverse reaction and hemodialysis machine for malfunction. Takes and records patient's postdialysis weight, temperature, blood pressure, pulse rate, and respiration rate. May fabricate parts, such as cannulas, tubing, catheters, connectors, and fittings, using handtools.

3211.90 Life Science Technicians, other include all other life science technicians engaged in arranging and setting up

laboratory equipment, not elsewhere classified.

3212 AGRONOMY AND FORESTRY TECHNICIANS

Agronomy and forestry technicians perform technical tasks connected with research in agronomy and forestry, as well as with development of agricultural and forestry applications of research results.

3212.10 Agricultural Engineering Technician

maintains, services, repairs or overhauls different farm equipment such as Tractors, Power trillers, Sprayers, Drillers, etc. Receives instructions from senior engineers. Studies standing duty chart, sketches, blue prints, etc. and decides method 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 plan 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.

3212.90 Agronomy and Forestry Technicians, other

include all other agronomy and forestry technicians engaged in development of agricultural and forestry applications, not elsewhere classified.

3213 FARMING AND FORESTRY ADVISORS

Farming and forestry advisors provide technical assistance and advise on farming and forestry methods and problems.

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3213.10 Farm Overseer, Crop Production supervises operations in connection with growing, harvesting and marketing of agricultural produce, fruits, etc., and maintenance of machinery, implements and live-stock under directions of Manager, Agricultural Farm. Assists manager in examining soil, irrigational facilities, marketing, etc. in determining type of fruit or crop to be grown. Helps him in selection and purchase of seed, fertilisers and equipments and stores them. Guides operations of ploughing, manuring, sowing, watering, weeding and hoeing. Supervises making of channels for irrigation, preparing manure, grafting and budding of plants, harvesting, threshing, winnowing, etc. Looks after bagging, storing and transporting of produce to market. Controls field staff. Assists Manager in preparation of cost and production statement, payment of wages, etc. and attends to any other task assigned by him. May specialise in growing any particular type of crop or fruit. May demonstrate improved methods of cultivation.

3213.90 Farming and Forestry Advisors, other include all other farming and forestry advisors, engaged in providing technical assistance and advise on farming and forestry methods and problems, not elsewhere classified.

3214 ENVIRONMENT SCIENCE AND PROTECTION TECHNICIANS

Environment science and protection technicians perform laboratory and field tests to monitor the environment and investigate sources of pollution, including those that affect health under direction of an environmental scientist or specialist, may collect samples of gases, soil, water, and other materials for testing and take corrective actions as assigned.

3214.10 Environmental Science and Protection Technicians, Including Health records test data and prepares reports, summaries, and charts that interpret test results. Collects samples of gases, soils, water, industrial wastewater, and asbestos products to conduct tests on pollutant levels and identify sources of pollution. Respond to and investigate hazardous conditions or

spills, or outbreaks of disease or food poisoning, collecting samples for analysis. Provides information and technical and program assistance to government representatives, employers and the general public on the issues of public health, environmental protection or workplace safety. Calibrates microscopes and test instruments. Makes recommendations to control or eliminate unsafe conditions at workplaces or public facilities. Inspects sanitary conditions at public facilities. Prepares samples or photomicrographs for testing and analysis. Calculates amount of pollutant in samples or computes air pollution or gas flow in industrial processes, using chemical and mathematical formulas. Initiates procedures to close down or fine establishments violating environmental and/or health regulations.

3214.20 Environmental Compliance Inspector inspects and investigate sources of pollution to protect the public and environment and ensure conformance with Central, State, and local regulations and ordinances. Inspects solid waste disposal and treatment facilities, wastewater treatment facilities, or other water courses or sites for conformance with regulations. Inspects establishments to ensure that handling, storage, and disposal of fertilisers, pesticides, and other hazardous chemicals conform with regulations. Conducts field tests and collects samples for laboratory analysis. Examines permits, licenses, applications, and records to ensure compliance with licensing requirements. Assists in development of spill prevention programmes and hazardous waste rules and regulations, and recommends corrective action in event of hazardous spill. Prepares, organises, and maintains records to document activities, recommend action, provide reference materials, and prepare technical and evidentiary reports. Studies laws and statutes to determine nature of code violation and type of action to be taken. Advises individuals and groups concerning pollution control regulations, inspection and investigation findings, and encourages voluntary action to correct problems.

3214.30 Environmental Engineering Technician applies theory and principles of environmental engineering to modify, test, and operate equipment and devices used in the prevention, control, and remediation of

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environmental pollution, including waste treatment and site remediation. May assist in the development of environmental pollution remediation devices under direction of engineer. Perform environmental quality work in field and office settings. Receive, set up, test, and decontaminate equipment. Arranges for the disposal of lead, asbestos and other hazardous materials. Assists in the cleanup of hazardous material spills. Conducts pollution surveys, collecting and analysing samples such as air and ground water. Develops work plans, including writing specifications and establishing material, manpower and facilities needs. Inspect facilities to monitor compliance with regulations governing substances such as asbestos, lead, and wastewater.

3214.90 Environmental Science and Protection Technicians, other include all other technicians engaged in monitoring the environment and investigating the sources of pollution, not elsewhere classified.

322 MODERN HEALTH ASSOCIATE PROFESSIONALS (Except Nursing)

Modern health associate professionals (except nursing) perform technical tasks related to research and the practical application of concepts, principles and operational methods in the fields of medicine, veterinary medicine, dentistry, pharmacy, sanitation, promotion of health and related disciplines.

3221 MEDICAL ASSISTANTS

Medical assistants carry out advisory, diagnostic, preventive and curative medical tasks, more limited in scope and complexity than those carried out by medical doctors. They work independently or with the guidance and supervision of medical doctors in institutions or in the field as part of the public health service, and may work mainly with diseases and disorders common in their region, or mainly apply specific types of treatment.

3221.10 Laboratory Assistant, Clinical; Medical Laboratory Technician arranges and sets various instruments and apparatus in clinical laboratory for conducting pathological and bacteriological study and conducts routine tests of blood, urine,

sputum etc. for medical purposes and for diagnosis of diseases. Sets in position required apparatus and equipment and makes necessary electrical connections. Prepares standard solutions, reagents, media for culture etc. by weighing, grinding, mixing and dissolving prescribed proportion of sample or chemical in water or other liquids etc. collects samples such as water, urine, blood, sputum etc. in clean and sterile containers or slides for bacteriological, pathological or biological study. Assists in conducting routine test of urine, stool, sputum or blood to determine sugar content, germs or worms or blood groups as required. Mounts and prepares slides with specimens for microscopic study by physicians and specialists. Washes, cleans and dries apparatus and equipment after use and maintains them in proper working condition. Keeps required chemicals and solutions readily available and replenishes stock from stores. Maintains laboratory in clean and tidy condition. May maintain record of types of tests performed and stock in laboratory.

3221.20 Vaccinator, vaccinates human body with vaccine lymph for immunisation against smallpox. Visits area under his jurisdiction periodically or on call and instructs persons to get themselves revaccinated at regular intervals and get primary vaccination of their children done within six months of birth. Sterilises lancet, needle etc. Cleans part of body to be vaccinated with soap and hot water if necessary and disinfects it with spirit. Smears vaccine on cleaned part of body, pricks it with lancet or needle and allows vaccine to mix with blood. Watches for immediate reaction if any and takes necessary precautionary measures. Advises on general precautions to be taken and for reactions that may follow. Advises persons suffering from small-pox for taking precautionary and preventive measures. Keeps lymphs at appropriate temperature and place - to maintain their potency and avoid contamination. Maintains record of lancets, needles, syringes, vaccine lymphs used, persons vaccinated, etc. and submits account as and when required. May visit vaccinated persons to ensure successful vaccination and for after care and advice. May provide epidemic intelligence of his sector. May carry out concurrent and terminal disinfections of patients' dwellings

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during epidemics.

3221.30 Inoculator injects prescribed dose of serum or vaccine into human body for immunity against specific diseases, such as cholera, typhoid, plague, diphtheria, whooping cough, rabies etc., in human beings, Sterilises syringes, needles etc. Cleans parts of body to be inoculated with spirit, fills prescribed quantity of vaccine or serum in syringe and injects it in body. Rubs injected part of body with cotton wool-piece soaked in spirit. Watches immediate reactions if any or for reactions that may follow and takes precautionary measures. Keeps injection ampules in appropriate place and temperature to maintain potency and avoid contamination. Instructs inoculated persons about hygienic precautions to be taken. May keep record of persons inoculated. May visit inoculated persons for after-care and advice. May provide epidemic intelligence and guide and supervise disinfection arrangements during epidemics.

3221.40 Dresser dresses wounds, cuts, sores, boils etc. and applies ointment, liniments, and paints and gives first aid in emergency cases. Cleans wounds, cuts, sores with antiseptic material and applies ointments, paints, gauze, lint or other sterile material as prescribed by Surgeon, or under medical advice. Touches throat with throat-paint, drops medicine, in eyes, nose or ears. Bandages wounds and other affected part of body. May massage any part of body under guidance of doctor. May prepare patients for operations and give them pre-operational care.

3221.90 Medical Assistants, other include associate professionals who carry out advisory, diagnostic, preventive and creative and curative medical tasks, more limited in scope and complexity than those carried out by medical doctors, not elsewhere classified.

3222 SANITARIANS

Sanitarians provide technical assistance and advice on measures to restore or improve sanitary conditions, and supervise their implementation.

3222.10 Sanitary Inspector; Health Assistant takes measures to maintain and improve standard of public health in specified area. Inspects houses, shops, factories, entertainment places, bazars, drains, night soil depots, rubbish depots, latrines, burial and cremation ground, etc., and undertakes public health activities such as disinfections, anti-malarial and anti-epidemic measures. Inspects hotels, restaurants, etc. to ensure that food and edibles sold are fit for public consumption. Attends to complaints regarding sanitation. Reports outbreak of infectious diseases to authorities and takes preventive measures. Attends courts for prosecution of persons violating sanitation and public health regulations and performs inoculation work. Controls and supervises work of **Sanitary Daroghas**. May maintain accounts and correspondence, compile figures of births and deaths in his jurisdiction and may investigate causes of death. May be designated as **Disinfecting Inspector, Food Inspector, Slaughter House Inspector, Mosquito Inspector**, etc. according to nature of work performed.

3222.20 Sanitary Darogha Sanitary Darogha; Sanitary Jamadar supervises work of Sweepers and sanitary gangs engaged on street and sewage cleaning, removal of night soil and dead bodies, anti-epidemic measures, etc., in specified area. Assists Sanitary Inspector in maintenance of sanitary conditions, collection of information on epidemic diseases and serving notices to persons prosecuted for violating public health regulations. May maintain muster rolls of sweepers and other subordinate sanitary workers.

3222.90 Sanitarians, other includes those who provide technical assistance and advice on measures to restore or improve sanitary conditions, and supervise their implementation not elsewhere classified.

3223 DIETICIANS AND NUTRITIONISTS

Dieticians and nutritionists conduct research and improve or develop concepts and operational methods concerning the preparation and application of diets for general and therapeutic purposes.

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3223.10 Nutritionist organises, plans and conducts programmes concerning nutrition to assist in promotion of health and control of disease. Instructs auxiliary medical personnel and allied professional workers on food values and utilisation of foods by human body. Advises health and other agencies on nutritional phases of their food programmes. Studies and analyses scientific discoveries in nutrition for adaptation and application to various food problems. Interprets and evaluates food and nutrient information designed for public use.

3223.20 Dietician plans, supervises and instructs in preparation of therapeutic or other diets for individuals or groups, in hospitals, institutions or other establishments. Determines dietic values of foods and food products. Plans menus and special diets with proper nutritional value. Estimates and purchases required food, equipment and supplies. Ensures that food is properly prepared and sanitary conditions are maintained in cooking and catering places. Instructs individuals and groups in applying principles of nutrition to selection and preparation of foods. May prepare educational materials on nutrition. May specialise in any particular branch of dietetics, and be designated accordingly.

3223.30 Animal Nutritionist studies composition and nutritive values of animal feeds and frames balanced diets and feeding schedules for different kinds of animals. Studies habits of animals in regard to type and quantity of feed consumed to determine their effect on size, weight, and development, strength and yield of milk, meat, wool, eggs etc. Experiments nourishing of animals with different types of feeds and records improvement and growth. Prescribes correct feed such as greens, dry or preserved hay or leaves, grass, oats or mixed feed etc. for different types of animals for better yield of milk, meat etc. Develops feed mixture for commercial purposes. Classifies types of plants harmful to animals as feed. May treat sick animals by regulating and prescribing specific feed. May analyse feed samples to determine protein, carbohydrate, fat, mineral and vitamin contents and trace elements.

3223.90 Dieticians and Nutritionists, other

include all other Dieticians and Nutritionists engaged in scientific research, preparation and storage of food and edibles, not elsewhere classified.

3224 OPTOMETRISTS AND OPTICIANS

Optometrists and opticians prescribe and fit glasses and contact lenses and advise on their use or the use of other visual aids, as well as on proper lighting for work and reading.

3224.10 Optician, General; Optician, Dispensing fabricates lenses to prescription specifications, fits lenses in frames, assists customer in choice of frames and fits frames to customer. Reads prescription for frame and lens specifications. Assists customer in choosing frames by advising correct size and shape according to facial features. Measures customer for bridge length and pupillary distance using ruler, and prepares work order slip. Selects lens blank from stock. Sets up and operates machines, such as generator, polisher, edger and hardener to make lens to specifications. Adjusts finished eye glasses to fit customer by hearing and shaping plastic or by bending metal frame with fingers and pliers. Inspects lenses and determines specifications of broken lenses with power determining and optical instruments. May examine eyes to determine visual efficiency and performance by means of instrumentation and observation and prescribe corrective eyeglasses. May sell other optical goods, such as binoculars, magnifying glasses and non-prescription sunglasses.

3224.20 Optician, Contact Lens examines customer's eyes and fits contact lenses to prescription specifications. Measures height and width of eyes and diameter of cornea using millimeter rule. Examines eyelid surface for presence of irregularities. Determines base curve of cornea, using Keratometer. Converts optical prescription into terms applicable to contact lenses. Positions trial lenses on patient's eyes to determine adaptability and wearer discomfort. Explains procedures for installing, removing and cleaning lenses. Grinds finished lenses to fit wearer. May

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examine eyes and prescribe lens and subnormal vision devices.

3224.90 Optometrists and Opticians, other include those who prescribe and fit glasses and contact lenses and advise on their use or the use of other visual aids, as well as on proper lighting for work and reading not elsewhere classified.

3225 DENTAL ASSISTANTS

Dental assistants carry out advisory, diagnostic, preventive and curative dental tasks, more limited in scope and complexity than those carried out by Dentists, and they assist Dentists by preparing and taking care of instruments and other equipment, preparing materials and helping patients prepare for examination and treatment.

3225.10 Dental Assistant; Dentist's Assistant prepares patients for examination, treatment or dental surgery and assists Dentist in performing his work by handing him necessary implements or equipment and by keeping patients comfortable. Obtains and records patient's personal information and medical history and records dental treatment rendered. Seats patient and prepares him for treatment. Arranges dental instruments, materials, and medications and hands them to Dentist as required. Keeps oral operating area clear during dental procedures by use of suction devices, water sprays, cotton rolls and holders and by retraction of cheek and tongue. Measures silver alloy powder and mercury, and operates mechanical amalgamator to prepare dental amalgam. Supplies portions of filling materials to **Dentist** as required during placement of restorations. Gives emergency treatment for local and systematic distress under Dentist's direction. Sterilises instruments in autoclaves, dry heat ovens or with chemical disinfectants. May expose and process dental X-ray films as directed by Dentist.

3225.90 Dental Assistants, other include all those who carry out advisory, diagnostic, preventive and curative dental tasks, more limited in scope and complexity than those carried out by Dentists not elsewhere classified.

3226 PHYSIOTHERAPISTS AND

RELATED PROFESSIONALS

ASSOCIATE

Physiotherapists and related associate professionals treat disorders of bones, muscles and parts of the circulatory or the nervous system by manipulative methods, and ultrasound, heating, laser or similar techniques, or apply physiotherapy and related therapies as part of the treatment for the physically disabled, mentally ill or unbalanced.

3226.10 Physiotherapist treats patients suffering from metabolic diseases, body injuries, stiffness, paralysis, neuritis, etc. by massage, exercise and use of heat, light, water, electricity and special therapy machines and techniques. Assists and instructs patients on performance of corrective, reducing and other physical exercises.

3226.20 Occupational Therapist helps general treatment and recovery of patients suffering from tuberculosis, rheumatism, industrial accidents, blood pressure, heat trouble, etc. by engaging them as guided by doctor in creative, vocational and manual pursuits as craft work, gardening, physical exercises, games, music, etc.

3226.30 Chiropodist; Pedicurist treats foot disabilities and abnormalities. Removes corns, bunions, blisters, etc. using surgical instruments. May also give warm foot baths, remove hard skin from under heel and sole and give foot massage.

3226.40 Masseur; Masseuse massages by hand or machine various parts of body to remove stiffness, sprains and pains or to generally tone up muscles by improving blood circulation or stimulating nervous system.

3226.90 Physiotherapists and Related Associate Professionals, other include all other associate professionals who treat disorders of bones, muscles and parts of the circulatory or the nervous system not elsewhere classified.

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3227 VETERINARY ASSISTANTS

Veterinary assistants carry out advisory, diagnostic, preventive and curative veterinary tasks, more limited in scope and complexity than those carried out by Veterinarians, and they assist Veterinarians by preparing and taking care of instruments and other equipment, preparing materials and getting animals ready for examination and treatment.

3227.10 Vaccinator, Veterinary, vaccinates, birds or animals against infectious diseases by injecting required type and quantity of vaccine or virus using syringe, needle etc. Immobilises subject (animal or bird) by tying with rope and with help of others if necessary. Sterilises syringe, needle etc. in boiling water and by washing them with bactericidals. Examines area of body to be vaccinated. Removes feather or hair from marked part of body of subject and cleans it with bactericidals to prevent chances of failure. Loads syringe with vaccine or virus of required quantity and injects it in body as specified. Withdraws syringe needle from body and rubs injected part with cotton soaked in antiseptic liquid to prevent shedding of blood. Recommends hygienic precautions to owner or attendant. Maintains register-showing details of animals vaccinated, vaccine or virus used, etc. May visit vaccinated animals for after care instructions.

3227.20 Stockman; conducts activities of raising and breeding animals and attends to minor ailments and castration of male stock. Buys feed of stock, and weighs and stores them. Prepares diet and feeds stock. Cleans barns and cattle by washing them with water. Arranges grazing on natural pastures. Looks after young at birth. Feeds, cleans and houses them. Treats minor ailments of cattle. Conducts artificial insemination of cattle for improved breed. Arranges mating. Keeps record of pedigrees, coverings, births, etc. Undertakes operations in yard directed towards raising and breeding of stock.

3227.30 Animal Keeper, feeds, waters and cleans quarters of animals and birds in zoo, circus, chemical, medical or biological research laboratories. Feeds and waters animals as per schedule or prescribed diet

list and records amount of food consumed. Observes and reports sick animals to relevant authorities. treats minor injuries and ailments under directions of Veterinarian or respective authorities. Shaves operative area of animals, to prepare them for surgery and administer anaesthetics if engaged in biological or medical research laboratories. Cleans and sterilises cages, pens and surrounding areas. Collects feed and supplies from store. May repair cages and equipment. May prepare animal feed, bathe and groom animals. May remove dead animals for disposal. May be known as ANIMAL CARE TAKER if engaged in medical or biological research laboratories. May also be designated as BEAR KEEPER, BIRD KEEPER, MONKEY KEEPER, etc., according to animal cared for.

3227.40 Laboratory Technician, Artificial Breeding measures purity and potency of bull semen to develop improved methods for preserving and processing semen for artificial insemination of cattle. Observes sample of freshly collected sperm cells. Determines density of semen using densimeter. Adds measured amounts of extender, sodium citrate and antibiotics semen to dilute and preserve sample. Transfers semen to refrigeration unit. Cleans and sterilizes laboratory equipment. Performs experimental tests as directed such as to extend survival rate and time of sperm cells and development of improved preservative processes. Cultivates, isolates and identifies pathogenic bacteria and other micro-organism in semen.

3227.90 Veterinary Assistants, other include all other veterinary associate professionals not else where classified.

3228 PHARMACEUTICAL ASSISTANTS

Pharmaceutical assistants dispense and prepare medicaments, lotions and mixtures under the guidance of pharmacists, in pharmacies, hospitals and dispensaries.

3228.10 Pharmacist, Dispenser; Compounder dispenses medicines as prescribed by **Physician, Dentist, or Veterinarian.** Stores and arranges drugs, prepares mixtures, powders, ointments,

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liniments, etc., as prescribed and gives instructions regarding dosage and use of medicines. May keep medical stores and maintain account of medical supplies, cash and daily record of prescriptions dispensed. May prepare intravenous solutions, tinctures, etc., dresses wounds, gives injections and enemas, under guidance, and render first-aid.

3228.20 Laboratory Assistant, Pharmaceutical, arranges and sets apparatus and other equipments in pharmaceutical laboratory, conducts routine tests of various ingredients for manufacture of drugs and medicines and assists **Pharmaceutical Chemist** in carrying out studies and experiments. Sets required types of apparatus and equipment in position as required for conducting studies and experiments. performs routine tests of different ingredients and records observations as desired. Grinds and mixes chemicals and other raw materials in prescribed proportions for study, research or manufacture of drugs and medicines such as syrups, tonics, ointments, solutions, tablets, etc. under guidance of **Pharmaceutical Chemist**. Collects and tests samples at various stages of production to determine effects and ensures compliance to specification. Maintains precision apparatus and equipment in good working order and in safe custody and keeps laboratory clean and tidy. May prepare samples for getting them tested by **Pharmaceutical Chemist** and also do research and analysis of drugs and medicine under his guidance.

3228.90 Pharmaceutical Assistants, other includes associate professionals who dispense and prepare medicaments, lotions and mixtures under the guidance of pharmacists, in pharmacies, hospitals and dispensaries not elsewhere classified.

3229 MODERN HEALTH ASSOCIATE PROFESSIONALS (except nursing), n.e.c.

This Family covers modern health associate professionals (except nursing) not classified elsewhere in Group 322, Modern health associate professionals (except nursing). For instance, in this Family those occupations should be classified who practise, plan and

carry out therapeutical activities to help the mentally unbalanced, ill, or physically handicapped, deal with speech impediments, provide eye exercises as remedial treatments, or deal with orientation problems of the blind.

3229.10 Speech Therapist and Audiologist determines type and degree of hearing impairment and implements habilitation and rehabilitation services for patient. Administers and interprets variety of tests, such as air and bone conduction, and speech reception and discrimination tests, to determine type and degree of hearing impairment, site of damage, and effects on comprehension and speech. Evaluates test results in relation to behavioural, social, educational, and medical information obtained from patients, families, teachers, **Speech Pathologists** and other professionals to determine communication problems related to hearing disability. Plans and implements prevention, habilitation, or rehabilitation services, including hearing aid selection and orientation, counseling, auditory training, lip reading, language habilitation, speech conservation, and other treatment/ remedial programmes designed to restore or improve communicative efficiency developed in consultation with **Speech Pathologists** and other professionals. Instructs speech handicapped persons in development of desirable speech habits by training in control of articulation and voice. Provides counselling and guidance to speech and language handicapped persons. Counsels patient's family concerning social & psychological problems associated with speech disabilities. May refer patient to physician or surgeon if medical treatment is determined necessary.

3229.20 Speech Pathologist specialises in diagnosis and treatment of speech and language problems, and engages in scientific study of human communication. Diagnoses and evaluates speech and language skills as related to educational, medical, social, and psychological factors. Plans, directs, or conducts habilitative and rehabilitative treatment programmes to restore communicative efficiency of individuals with communication problems of organic and non-organic etiology. Provides counselling and guidance and language

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development therapy to handicapped individuals. Administers, scores, and interprets specialised hearing and speech tests. Develops and implements individualised plans for assigned clients to meet individual needs, interests, and abilities. Evaluates and monitors individuals, using audio-visual equipment, such as tape recorders, overhead projectors, filmstrips, and demonstrative materials. Reviews treatment plans, and assesses individual performance to modify, change, or write new programmes. Attends meetings and conferences and participates in other activities to promote professional growth. Instructs individuals to monitor their own speech and provides ways to practice new skills. May act as consultant to educational, medical, and other professional groups. May conduct research to develop diagnostic and remedial techniques. May teach manual sign language to student incapable of speaking. May instruct staff in use of special equipment designed to serve handicapped.

3229.30 Voice Pathologist diagnoses and treats voice disorders, such as those associated with professional use of voice. Develops and implements perceptual evaluation procedures and psychophysical methods for voice assessment. Collects diagnostic data on individuals, such as output pressures, airflow, chestwall movements, and articular and laryngeal displacement, using scopes and other measuring instruments. Analyses and interprets diagnostic data and consults with other professionals to determine method of treatment, such as surgery, vocal modification, or voice therapy. Plans and conducts voice therapy sessions, applying auditory, visual, kinematic, and biofeedback techniques.

3229.40 Orthotist and Prosthetist provides care to patients with disabling conditions of limbs, spine or partial or total absence of limb by fitting and preparing orthopedic braces and prosthesis, under direction of and in consultation with physician. Assists in formulation of specifications for braces and substitutive aids. Examines and evaluates patient's needs in relation to disease and functional loss. Formulates design of orthopedic brace and prosthesis. Selects materials, making cast measurements, model

modifications, and layouts. Performs fitting, including static and dynamic alignments. Evaluates brace and prosthesis on patient and makes adjustments to assure fit, function, and quality of work. Instructs patient in use of orthopedic brace and prosthesis. Maintains patient records. May supervise other support personnel. May supervise laboratory activities relating to development of orthopedic braces and prosthesis. May lecture and demonstrate to colleagues and other professionals concerned with orthotics and prosthetics.

3229.50 Orientation and Mobility Instructor assists blind and visually impaired persons to achieve personal adjustment and maximum independence through training in techniques of daily living. Interviews clients, analyses client's lifestyle, and administers assessment tests to determine present and required or desired orientation and mobility skills. Trains clients in awareness of physical environment through sense of smell, hearing, and touch, and to travel alone, with or without cane, through use of variety of actual or simulated travel situations and exercises. Teaches clients personal and home management skills, and communication skills, such as eating, grooming, dressing, coin and money identification, cooking, and use of telephone and bathroom facilities. Teaches clients to protect body, using hands and arms to detect obstacles. Instructs clients in arts, crafts, and recreational skills, such as leatherworking, sewing, ceramics, and playing musical instruments to improve sense of touch, coordination, and motor skills. Teaches clients to read and write Braille. Instructs client in use of reading machines and common electrical devices, and in development of effective listening techniques. Instruct clients in-group activities, such as singing, playing modified sports activities to encourage and increase capacity for social participation and improve general health. Prepares progress report to allow members of rehabilitation team to evaluate clients' ability to perform varied activities essential to daily living.

3229.90 Modern Health Associate Professionals, other include all other modern health associate professionals not elsewhere classified.

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323 NURSING AND MIDWIFERY ASSOCIATE PROFESSIONALS

Nursing and midwifery associate professionals apply medical concepts and principles relating to the delivery of babies and to nursing of the ill, injured or disabled, and of mothers and their newborn babies.

3231 NURSING ASSOCIATE PROFESSIONALS

Nursing associate professionals provide nursing care for the sick, injured, and others in need of such care, and, in the absence of medical doctors or professional nurses, deal with emergencies.

3231.10 Nurse, General gives bedside care in cases of illness, assists Physician in examination and operation of patient and performs other nursing tasks. Maintains record of patient's treatment, temperature, respiration, pulse rate, nourishment, progress, etc. Administers medicines and injections, as prescribed; dresses wounds and renders first aid. Observes and reports to Physician or Surgeon mental, physical and emotional condition of patient. Prepares patient for examination or operation and helps to maintain healthy and hygienic environment for patient and takes preventive measures to check spread of communicable diseases in ward. Is designated as Matron or Nursing Superintendent, if responsible for supervision of work of nurses and related administrative duties.

3231.20 Nurse Industrial renders first-aid and provides general nursing care to workers in industrial establishments. Helps to foster hygienic habits among workers and undertakes duties of preventive character, such as antimalaria precautions, quarantine, etc. is designated as Crèche Nurse and Milk kitchen Nurse, if supervises or takes charge of crèches and milk kitchens respectively.

3231.30 Nursing Attendant helps nursing staff in hospitals, nursing homes in taking care of patients, and performs various miscellaneous low-skilled tasks. Assists Nurses in taking nursing care of patients and rendering other miscellaneous services, such as giving baths, enemas, feeding them at

fixed hours, preparing beds, bringing medicines from dispensary etc. Carries patients on stretchers, or in wheeled carts, to and from operation theatre, maintains cleanliness in wards and performs odd jobs such as calling Doctors or Nurses at night etc. Is designated as **Ward Ayah, Ward Boy, Nursing Orderly, Pantry Attendant (Nursing)**, etc. according to nature of work done. May assist nursing staff in operation theatre, blood bank. May assist in massaging, dressing and bandaging.

3231.90 Nurses, other include all other nursing associate professionals not classified elsewhere.

3232 MIDWIFERY ASSOCIATE PROFESSIONALS

Midwifery associate professionals deliver or assist doctors or midwifery professionals in the delivery of babies, provide antenatal and post natal care and instruct parents in baby care.

3232.10 Midwife; Maternity Assistant; Auxiliary Nurse, renders antenatal care to expectant mothers, conducts normal delivery cases, advises for consultation of doctor, when necessary, and renders post-natal care. Looks after newborn babies and recognises signs and symptoms requiring advice of Physician. Advises patients on simple matters of personal hygiene, such as cleanliness of hands, skin, hair, etc., and environmental hygiene, such as protection of food from flies and cleanliness of household. Carries out simple nursing duties. May assist Surgeon or Nurse in labour room and operation theatre.

3232.20 Midwifery Attendant; Ayah, Maternity, Dai assists Midwife or Health Visitor in rendering antenatal and post natal care to women. Performs tasks such as bathing, massaging and feeding new born babies and their mothers, gives enemas to babies under supervision of Nurse or Midwife; maintains general cleanliness in maternity wards. May help nursing staff in operation theatres or delivery room.

3232.30 Lady Health Visitor renders health care at private residences and at health centres. Visits private residences in her

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jurisdiction to render antenatal care and advice to expectant mothers. Makes arrangements for their confinement and renders post-natal care. Renders health care to mothers, children and expectant mothers in health centres by performing variety of duties, like administering stock medicines, weighing babies, distributing milk and tonics, ensuring vaccination and inoculation, etc. Gives advice on personal and environmental hygiene. Supervises training and work of Dais. May give injections. May also conduct sewing and first aid classes at welfare centres and give family planning advice.

3232.90 Midwifery Associate Professionals, other include those who assist doctors or midwifery professionals in the delivery of babies, provide antenatal and post natal care and instruct parents in baby care not elsewhere classified.

324 TRADITIONAL MEDICINE PRACTITIONERS AND FAITH HEALERS

Traditional medicine practitioners and faith healers advise on methods to preserve or improve health and treat human mental and physical illness by techniques traditionally used in the community and believed to cure through assisting and stimulating nature, or by power of faith and spiritual advise.

3241 TRADITIONAL MEDICINE PRACTITIONERS

Traditional medicine practitioners treat human mental and physical sickness by herbs, medicinal plants and other techniques traditionally used in the community, and believed to cure and heal by assisting or stimulating nature, and advise on methods to preserve or improve health and well being.

3241.90 Traditional Medicine Practitioners, other treat human ailments by herbs, medicinal plants and other techniques not elsewhere classified.

3242 FAITH HEALERS

Faith healers endeavour to cure human mental and physical illness by mental

influence and suggestion, power of faith and spiritual advice.

33 TEACHING ASSOCIATE PROFESSIONALS

Teaching associate professionals teach a range of subjects at the primary and pre-primary education levels, organise educational activities especially for children below primary school age, or teach physically or mentally handicapped children, young persons or adults, or those with learning difficulties.

331 MIDDLE AND PRIMARY EDUCATION TEACHING ASSOCIATE PROFESSIONALS

Middle and primary education teaching associate professionals teach a range of subjects at the middle and primary education level.

3311 MIDDLE SCHOOL TEACHING ASSOCIATE PROFESSIONALS

Middle school teaching associate professionals conduct classes of middle schools teach one or more subjects in regional language, Hindi or English; organise some educational activities; prepare sports activities.

3311.10 Middle School Teacher teaches one or more subjects to students of middle school in regional language or English, Teaches students of various standards, allots and corrects home work, conducts tests and examinations and decides eligibility for promotion to higher standards, Maintains school registers and records. May collect fees, conduct sports and extra-curricular activities and be in-charge of library, canteen, dramatics, etc. Is designated as senior Basic Teacher if teaching according to basic educational systems.

3311.20 Language Teacher, Middle School teaches one or more Indian or foreign languages to students of middle schools, Teaches spellings, pronunciation and grammar of language, gives exercises in speaking and writing language, conducts tests and examinations and decides eligibility for promotion to higher standards.

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3311.90 Middle School Teachers, other include all other teachers engaged in teaching students of middle schools, not elsewhere classified.

3312 PRIMARY SCHOOL TEACHERS

Primary school teachers teach all subjects in elementary schools; conduct tests and examinations; organise extra curricular activities and prepare reports.

3312.10 Primary School Teacher teaches students of primary or elementary school in all subjects, such as reading, writing, arithmetic, language, social science, moral science, history and geography. Teaches all specified subjects according to prescribed time schedule, allots and corrects homework. Conducts tests and examinations and prepares examination results. Maintains school registers and record of attendance, collects fees and submits accounts to office. May conduct extra curricular activities such as hobbies, sports, dramatics, etc.

3312.90 Primary School Teachers, other include all other teachers engaged in teaching students of primary school not elsewhere classified.

332 PRE-PRIMARY EDUCATION TEACHING ASSOCIATE PROFESSIONALS

Pre-primary education teaching associate professionals organise educational activities for children below primary school age.

3320 PRE-PRIMARY EDUCATION TEACHING ASSOCIATE PROFESSIONALS

Pre-primary education teaching associate professionals organise group and individual play and educational activities to support and promote physical, mental and social development of children below primary school age.

3320.10 Teacher, Infant School teaches children of nursery and kindergarten classes. Teaches through Montessori, happy education or other system of child education,

reading and writing of alphabets, numerals and simple sentences, simple additions and subtractions, familiarises them with names, colours, shapes, sounds, etc., of objects, flowers, birds and animals. Directs recreational activities and generally guides development of physical and mental activities of children. May look after and store teaching equipment, receive fees and maintain accounts, arrange for children's mid-day meals and attend to other extra-curricular or special activities such as sports, dramatics, picnics and excursions, music, hand work, etc. Is designated as Nursery Teacher or Kindergarten Teacher according to school or standard in which teaching.

3320.90 Pre-primary Education Teaching Associate Professionals, other include those who organise group and individual play and educational activities to support and promote physical, mental and social development of children below primary school age not classified elsewhere.

333 SPECIAL EDUCATION TEACHING ASSOCIATE PROFESSIONALS

Special education teaching associate professionals teach physically or mentally handicapped children, young persons or adults, or those with learning difficulties, at a given level of education.

3330 SPECIAL EDUCATION TEACHING ASSOCIATE PROFESSIONALS

Special education teaching associate professionals teach physically or mentally handicapped children, young persons or adults, or those with learning difficulties, at a given level of education.

3330.10 Teacher, Blind teaches elementary middle and secondary school subjects to blind pupils using Braille system. Instructs students in reading and writing braille, using slate and stylus or braillewriter. Adapts school curriculum to meet needs of pupils, teaching subjects such as mental arithmetic and music listening. Trains pupils to recognise objects and perform useful duties by developing their sense of touch. May teach braille to persons with sight and be

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designated as Instructor, Braille.

3330.20 Teacher, Deaf teaches elementary middle and secondary school subjects to deaf or hard-of-hearing pupils using special skills, such as lip reading and teaches special skills. Instruct pupils in formation and development of sounds for speech, using high-powered hearing aid or electrical amplifying equipment. Teach students to read lips, pointing out characteristic formation of lips and facial expressions. Teaches music appreciation and speech rhythm through sense vibration. Instruct pupils in elementary and secondary subjects adapting curriculum to meet their needs. May specialise in teaching lip reading and be designated as Teacher, Lip Reading.

3330.30 Teacher, Mentally Retarded teaches mentally retarded children basic academic subjects in schools, centres and institutions. Plans courses of study according to pupils' levels of learning. Conducts activities in subjects, such as music, art, crafts and physical education to stimulate and develop interest, abilities, manual skills and coordination. Administers mental ability and achievement tests and interprets results. Devises instructional methods and aids, such as audiovisual techniques and materials to meet needs of pupils. Prepares reports and make special studies on pupil behaviour.

3330.40 Teacher, Handicapped Children teaches handicapped pupils in elementary, middle and secondary grades, evaluating pupils' abilities in order to determine training programme that will result in maximum progress. Observes pupils to determine physical limitations and plans academic and recreational programmes to meet individual needs. Devises instructional materials methods and aids to assist in rehabilitation process. Plans and organises extra-curricular programme. May teach pupils in hospitals.

3330.90 Teachers of Handicapped, other includes all other teachers engaged in teaching mentally retarded, and physically handicapped students, not elsewhere classified.

334 OTHER TEACHING ASSOCIATE PROFESSIONALS

Other teaching associate professionals engage in teaching activities other than those connected with primary, pre-primary and special education school levels.

3340 OTHER TEACHING ASSOCIATE PROFESSIONALS

Other teaching associate professionals engage in other teaching activities than those connected with primary, pre-primary and special education school levels. They may, for instance, teach how to fly aircraft, or how to drive motor vehicles, or railway and other engines.

3340.10 Manual Training Teacher; Craft Instructor gives instructions to students in schools and training institutions in manual crafts such as carpentry, tailoring, weaving, book binding, blacksmithy etc. Imparts theoretical instructions in use of tools, mechanical drawings, blue-print reading and related subjects; gives demonstrations of process and operation in workshop; supervises and guides students in their practical work. Looks after stores, equipment and tools.

3340.20 Handwork Teacher; Handicraft Teacher imparts training to school students in handwork and handicraft. Teaches and develops, in students, sense of colour combinations, forms and shapes and three dimension visualisation. Instructs in handicrafts such as modelling, fret work, clay work, cutting forms and shapes in card boards, paper and plywood toy making, designing simple artistic and decorative pieces. May also instruct in drawing and in art subjects.

3340.90 Other Teaching Associate Professionals, other include those who engage in other teaching activities than those connected with primary, pre-primary and special education school levels not elsewhere classified.

34 OTHER ASSOCIATE PROFESSIONALS

Other associate professionals perform technical tasks connected with the practical application of knowledge relating to finance

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and sale, or business enterprise administration, bookkeeping, legal, statistical and other services, government activities relating to customs, travel, tax, welfare, job placement, licensing, the police force, as well as with social work, entertainment, sports, and religion.

341 FINANCE AND SALES ASSOCIATE PROFESSIONALS

Finance and sales associate professionals buy and sell financial instruments, different types of insurance, real estates, travel and other business services, deal on the foreign exchange, act as a wholesale representative or as buyers on behalf of organisations, or they appraise the value of commodities, real estates and other properties, and sell these by auction.

3411 SECURITIES AND FINANCIAL DEALERS AND BROKERS

Securities and financial dealers and brokers buy and sell securities, stocks, bonds and other financial instruments, and deal on foreign exchanges on spot or on futures markets, on behalf of their own company or for customers on a commission basis and recommend transactions to clients or senior management.

3411.10 Broker, Share-Market; Dalal, Share Market furnishes information to prospective customers regarding shares, bonds, securities, prospects of business and market conditions and buys and sells shares bonds, securities, etc. on behalf of customer in stock exchange on commission basis. Studies balance sheets of various business concerns and market rates of important shares, bonds, securities, etc. and explains to customers advantages and disadvantages of purchasing, selling or exchanging different types of shares, bonds, etc. Buys and sells shares etc. in stock exchange on behalf of customers according to instructions. Maintains account of day-to-day transactions and settles account with client periodically after deducting his commission. Transacts business either personally or through agent in trading-ring with other Brokers or their authorised agents. Attends to all correspondence connected with his business.

May purchase and sell shares, securities, bonds, etc. on his own behalf.

3411.20 Jobber, Share-Market purchases and sells shares, securities, etc. in trading-ring of stock-exchange (place where Brokers and Jobbers meet at stipulated hours for making transactions) to speculate and make profits due to fluctuations in prices of shares, securities, etc. Attends trading-ring of Stock-Exchange at stipulated hours. Watches market trend and movement of prices of different shares, securities etc. Makes transactions with other Brokers, Jobbers or their authorised agents at prices which appear favourable to him. Keeps record of transactions made by him on note-book called 'Soda-Book'. Remains alert and tries to make profit even out of minor fluctuations. May purchase and sell shares and securities on behalf of client for brokerage. May maintain record of his transactions.

3411.30 Propagandist creates buying interest amongst public for products by publicising them at street-corners, exhibitions, village-fairs, through various publicity media such as talks, demonstrations, filmstrips, etc. Plans his tour programme and visits places accordingly. Selects suitable site for giving demonstrations. Makes necessary announcements through loud speaker etc., to attract public. Introduces products to public assembled and explains their working and utility through actual demonstrations, charts, filmstrips, etc. Canvasses products among local dealers and persuades them to stock goods to meet likely local demands. Books orders and supplies products to local dealers either immediately or arranges to supply them expeditiously. Submits reports of his canvassing activities to higher authorities and seeks their guidance where necessary. May play musical gramophone records to attract public for giving demonstration. May distribute free samples to assembled public and effect retail sale.

3411.40 Commission Agent advises client regarding marketing conditions, purchases and sells goods on their behalf for commission. Studies market rates, supply and demand position of goods in which he is dealing in various markets. Advises clients accordingly and purchases and sells goods in

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market on behalf of customers according to their instructions. Makes necessary arrangements for forwarding and clearing of goods according to instructions of customers. Recovers his commission and other charges incurred by him from his clients. Maintains account of purchases and sales effected on behalf of his regular clients and recovers commission etc. periodically. Attends to all correspondence relating to his business.

3411.50 Finance Agent arranges loan for clients from financiers on security of real estate, property, etc. Obtains from client details regarding amount of loan needed, rate of interest willing to pay, period for which required, security offered, etc. Scrutinises list of financiers maintained by him, to find out financiers willing to advance loan on specified terms. Negotiates between parties concerned and helps them to arrive at agreement. Goes to legal experts along with parties for drawing out terms of contract and finalising deal. Gets his commission from clients on amount of loan arranged by him. May collect amount of interest due from clients and pay to financier. May also act as Estate Broker. May arrange loan for client through bank without security and by operating hundies.

3411.90 Securities and Financial Dealers and Brokers, other buy and sell financial instruments, real estate, securities and services and include all such workers not elsewhere classified.

3412 INSURANCE REPRESENTATIVES

Insurance representatives advise on and sell life, accident, automobile, liability, endowment, fire, marine and other types of insurance to new and established clients.

3412.10 Insurance Agent contacts prospective clients and canvasses sale of insurance policies covering risk to life, property, etc. Compiles list of prospective clients through social contacts, business directories, etc. Draws out programme of contacts and interviews with prospective clients. Acts as licensed representative of insurer and procures insurance business on commission basis. Attempts to sell insurance by explaining benefits of various suitable plans devised by company to cover

risk to life, family, property, business, etc. Gets proposal form filled by client. Makes arrangements for medical examination, property inspection or other policy stipulations. Collects advance deposit against first premium and deposits same in Branch Office, Bank, etc. if authorised. Assists policy-holders in servicing their policies. Ensures that he secures stipulated business annually. Keeps record of business booked by him and collects from company amount of commission due to him. Takes guidance of Field or Development Officer, whenever necessary. May assist policyholders in getting their claims settled. May collect premium on behalf of company and deposit same in Branch Office, Bank, etc.

3412.20 Insurance Adjuster, Examiner, surveyor, and Investigator investigates, analyses, and determines the extent of insurance company's liability concerning personal, casualty, or property loss or damages, and attempts to effect settlement with claimants. Corresponds with or interviews medical specialists, agents, witnesses, or claimants to compile information. Calculates benefit payments and approves payment of claims within a certain monetary limit. Interviews or corresponds with claimant and witnesses, consults police and hospital records, and inspects property damage to determine extent of liability. Investigates and assesses damage to property. Examines claims form and other records to determine insurance coverage. Analyses information gathered by investigation and report findings and recommendations. Negotiates claim settlements and recommends litigation when settlement cannot be negotiated. Prepares report of findings of investigation. Collects evidence to support contested claims in court. Interviews or corresponds with agents and claimants to correct errors or omissions and to investigate questionable claims. Refers questionable claims to investigator or claims adjuster for investigation or settlement. Examines titles to property to determine validity and act as company agent in transactions with property owners.

3412.90 Insurance Representatives, other include those who advise on and sell life, accident, automobile, liability, endowment,

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fire, marine and other types of insurance to new and established clients not else where classified.

3413 ESTATES AGENTS

Estates agents arrange the sale, purchase, rental and lease of real property, usually on behalf of clients and on a commission basis.

3413.10 Property Dealer; Estate Broker; advises clients on purchase, sale and lease of real estate and assists them in settlement of deal on commission basis. Contacts intending sellers of property, and obtains details of property to be sold or purchased. Estimates value of property, finding out prevailing rates in locality. Consults engineers, municipal authorities, Govt. authorities, etc. for getting further details regarding title, mortgage taxes, etc. of property. Scrutinises list of sellers and prospective purchasers maintained by him, contacts them to find out their requirements and to place before them proposals regarding different estates available for sale or lease. Takes buyer to sites and shows him estates available for sale. Negotiates between seller and buyer and helps them to arrive at agreement. Collects earnest money from purchasers and hands it over to seller thereafter. Approaches Legal Adviser with parties concerned, draws out terms of contract and finalises deal. Charges commission from his clients when deal is finalised. Attends to correspondence pertaining to his business and advertises property for purchase, sale or lease.

3413.20 House Agent; Property Agent assists house owners and tenants in renting out and securing suitable accommodation on commission basis. Contacts house-owners of vacant houses, flats, shops etc. to obtain details regarding accommodation available, rent, etc. Maintains list of accommodation available and of prospective tenants. Publicises accommodation available for lease or rent. Contacts prospective tenants and gives them information about available accommodation along with rent demanded by owner. Conducts client to site to show him available accommodation. Negotiates between house-owner and prospective tenant and helps them in arriving at agreement. Charges commission according to prevailing

rates. May collect rent and manage property on behalf of client, by charging nominal fee on monthly basis.

3413.90 Estates Agents, other include agents who arrange the sale, purchase, rental and lease of real property, usually on behalf of clients and on a commission basis not elsewhere classified.

3414 TRAVEL CONSULTANTS AND ORGANISERS

Travel consultants and organisers plan itineraries and schedule travel accommodation for customers, and organise or sell complete group travel tours for business or vacation.

3415 TECHNICAL AND COMMERCIAL SALES REPRESENTATIVES

Technical and commercial sales representatives sell various goods on a wholesale basis including installations, equipment and technical products and related services, and provide specialised information as required.

3415.10 Sales Representative, Technical travels in allotted area and canvasses for sale of machinery, plants, equipment, accessories, etc. Plans daily visits to prospective clients in allotted area. Introduces his products by showing samples, catalogues and relevant literature. Arranges demonstration of his products if necessary and renders necessary instructions regarding use, operations, maintenance, servicing and other technical details. Advises customers in computing costs of installation and savings in production costs, and gives them estimates, blueprints etc. Follows up his visits, discusses and finalises with clients, price, cost of installation, credit terms, etc. Books orders and forwards them to controlling office for compliance. Submits report to controlling office on day-to-day progress of work and makes suggestions for improving sales. Studies literature supplied by manufacturers and keeps abreast with latest technical developments. May attend to erection and servicing of machinery or plant supplied and ensure that Technical

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Demonstrators, Fitters, etc. execute their tasks properly.

3415.20 Medical Representative contacts physicians, hospitals, nursing homes, druggists etc. in specified areas and introduces medical products of his company to stimulate sales. Plans daily visits and calls on doctors, hospitals, nursing homes, etc. in his area. Introduces to physicians medical products of his company and explains their merits. Distributes literature, catalogue, samples other publicity material, etc. for guidance and prescription. Follows up his visit, ascertains views regarding his products and induces clients to prescribe his products to patients. Persuades druggists and dealers of his area to stock his products to meet likely demands. Offers credit facilities, commission, etc. as authorised by company. Books orders and forwards them to controlling office for compliance. Submits daily report of his canvassing activities and gives suggestions for improving sales. May collect payment for products sold.

3415.30 Commercial Traveller, General; Touring Salesman; Travelling Salesman travels in allotted areas and canvasses local dealers and consumers to buy his products. Plans daily visits to cover all important dealers and consumers in his area. Introduces products by showing samples, catalogues etc. Persuades intending purchasers to buy and stock his products. Discusses and finalises terms regarding sales, commission, credit facilities, etc. Books order and forwards it to head office for compliance. Gives advance information to dealers and consumers of contemplated rise in prices, etc. Ensures that publicity material is properly displayed in area. Submits report of his canvassing activities and marketing conditions to head office and makes suggestions for improving sales. Keeps record of orders booked and sales effected by him. Maintains contacts with officers of head office to ensure that orders placed are executed promptly. May deliver or arrange to deliver products to dealers if required urgently. May collect payments for products sold.

3415.40 Canvasser, Sales; Salesman Demonstrator calls on customers in area

allotted and solicits business for goods by creating buying interest among customers. Plans out his visits and goes from door to door in allotted area. Explains purpose of visit and introduces product concerned to customers. Explains uses, merits, durability and other distinguishing features of goods to customers. Distributes literature and sample and gives demonstration if necessary. Follows up visits by calling again to find out result and views of customers. Books orders and posts them to delivery department for execution. Visits old customers to find out their difficulties and requirements. Submits report on his canvassing activities and makes suggestions for improvement of sales to employer. May work on salary or commission basis or both.

3415.50 Field Officer, Insurance; Insurance Inspector plans, organises and develops various types of insurance business (life, fire, marine, accident, etc.) and guides and supervises work of Insurance Agents. Works out plan to develop business in given area or organisation. Selects and recruits new agents and trains them in selling insurance to clients. Draws out plan of work for each of his agents and guides and supervises their day-to-day work by contacting prospective clients along with their agent if considered necessary. Encourages agents to work in scientific manner by persuading them to make regular calls on clients and to maintain their work-book (daily record). Recommends appointments of suitable agents in replacement of inactive agents when considered necessary. Gives publicity in his area to various new plans devised by insurance company. Maintains social contacts with all important persons of locality. Ensures that maximum business from given area or organisations is secured. Keeps authorities informed of developments in his area or organisation. Investigates claim cases. Acts as **Liaison Officer** between corporation, insuring public and **Commission Agent**. May collect first premium deposit.

3415.60 Sales Supervisor, Wholesale Trade supervises wholesale business of any commodity in particular area of specified zone to effect better sale and improve supply and demand position. Contacts businessmen

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and takes stock of available business in his area. Directs **Representatives** or area **Salesmen** to contact prospective retail businessmen. Advises **Stockists** and Distributors to supply goods as required and maintains registers of sales effected. Supervises work of **Representatives** or area **Salesmen** to popularise and promote business by undertaking advertisement and publicity drives and looks into complaints of service and defective or poor quality of goods for improvement. Informs head office of market trends and of defects or complaints noticed in products, suggesting improvements to avoid adverse effects on business. Submits prescribed returns and reports performance of juniors and subordinates to head office for service benefits or otherwise.

3415.70 Sales Supervisor, Retail Trade supervises performance of **Sales girls** and **Salesmen** in department stores, emporia, etc. to coordinate their functions and ensure smooth selling activities. Gets merchandise properly arranged by **Shop Attendants** according to quality, demand, price range, etc. and labels them for display to prospective **Buyers**. Ensures that **Salesmen, Retail** and **Shop Assistants** attend to customers promptly and politely and effect sales in regular manner by creating purchasing interest in customers. Watches measuring or weighing, collection of money, packing and other selling activities and ensures cordial and renewed interest of customers for future purchases. Maintains stock of goods in demand and replenishes them as necessary. May personally attend to customers during rush hours. May take special interest in attending, introducing new items and selling articles to patrons, foreigners and important persons. May handle cash and maintain stock and sales accounts. May work as Field Supervisor, coordinate function of Sales Representatives and publicise marketing activities.

3415.80 Sales Supervisors, other includes all other Sales Supervisors engaged in wholesale or retail trade to effect, popularise and promote business, not elsewhere classified.

3415.85 Customer Service Analyst investigates and resolves computer software

and hardware problems of users. Receives telephone calls from users having problems using computer software and hardware or inquiring how to use specific software, such as statistical, graphics, data base, printing, word processing, programming languages, electronic mail, and operating systems. Talks to user to learn procedures followed and source of error. Answers questions, applying knowledge of computer software, hardware, and procedures. Determines whether problem is caused by hardware, such as modem, printer, cables, or telephone. Talks with coworkers to detect problem and find solution. Talks to programmers to explain software errors or to recommend changes to programmes. May test software and hardware to evaluate ease of use and whether product will aid user in performing work. May write software and hardware evaluation and recommendation for management review. May write or revise user training manuals and procedures. May develop training materials, such as exercises and visual displays. May install microcomputers, software, and peripheral equipment, following procedures and using hand tools. May work as in-house consultant and research alternate approaches to existing software and hardware when standardised approaches cannot be applied. May conduct office automation feasibility studies, including work flow analysis, space design, and cost comparison analysis.

3415.90 Technical and Commercial Sales Representatives, other include all other representatives engaged in selling of various goods on a wholesale basis including installations, equipment and technical products and related services, and provide specialised information as required not elsewhere classified.

3416 BUYERS

Buyers buy goods and services on behalf of industrial, commercial or other enterprises and organisations for resale in wholesale or retail trade.

3416.10 Buyer buys goods, such as farm produce, used clothing, old news papers, waste materials, etc. for company use or for resale. Appraises and weighs goods to determine their value. Goes around different

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localities or areas and purchases goods from sellers according to authorisation or prospect for resale. Sorts purchased goods according to type, quality and value and sells them to business establishments or private individuals. May deal in old machinery parts, waste paper, used cans, worn garments, etc. according to investment, resale value and personal capacity.

3416.20 Purchasing Agent purchases goods at favourable prices on behalf of wholesalers, big consumers, Government authorities, etc. on salary or commission basis. Receives instructions from clients on specification of goods and rates at which goods are to be purchased. Contacts Manufactures Agents or Wholesale Dealers and finds out prevailing rates, quality and quantity of goods available. Acquaints clients with latest information. Purchases goods according to instructions of clients. Takes delivery of goods purchased and makes arrangements for packing and delivering of goods to clients. Forwards receipts, bills through bank for collection. Attends to all correspondence and inquiries pertaining to business. Keeps close liaison with Procedures, Agents and Wholesale Dealers for knowing market fluctuations and advises clients accordingly. May offer quotations against tenders issued by Government, Local Authorities and other big consumers.

3416.90 Buyers, other include all other buyers who buy goods and services on behalf of industrial, commercial or other enterprises not elsewhere classified.

3417 APPRAISERS, VALUERS AND AUCTIONEERS

Appraisers, valuers and auctioneers value property and various goods and assess losses covered by insurance policies, or sell objects, properties and goods by auction.

3417.10 Auctioneer organises auction of movable and immovable property and sells it to highest bidder. Receives or makes arrangements to bring articles to be auctioned at his place or conducts auction at site. Makes inventories of items of property to be sold giving their short description and allotting numbers to each item of property.

Fixes date and time of auction in consultation with seller. Publicises auction through hand bills, posters, beat of drums, advertisements in newspapers, personal talks, etc. Displays property in shop or at site. Distributes copies of inventory to intending purchasers and describes articles to persons gathered and invites persons to quote prices. Supervises sale on day of auction. Sells property to highest bidder and hands over property on receipt of full payment. Keeps account of money realised and remits it to seller after deducting his commission. Attends to all correspondence relating to his business. May also act as Crier during auction-sale. May be appointed as AUCTIONEER to Govt., High Court; Municipality, etc.

3417.20 Crier, Auction stimulates competitive bidding at auction sale by inviting bids from buyers and closes sale to highest bidder at instances of Auctioneer. Stands on raised platform or sits on high chair with wooden mallet in hand. Describes briefly article to be auctioned and invites bids from buyers assembled. Extols article on sale and calls loudly bids offered to stimulate competitive bidding. Repeats highest and final bid three times and closes sale to highest bidder by hanging mallet on desk on advice of Auctioneer. Writes against each item auctioned, name of highest bidder and price offered. May withdraw items of property from sale if reserved-price is not forthcoming, under direction of Auctioneer. May assist Auctioneer in discharge of his duties when called upon to do so.

3417.30 Conductor, Auction-Sale prepares list of property to be auctioned and gives description or demonstrates working to buyers assembled to stimulate competitive bidding. Arranges property in room, hall or at site, makes inventory of property giving short description and allots number to each item of property. Gets copies of inventory prepared and distributes them amongst intending buyers. Reads description of property and demonstrates working etc. if required. Hands over keys and other accessories to buyers. May work as Crier Auction.

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3417.40 Valuer; Appraiser determines current monetary value of real estate, personal and household effects, books, paintings and other art objects on instructions from seller, creditor, bank, court, archives, etc. on commission basis. Visits place where property to be valued is located. Examines items of property for condition and authenticity and estimates its value. Consults jewellers, artists, etc. for determining current value, where necessary. Makes inventory of property and submits estimates regarding value to clients concerned. Charges commission for work done.

3417.50 Claims Inspector, Railway inspects booking, transportation and delivery to ensure strict compliance of railway rules for safety against loss or damages during transit and investigates claims. Examines goods and articles booked for defective packing and inspects seals and locks of wagons in transit to check tampering. Calculates booking charges for correct assessment of charges. Investigates claims for loss or damage filed in conjunction with booking tariff. Evaluates loss by examination of traders' or claimants' account books and market rates. Determines responsibility of railway staff, if any, for loss or damages and arranges recovery. Traces missing consignment, if possible. May attend case hearings for claims made in court.

3417.60 Appraiser, Customs determines monetary worth of merchandise and various kinds of goods, such as art objects, gold ornaments, gems and other luxury goods for assessment of customs duty. Examines bills presented by importer or his agent and ensures that entries are properly made. Gives first check order to shed-appraiser calling for further details or sample if necessary. Supervises examination of all imported merchandise and inspects or examines articles in question, using knowledge and experience of scientific tests and original values to arrive at final estimate. Submits estimate to importer. Furnishes Customs Collector with necessary information for assessment of duty on imported merchandise as per Act. May specialize in appraisery of particular type of article and be designated accordingly.

3417.90 Appraisers, Valuers and Auctioneers, other include all other associate professional engaged in valuation of property and various goods and assessment of losses covered by insurance policies, or sell objects, properties and goods by auction not elsewhere classified.

3419 FINANCE AND SALES ASSOCIATE PROFESSIONALS n.e.c.

This family covers finance and sales associate professionals not elsewhere classified in Group 341 Finance and Sales associate professionals.

342 BUSINESS SERVICES AGENTS AND TRADE BROKERS

Business services agents and trade brokers establish necessary contacts between buyers and sellers, buy and sell commodities usually in bulk, carry out customs clearance procedures and ensure that insurance and export/ import licenses are in order, match jobseekers with various vacancies notified to employment exchanges, submit workers for vacant posts on a commission basis, or contract labour for particular projects, and sell various business services.

3421 TRADE BROKERS

Trade brokers buy and sell commodities, usually in bulk, at auctions on the spot or futures markets.

3422 CLEARING AND FORWARDING AGENTS

Clearing and forwarding agents carry out customs clearing procedures and ensure that insurance, export/import licences and other formalities are in order.

3423 EMPLOYMENT AGENTS AND LABOUR CONTRACTORS

Employment agents and labour contractors match jobseekers with vacancies, find workers for employers and contract labour for particular projects at the request of enterprises and other, including government, institutions, or find places for job seekers for a commission.

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3429 BUSINESS SERVICES AGENTS AND TRADE BROKERS n.e.c.

This Family covers business services agents and trade brokers not classified elsewhere in Group 342, Business services agents and trade brokers. For instance, in this Family occupations should be classified which involve establishment of business contracts, sell business services, and other facilities, credit and other business information, arrange contracts for performances of athletes, entertainers and artists, as well as for the publication of books, the production of plays, or the recording, performing and sale of music.

3429.10 Call Center Executive answers in person or on the phone, enquiries from customers and investigates complaints regarding goods, services and policies; arranges for funds, exchange and credit for returned merchandise; receives account payments; and receives credit and employment applications. He/She takes customer orders for goods or services; promote goods or services; responds to enquiries and emergencies; investigates complaints and up dates accounts. He/She explains the type and cost of services enquired by the customer, initiates billing and process claim payments. Provides information to customers and the public concerning goods, services, schedules, rates, regulations and policies. May also be called Customer Care Executive.

343 ADMINISTRATIVE ASSOCIATE PROFESSIONALS

Administrative associate professionals implement and support the communication, documentation and internal managerial co-ordination activities of an organisational unit and organise the flow of information among different organisational units.

3431 ADMINISTRATIVE SECRETARIES AND RELATED ASSOCIATE PROFESSIONALS

Administrative secretaries and related associate professionals implement and support the communication, documentation and internal managerial co-ordination

activities of an organisational unit to assist the head of unit and other members of staff, and make verbatim reports of proceedings.

3431.10 Section Officers; Office Superintendent; Head Clerk; Section-in-charge; Head Assistant; Supervisor(clerical) organises and controls all clerical work within establishment or office thereof. Allocates duties to staff under him, co-ordinates and supervises their work ensuring efficiency, discipline and observance of prescribed procedure. Studies all files, draft letters, notes, etc. put up by clerk. Disposes routine and intermeditery matter himself. Deals with important files and complicated cases personally and puts up notes, reports, drafts etc. to superior for orders. Ensures that prescribed procedure is followed by staff in dealing with cases. Keeps important , secret and confidential records in his personal custody. Supervises preparation of budget estimate, statement of accounts, financial bills, payment of wages, salaries etc. to staff and maintenance of various accounts and registers.

3431.20 Inspectors and Supervisors, other (Clerical) perform variety of supervisory and executive tasks in any branch of public or private sector department such as revenue, income -tax, education, labour, sales, housing etc. and ensure satisfactory working and execution of policy decisions. Instruct staff members and others concerned on procedural matters, records and registers to be maintained, policy decisions, connected rules and regulation, etc. and guide them as necessary. Visit related offices, institutions, shops, establishments, etc. check records and connected papers; examine working conditions; reconcile labour disputes and perform other supervisory and executive tasks according to nature of post held. Ensure satisfactory working and execution of policy decisions, public dealing, implementation of connected rules and regulations and take prescribed remedial or legal steps to remove mistakes or defaults noticed. Submit periodical reports and returns to appropriate authorities. Is designated according to work performed or post held, such as :

- CIRCLE INSPECTOR.**
- REVENUE INSPECTOR.**
- INCOME-TAX INSPECTOR.**

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CIVIL SUPPLIES INSPECTOR.
SHOP INSPECTOR.
SALES TAX INSPECTOR.
LABOUR INSPECTOR.
RATIONING INSPECTOR.
INSPECTOR OF CO-OPERATIVE SOCIETIES.
MOTOR VEHICLE INSPECTOR.
ENFORCEMENT INSPECTOR.
FOREST RANGER.
HOUSING INSPECTOR, etc.

3431.30 Office Assistant; Senior Clerk prepares notes, drafts memoranda and summaries quoting precedents, references, rules, etc. Draws out reports, statements and attends to correspondence. Assists superior in disposal of complicated or important cases. Makes entries in register regarding nature and number of papers received by him for disposal. Studies letters and correspondence and links connected papers on subject. Prepares brief notes, reports or draft replies quoting precedent, rules, regulations and existing orders, if any, puts them to superior for consideration. Keeps watch over movement of files. Supervises work of subordinates and assists them in disposal of case correctly and expeditiously. Maintains prescribed registers. May do his own typing. May handle cash and maintain accounts. May prepare budget, bills and other statements.

3431.40 Briefing Assistant; Operation Assistant (Air Service) performs clerical duties incidental to operation of aircraft through airport. Makes out clearance papers to authorize cross country flights and submits them to authority for approval. Prints weather information on clearance and weather report forms using duplicating machine. Prepares despatch papers including such items as time of departure and arrival, names of crew members and cargo weighed. Posts progress of flights, using chalk and black board, or special indicator board and keeps permanent flight record. Prepares messages to be sent by radio and teletype to other fields concerning flights. May arrange for substitutes for crew members.

3431.90 Administrative Secretaries and Related Associate Professionals, other include other administrative secretaries who

implement and support the communication, documentation and internal managerial co-ordination activities of an organisational unit to assist the head of unit and other members of staff, and make verbatim reports of proceedings not elsewhere classified.

3432 LEGAL AND RELATED BUSINESS ASSOCIATE PROFESSIONALS

Legal and related business associate professionals assist Corporate managers, General managers, and Legal professionals, as well as various business professionals in connection with legal matters, including those related to insurance contracts, granting of loans and other financial transactions.

3432.10 Legal Assistant; Law Assistant assists Solicitors and Advocate in their work by collecting documents from clients, or organisation in which employed, studying details of cases, preparing briefs, supplying relevant decisions or similar cases and laws connected, etc. in support of pleadings. Interviews clients, discusses case history and collects documents pertaining to case, if any. Examines witnesses and discusses case with senior (Solicitor or advocate). Studies relevant case laws, prepares briefs for pleading as instructed and files case in court. Assists Advocate in preparing witnesses for evidence and cross examination, and in conducting case. Accompanies Advocate to courts and performs other legal duties as instructed. May visit spots occurrence or dispute to ascertain additional facts.

3432.20 Shirestedar; Reader; Bench Clerk; Judicial Clerk; Peshkar renders clerical assistance to Judge or Magistrate in conducting judicial proceedings in court. Receives records of cases, paper-books, etc. from ministerial office (clerical section where records are kept) of court. Arranges daily board (list of cases to be heard) in consultation with Judge or Magistrate. Attends Court, calls out case names of parties and relevant details and hands over necessary papers to Judge or Magistrate. Marks documents and retains custody of items submitted as exhibits by parties on orders of Judge or Magistrate. Maintains order in court room and takes notes of proceedings. Records orders passed by

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Judge or Magistrate and hands them over to office for drafting decrees and orders. Maintains statistical summary of work performed by court and answers correspondence pertaining to case allotted to Court. May draft decree himself and furnish certified copies thereof to parties. May arrange interviews of parties with Judge in his chamber. May administer oath to witnesses. May act as **Interpreter**, when **Interpreter** is not available.

3432.30 Petition Writer writes petitions for public. Sits in premises of courts and other offices with permission of authorities. Writes petitions for public and types them himself. Collects charges from customers. May also sell stamps if in possession of proper license.

3432.90 Legal and Related Business Associate Professionals, other include associate professionals engaged in **Legal** and related business activities not elsewhere classified.

3433 STATISTICAL, MATHEMATICAL AND RELATED ASSOCIATE PROFESSIONALS

Statistical, mathematical and related associate professionals assist in planning the collection, processing and presentation of mathematical, statistical or actuarial data and in carrying out these operations, usually working under the guidance of Mathematicians and related professionals, or Statisticians.

3433.10 Economic Investigator collects statistical and other data on prescribed forms by observation, interview, interrogation or by application of other standardized technique for study, analysis and interpretation of various economic problems. Fixes time table or arranges programme of investigation work as directed. Visits areas or places for collection of data according to schedule in prescribed forms. Records information on prescribed forms by observation, interview, interrogation or by application of other standardized technique. Conducts sample verification of data collected. Compiles, tabulates and processes data in prescribed forms for analysis and interpretation. Reports to superiors on results achieved.

3433.20 Statistical Assistant; Statistical Investigator Collects, compiles and scrutinises statistical data and arranges it in systematic manner to facilitate its analysis, interpretation and presentation, Checks collected data for consistency and reduces quantitative data in convenient form by making statistical calculations. Analyses data to find out dispersion and magnitude of errors. Attends to computation for advanced statistical calculations. Arranges analysed data in proper order in charts, graphs, diagrams etc. for interpretation and publication. May conduct field investigation to collect data on prescribed schedule. May write reports of investigation. May supervise work of Computers and Investigators and guide them when necessary. May operate calculating machines.

3433.90 Statistical, Mathematical and Related Associated Professionals, other include those mathematicians, statisticians and related associate professionals not elsewhere classified.

3439 ADMINISTRATIVE ASSOCIATE PROFESSIONALS n.e.c.

This Family covers administrative associate professionals not classified elsewhere in Group 343, administrative associate professionals. For instance, in this family occupations should be classified which involve administrative consular services, executive secretarial duties for departmental heads or official committees, analyse files and other sources of information and write reports for responsible administrators, giving relevant information and some advice on policy questions, departmental programmes, administrative problems and other matters.

3439.10 Sub- Post Master performs various functions involved in provision of postal facilities to public in sub-office in rural and urban areas. Sells postal stationery, collects money-orders, parcels, letters, etc. and arranges for delivery of mail, money-orders and other postal articles to local addresses. Maintains records of all cash transactions with public, sale proceeds of stamps etc. May operate telegraphic signal instruments.

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3439.90 Administrative Associate Professionals, other include associate professionals involved in administrative activities not elsewhere classified.

344 CUSTOMS, TAX AND RELATED GOVERNMENT ASSOCIATE PROFESSIONALS

Customs, tax and related government associate professionals enforce or apply relevant government rules and regulations relating to national borders, taxes, social benefits, and provide or examine applications for licenses or authorisations in connection with travel, exports and imports of goods, establish a business, erection of buildings and other activities subject to government regulations.

3441 CUSTOMS AND BORDER INSPECTORS

Customs and border inspectors check persons and vehicles crossing national borders to enforce relevant government rules and regulations.

3441.10 Inspector Customs; Preventive Officer, Customs; Examiner Customs examines Cargo and baggage of passengers to detect and prevent smuggling of goods in ports, aerodromes and across national borders. Obtains passenger's declaration regarding import and exports of articles and examines their baggages and carries out personal search of suspects, passengers, issues clearance of baggage of passengers as per customs regulations. Keeps control over officers and sepoys and ensures proper guarding of vital points in Docks and Bunders. Gathers information and intelligence reports about smuggling, takes requiring action and ensures that defaulters have been brought to book. May carry out surprise checks in vessels of merchant navy, country crafts, aircrafts, shops, etc.

3441.20 Supervisor, Customs supervises search of passengers and their baggage at ports, aerodromes and across national borders for detecting smuggling of goods. Assists Examiner Customs in examining Cargo and baggage of passengers and arranges for deposit of unclaimed and uncleared goods of customs duty in go-

downs for assessment of duty by Appraiser Customs. Ensures that all vital points of restricted area are guarded to prevent passage of dutiable goods without clearance.

3441.30 Searcher, Customs, searches persons or passengers at airports and bunders coming from or leaving to foreign countries to prevent smuggling of any contraband, prohibited and restricted articles. Interrogates passengers about the possession of any restricted goods and searches persons in doubtful cases. Undertakes search of personal luggage in possession, records details of searches in register and prepares other clerical duties when required.

3441.90 Customs and Border Inspectors, other include all other inspectors involved in checking persons and vehicles crossing national borders to enforce relevant government rules and regulations not elsewhere classified.

3442 GOVERNMENT TAX AND EXCISE OFFICIALS

Government tax and excise officials examine tax returns, bills of sale and other documents to determine the type and amount of taxes, duties and other types of fees to be paid by individuals or businesses, referring exceptional or important cases to Senior government officials or managers.

3442.10 Inspector Excise detects, prevents unauthorised production, smuggling, sale and use of dutiable goods and assesses excise duty on them. Surveys plant-producing dutiable goods for verification at various stages of manufacture, visits store-room for verification of final products with manufacturers account. Checks weight or counts number of packages of excisable commodities and verifies daily production with factory accounts relating to raw materials and final products. Inspects excisable commodities, assesses excise duty and allows clearance of commodities after adjusting amount in accounts. Maintains records regarding production of commodities, levy of excise duties, permits for clearance of commodities from factories, etc., as required.

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3442.90 Government Tax and Excise Officials, other include associate professionals engaged in examining tax returns, bills of sale and other documents to determine the type and amount of taxes, duties and other types of fees to be paid by individuals or businesses not classified elsewhere.

3443 GOVERNMENT SOCIAL BENEFIT OFFICIALS

Government social benefit officials examine applications for benefits, in cash or kind, to determine eligibility and amount of benefit, referring exceptional or important cases to Senior government officials or Managers.

3443.10 Village Level Worker, Gram Sevak guides and assists villagers to lead better and fuller life. Visits various villages in his area and contacts people. Discusses their problems and assists in solving them. Advises farmers in better farming, benefits of fertiliser, pesticides, etc. Reports complaints and needs of farmers and other villagers to respective authorities for necessary action. Advises people on personal and public hygiene and sanitation. May arrange adult literacy programme. Is designated as **GRAM SEVIKA**, if female worker, and engaged in training and assisting women in child care, house crafts, sanitation, etc.

3443.20 Patroller, (Women); Care Worker (Women) assists girls in need of shelter by getting them admitted in care institutions and acts as liaison between care institutions and public. Renders advice to girls and women from going astray. Meets fallen women and arranges shelter for them in care institutions. Acts as liaison between care institutions and public to give information as required. May assist in rehabilitation of fallen women.

3443.90 Government Social Benefit Officials, other include associate professionals who examine applications for benefits, in cash or kind, to determine eligibility and amount of benefit, not classified elsewhere.

3444 GOVERNMENT LICENSING OFFICIALS

Government licensing officials examine applications for licenses to export or import goods, set up a business, build a house or other structures, or to obtain a passport, and determine whether applications for licenses or passports are to be approved and whether specific conditions are to be attached to the license, referring exceptional or important cases to Senior government officials or Managers.

3449 CUSTOM, TAX, AND RELATED GOVERNMENT ASSOCIATE PROFESSIONALS n.e.c.

This Family covers customs; tax and related government associate professionals not elsewhere classified in Group 344, Customs, tax, and related government associate professionals. For instance, in this family occupations should be classified which involve examination of places of business to ensure the use of correct weights and measures in trade and monitor the application of price or wage regulations, referring exceptional or important cases to Senior government officials or Managers.

345 POLICE INSPECTORS AND DETECTIVES

Police inspectors and detectives investigate crimes committed and try to obtain information about persons and establishments which may be used in crime prevention.

3450 POLICE INSPECTORS AND DETECTIVES

Police inspectors and detectives investigate facts and circumstances relating to crimes committed and obtain information not readily available or apparent concerning establishments or the circumstances and behaviour of persons, mostly in order to prevent crime.

3450.10 Inspector, Police maintains law and order, protects property and persons from hazard and unlawful acts and apprehends violation of the law. Inspects periodically police stations under his charge. Studies reports and other records and informs higher authorities about inadequacies such as delays or improper actions. Investigates serious

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crimes such as dacoity, murder, conspiracy and maintains crimes register and acts to minimize crimes by rounding up bad character or keeping watch over them. Keeps Superintendent of Police informed of important occurrences within his jurisdiction by regular rendition of reports. May conduct cases against accused in court. May specialize in security arrangements, traffic control, intelligence, enforcement and anticorruption work, and be designated as INSPECTOR POLICE(criminal investigation department); TRAFFIC INSPECTOR, POLICE. May be known as RESERVE INSPECTOR OF POLICE if incharge of armed and ordinary reserves, magazine and other stores, training of recruits, drill, discipline and use of arms, arranging of orderly rooms, etc.

3450.20 Sub-Inspector,Police; Station House Officer maintains law and order in his jurisdiction, investigates crimes, arrests criminals, protects persons and property from hazards of unlawful acts and controls staff working in police station. Allots duties to Police Constables and other staff working under him. Familiarises himself with persons in his area and acquaints himself with local problems. Studies records of notorious and bad characters and keeps watch over their activities. Receives intelligence reports and other information through official and private sources and takes action or disseminates them to appropriate authorities for instructions. Supervises Patrolling and checks duties of Sentries. Takes action to prevent crime wherever possible Examines first information reports and complaints lodged in police station, investigates situation and takes appropriate action such as issuing warnings or making arrests. Investigates crimes and submits report to higher authorities. Supplies relevant information to Public Prosecutor in conduct of criminal cases. Inspects kits of Police Constables and drills his subordinates on fixed days. Keeps control over police out-posts under his charge and maintains law and order in public functions. May present criminal cases in court. May be incharge of traffic control and perform other duties except crime investigation and he designated as SERGEANT, POLICE.

3450.30 Detective carries out investigations to prevent and solve criminal cases. Investigates known or suspected criminals or facts of particular case to detect planned criminal activity or clues. Frequents known haunts of criminals and familiarizes himself with criminals to determine their habits and other personal information. Records such information and reports it to concerned officer. Reports any occurrence or information regarding planned or committed crime that comes to his attention. Investigates circumstances of crime and questions witnesses when assigned to specific case. Examines scene of crime to obtain clues and gather evidence. Interrogates suspected persons to establish guilt or innocence. Reports progress of investigation. Arrests or assists in arrest of criminals or suspects Prepares assigned cases for court, according to formalized procedure. May investigate and find out missing persons or articles for restoration to legal owner. May be designated according to type and nature of crime investigated.

3450.90 Police Inspectors and Detectives, other include associate professionals who investigate facts and circumstances relating to crimes committed and obtain information in order to prevent crime not elsewhere classified.

346 SOCIAL WORKER ASSOCIATE PROFESSIONALS

Social worker associate professionals provide guidance to clients in social and related matters to enable them to find and use resources to overcome difficulties and achieve particular goals.

3460 SOCIAL WORKER ASSOCIATE PROFESSIONALS

Social worker associate professionals provide guidance to clients in social and related matters to enable them to find and use resources to overcome difficulties and achieve particular goals.

3460.10 Blood-Donor -Unit Assistant performs any combination of following supportive duties at blood-collection unit of blood bank. Schedules appointments over telephone for blood donors. Interviews blood

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donors and records identifying and blood-credit information on registration form. Notifies nurse if donor appears to be underweight or too old to give blood. Takes blood donor's temperature and pulse to assist during medical interview. Unpacks, labels, and stamps date on empty blood packs. Posts donor names, blood-control numbers, and donor-group numbers to unit logsheet. Seals filled blood packs and sample tubes, using handtools and heat-sealing machine. Serves refreshments, such as coffee, juice, cookies, and jelly beans, to donors to prevent or relieve adverse reactions and to begin replenishment of blood fluids.

3460.20 Equal Opportunity Officers monitor and evaluate compliance with equal opportunity laws, guidelines, and policies to ensure that employment practices and contracting arrangements give equal opportunity without regard to race, religion, color, national origin, sex, age, or disability. Conduct surveys and evaluate findings in order to determine if systematic discrimination exists. Counsel newly hired members of minority and disadvantaged groups, informing them about details of civil rights laws. Interpret civil rights laws and equal opportunity regulations for individuals and employers. Investigate employment practices and alleged violations of laws, in order to document and correct discriminatory factors. Meet with persons involved in equal opportunity complaints in order to verify case information, and to arbitrate and settle disputes. Prepare reports of selection, survey, and other statistics, and recommendations for corrective action. Provide information, technical assistance, and training to supervisors, managers, and employees on topics such as employee supervision, hiring, grievance procedures, and staff development. Review company contracts to determine actions required to meet governmental equal opportunity provisions. Study equal opportunity complaints in order to clarify issues.

3460.90 Social Worker Associate Professionals include associate professionals who provide guidance to clients in social and related matters to enable them to find and use resources to overcome difficulties and achieve particular goals not elsewhere classified.

347 ARTISTIC, ENTERTAINMENT AND SPORTS ASSOCIATE PROFESSIONALS

Artistic, entertainment and sports associate professionals design products or decorate interiors, present information through the media, entertain audiences by performing spectacular, amusing or exciting acts on stage, in the streets or in circuses, or participate in sports competitions and in some cases train or direct those who perform such activities.

3471 DECORATORS AND COMMERCIAL DESIGNERS

Decorators and commercial designers apply artistic techniques to product design, interior decoration and sales promotion.

3471.10 Decorator; Designer creates artistic and ornamental designs in colour for interior and exterior decorations and displays and arranges in attractive manner wares, products, furniture etc. Creates own designs to satisfy client's requirements and taste etc. showing style, shape, size and other characteristics or products. Makes sketches and diagrams or design keeping into consideration purpose, cost and preferences of client. Arranges decorative material, furniture, wares, products etc. in artistic manner. May specialise in setting and decorating stages and may be known as **Set Decorator**. May be known as **Interior Decorator, Decorative Designer, Window Display Designer, Display Artist**, etc., according to field of specialisation.

3471.20 Furniture Designer designs furniture line or individual pieces for manufacture according to knowledge of design trends, offerings or competition, capability of production facilities and characteristics of company's traditional market. Studies market trends and customer needs and discusses design suggestions with production management and trade channels. Evaluates proposals and prepares freehand sketches of promising designs. Obtains approval from customer, design committee or company management and originates scale drawing of approved designs, using drawing instruments. Traces drawing on

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tracing cloth, preparatory to production of blue print; Prepares or directs preparation of blueprints containing manufacturing specifications such as dimensions, kind of wood and upholstery fabrics to be used in manufacturing furniture line or article. May plan modifications for completed furniture to conform to changes in design trends and increase customer acceptance.

3471.30 Tattoo Artist pricks skin of patron, using needled electric tool, that inserts indelible nontoxic pigment into skin to form decorative or ornamental design. Shaves area to receive tattoo and washes it, using germicidal soap. Presses charcoal-coated stencil, draws design, or traces pattern of design onto skin of patron, to mark outline of design. Dips needles of tool into colored pigment solution and presses needles into skin to insert indelible pigment into skin following outline of design. Applies sterile dressing to area. Sterilises needles in steam-heated cabinet (steriliser). Mixes nontoxic colored pigments according to formula. Adjusts and repairs needled electric tool, using hand tools, such as screwdrivers and pliers. May draw original designs on paper, trace designs onto acetate sheet, and cut out design to form pattern or stencil, using stylus and knife.

471.40 Fashion Designer designs clothing and accessories. Creates original garments or design garments that follow well established fashion trends. May develop the line of colour and kinds of materials. Attends fashion shows and reviews garment magazines and manuals in order to gather information about fashion trends and consumer preferences. Designs custom clothing and accessories for individuals, retailers, or theatrical, television, or film productions. Draws patterns for articles designed; then cuts patterns, and cuts material according to patterns, using measuring instruments and scissors. Examines sample garments on and off models; then modify designs to achieve desired effects. Selects materials and production techniques to be used for

products. Sketches rough and detailed drawings of apparel or accessories, and writes specifications such as colour schemes, construction, material types, and accessory requirements. Adapt other designers' ideas for the mass market. Collaborates with other designers to coordinate special products and designs. Confers with sales and management executives or with clients in order to discuss design ideas. Determines prices for styles.

3471.45 Textile Designer develops patterns creates designs for use in manufacture of cloth. Studies cuttings of designs brought out by other Indian as well as foreign mills. Reviews literature on textile designing and watches views literature on textile designing and watches current trends in style. Develops designs of new patterns and colour combinations. Prepares rough drawing of designs. Reproduces final designs on graph paper indicating inter-lacement of warp and weft. Supervises inserting of pattern on dobby or jacquard looms. Examines samples of woven pattern and corrects or amends design on graph, if necessary. Checks functioning of cards punched by Card Cutter and pegging of lattice done by Lattice Rigger.

3471.50 Interior Designer plans, designs, and furnishes interiors of residential, commercial, or industrial buildings. Formulates design which is practical, aesthetic, and conducive to intended purposes, such as raising productivity, selling merchandise, or improving life style. May specialise in a particular field, style, or phase of interior design. Estimates material requirements and costs, and presents design to client for approval. Confers with client to determine factors affecting planning interior environments, such as budget, architectural preferences, and purpose and function. Advises client on interior design factors, such as space planning, layout and utilisation of furnishings and equipment, and colour coordination. Selects or designs and purchases furnishings, art works, and accessoriesSubcontract fabrication, installation, and arrangement of carpeting, fixtures, accessories, draperies, paint and wall coverings, art work, furniture, and related items. Render design ideas in form of paste-ups or drawings. Plans and designs

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interior environments for boats, planes, buses, trains, and other enclosed spaces.

3471.60 Floral Designer designs, cuts, and arranges live, dried, or artificial flowers and foliage.confers with clients regarding price and type of arrangement desired and the date, time, and place of delivery. Plans arrangement according to client's requirements, utilizing knowledge of design and properties of materials, or select appropriate standard design pattern. Waters plants, and cut, condition, and clean flowers and foliage for storage. Selects flora and foliage for arrangements, working with numerous combinations to synthesize and develop new creations. Order and purchase flowers and supplies from wholesalers and growers. Wraps and price completed arrangements. Trims material and arranges bouquets, wreaths, terrariums, and other items using trimmers, shapers, wire, pins, floral tape, foam, and other materials. Performs office and retail service duties such as keeping financial records, serving customers, answering telephones, selling giftware items and receiving payment. Informs customers about the care, maintenance, and handling of various flowers and foliage, indoor plants, and other items. Decorates or supervises the decoration of buildings, halls, churches, or other facilities for parties, weddings and other occasions.

3471.70 Graphic Designer designs or creates graphics to meet specific commercial or promotional needs, such as packaging, displays, or logos. May use a variety of mediums to achieve artistic or decorative effects.Create designs, concepts, and sample layouts based on knowledge of layout principles and esthetic design concepts. Determines size and arrangement of illustrative material and copy, and select style and size of type. Uses computer software to generate new images. Marks up, paste, and assemble final layouts to prepare layouts for printer. Draws and print charts, graphs, illustrations, and other artwork, using computer. Reviews final layouts and suggest improvements as needed. Confers with clients to discuss and determine layout design. Develops graphics and layouts for product illustrations, company logos, and Internet websites. Feeds information into

computer to create layouts for client or supervisor. Prepares illustrations or rough sketches of material, discussing them with clients and/or supervisors and making necessary changes.

3471.80 Package Designer designs containers for products, such as foods, beverages, toiletries, cigarettes, and medicines. Confers with representatives of engineering, marketing, management, and other departments to determine packaging requirements and type of product market. Sketches design of container for specific product, considering factors, such as convenience in handling and storing, distinctiveness for identification by consumer, and simplicity to minimise production costs. Renders design, including exterior markings and labels, using paints and brushes. Typically fabricates model in paper, wood, glass, plastic, or metal, depending on material to be used in package. Makes changes or modifications required by approving authority.

3471.90 Decorators and Commercial Designers, other include other associate professionals who apply artistic techniques to product design, interior decoration and sales promotion not elsewhere classified.

3472 RADIO, TELEVISION AND OTHER ANNOUNCERS

Radio, television and other announcers read news bulletines, conduct interviews, and make other announcements or introductions on radio, television or in theatres and other establishments.

3472.10 Programme Announcer announces radio programmes over radio broadcasting system. Obtains relevant background information concerning programme, to be broadcast and prepares material for announcement, pinpointing essential and interesting aspects of programme and obtains its approval. Intro duces broadcasting programme In accordance with set procedure. May be designated as **News Reader** if solely engaged in announcing edited news bulletins, **Compare Programme** if engaged on comparing radio or television programmes.

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3472.20 Disc Jockey announces radio programme of musical selections. Selects phonograph or tape recording to be played based on programme specialty, knowledge of audience taste, or listening audience requests. Comments on music and other matters of interest to audience, such as weather, time, or traffic conditions. May interview musical personalities. May interview members of listening audience who telephone musical requests. May specialise in one type of music, such as classical, pop, rock, or folk and western. May write entries onto log to provide information on all elements aired during broadcast, such as musical selections and station promotions.

3472.90 Radio, Television and Other Announcers, other include other associate professionals who read news bulletines, conduct interviews, and make other announcements or introductions on radio, television or in theatres and other establishments not elsewhere classified.

3473 STREET, NIGHT-CLUB AND RELATED MUSICIANS AND SINGERS AND DANCERS

Street, night-club and related musicians and singers and dancers perform music, or sing or dance on the streets, in night-clubs, circuses and related places.

3473.90 Musicians and Singers, other include all other musicians and singers engaged in composing, production and rendering music, not elsewhere classified.

3474 CLOWNS, MAGICIANS, ACROBATS AND RELATED ASSOCIATE PROFESSIONALS

Clowns, magicians, acrobats and related associate professionals entertain audiences in circuses and other places by performing a variety of acts.

3474.10 Rope Dancer; Rope Balancer; Aerialist performs feats by walking, dancing, cycling, balancing on wire or rope stretched between two posts. Checks wire rope tied to posts are drawn to required tautness. Climbs pole or positions on attached platform to step over rope or wire with necessary aid such as umbrella or long

pole for purpose of balancing. Walks, runs or rides cycle, singly or in pairs from one end to other end of rope and *vice versa* and performs other feats to entertain audience.

3474.15 Acrobat entertains audience by performing difficult and spectacular gymnastic feats such as jumping, tumbling, balancing, alone or as member of team. Performs different feats and tricks displaying physical strength, skill and agility such as somersault on ground or on bar, balancing on different postures on ground or on bar with various movements of legs, hands and body, swinging and revolving round bar in various directions, leaping from bar to bar in different directions and postures, balancing other persons or weighty materials in different postures on hands, legs, shoulders, head, etc. May display feats in accompaniment of orchestra, drum, flute, etc. May give training in gymnastics to others.

3474.20 Equestrian; Circus Rider entertains audience by riding horses at circus, carnivals, exhibition, or horse show performing acrobatic stunts on saddle less horse or feats of equestrian skill and daring. Rides horse with or without saddles and reins, performing feats such as mounting and riding a horse while galloping, standing on its back, changing position from one to another horse, riding with one leg on back of one horse and another on other and performing other astonishing feats of skill and daring. May train horses in new and novel feats.

3474.25 Stuntman performs dare-devil feats such as diving stunts, perilous rides, or spectacular jumps for dramatic productions. Wears appropriate dress and ensures, that all requisites, to feat are in order. Performs, dare-devil feats such as diving from high tower on altitude after setting fire to dress in to deep well filled with water below, riding bicycle, motor cycle or motor car at high speed jumping over hollow space or from raised platform, riding motor cycle at great speed inside walls of hollow circular globe or well (wooden or metal structure specially prepared for performance of perilous feat etc.

3474.30 Contortionist entertains audience by performing feats requiring abnormal

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bodily contortions. Wears appropriate dress exposing parts of body and muscles to be displayed. Forces muscles out of normal shape by bending and twisting them or any part of body. Performs feats relating to bodily deformation such as making wheel of body, abnormal expansion of any portion of body for amusement of audience.

3474.35 Circus Performer performs various speciality acts, based on some uniquely developed talent, tricks of illusion and spectacular physical feats in circuses and on theatrical stages. Entertains audiences through comedy, mimicry, actions etc.

3474.40 Ventriloquist entertains audience by producing through own vocal chords speeches, voices and sounds to imitate other human beings, animals, birds etc. Appears on stage and announces voices or sounds of objects to be imitated. Speaks or produces sound in such manner that voice appears to come from source other than own vocal chords. May entertain audience by speaking in manner that voice appears to come from dummy or hand puppet displayed during performance.

3474.42 Buffoon; Clown entertains audience by appearing in clown costume and make up and performing original or stock comedy routines. Paints face with bright colours and wears funny costumes to draw attention and laughter from audience on appearance on stage or platform. Makes amusing tricks, ludicrous gestures and comic actions to suit occasion to amuse audience and enliven other items of show or play. May perform or imitate acrobatic feats of star performers in circus fairs carnivals or otherwise substitute artists where necessary.

3474.45 Mimic entertains audience by impersonating another person or type of person, copying dress, voice, expression, mannerisms, exaggerating and ridiculing character imitated. Studies expressions mannerisms dresses, voice or speech of renowned persons selected for mimicking. Dresses, acts talks and makes gestures similar to persons impersonated depicting peculiarities comically and ridiculously. Imitates animal voices, moving train or sound of character or thing impersonated. May cut jokes with audience to entertain them.

3474.47 Promptor prompts Actors who forget their lines in operatic productions by whispering to them from behind stage. Stands behind stage and follows script of performance closely. Speaks cues and lines by whispering to Actors when they forget their lines. May direct actions of Actors while prompting. May substitute Actors when necessary.

3474.50 Magician; Wizard; Jadugar performs original and stock tricks of illusion and sleight of hand to entertain and mystify audience. Displays articles such as sticks, cards, balls, and rings on table placed on stage. Performs amazing tricks by sleight-of-hand to turn stone into flowers, fruits, sweets, etc., thrusting stick into nose, swallowing iron balls and taking them out, changing colour of cards, making inanimate objects animate, pulling out bird animals etc., from empty bags or hats etc. May use members of audience in act and remove their valuables, such as jewellery, walks, or watches without their knowledge. May hypnotise audience to create illusion in their minds of objects or things shown or disappeared.

3474.55 Juggler juggles and balances, objects such as balls, rings, bottles, cylinders, knives, plates and hats, to entertain audience. Arranges objects such as balls, rings, and plates, on table or ground. Takes objects one by one and throws them high up in quick succession and catches them while falling without dropping them on floor and performs various other feats of jugglery for amusement of audience. May use sharp weapons such as knives, spears to exhibit skill in performance. May perform, feats in solo, in pairs, or team.

3474.60 Trainer, Animal trains wild or domesticated animals and birds such as lions, tigers, bears, elephants, dogs, horses, pigeons and other birds to obey and perform tricks as pets or for entertainment of audience at circus or other exhibition. Rears young animals and birds and studies their characteristics and behaviour to learn how they should be handled and to detect signs of sickness. Teaches them to obey duties or perform tricks by verbal command or signal, evaluating their ability and performance. Directs animals or birds to perform tricks in

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circus ring, stage or at other exhibition. Supervises workers engaged in feeding, exercising and general care of them. May train dogs to lead blind and to be watchdogs. May be designated according to type of animal trained as **ELEPHANT TRAINER, LION TRAINER, BANDARWALA, REECHWALA.**

3474.65 Race Horse Trainer trains horses for racing, following plans adapted to peculiarities to each horse. Studies characteristics of horses by riding to learn how they should be handled and trained for respective race events after consulting owner and Jockey. Familiarise horses with race track starting device, harness, bridles, saddles and other riding equipment. Conditions horses for competitive racing by exercise and workouts to bring them to their best physical condition. Gives direction to stablemen and other workers engaged in grooming, feeding and general care of horses. Assists Jockey to saddle horse prior to racing event. May attend to minor ailments of horses and prescribe feed or medicine.

3474.70 Snake Charmer plays pipe music (Pungi or Been) before snakes (Cobras) to raise their hoods to swing to and fro to entertain audience for consideration. Catches snakes from their hideouts and removes their fangs to make them harmless. Keeps snakes in covered baskets and exhibits them in fairs or other public places by playing music to entertain spectators for rewards. May help to catch snakes from public places and private houses on request for reward. May keep and train Mongoose to play with snakes for entertaining public.

3474.75 Puppeteer; Putliwala originates puppet show and moves strings or wires of puppets to animate them for entertainment of audience. Carves or shapes parts of puppet, such as head, hands, and arms, from materials such as wood, plaster, or papyri mache. Sews together articles of clothing and assembles puppets using wire string and handtools. Moves bar to which strings or wires are attached from position above stage to control movement of puppets during performance. Talks or sings during performance, giving illusion of voice to puppet.

3474.80 Merry-go-Round Operator; Amusement Equipment Operator operates and controls or instructs patrons how to control mechanical riding devices such as merry-go-round, giant wheels, midget auto and other amusement contrivances or equipments furnished by amusement parks, carnivals or similar places of entertainment for use of patrons. Sets riding devices and gives them trial run to ensure that they are in working order. Informs patrons to fasten belt, bar, or other safety device determining that they are safely seated and not overcrowded. Move controls to start to permit operation of ride by patron and stops equipment after allotted time. Adds to or removes equipment, according to amount of patronage. Oils, refuels, adjusts and repairs device. Tests equipment daily before opening ride to patrons. May notify patron of expiration of period for which fee was paid to use device. May collect tickets or cash fares from patrons. May space rides operated in cars or sections to avoid danger of collisions. May be designated according to equipment operated as **Railroad operator, Roller-Coaster operator; Auto-speedway operator.**

3474.90 Clowns, Magicians, Acrobats and Related Associate Professionals, Other include those who entertain audiences in circuses and other places by performing a variety of acts not elsewhere classified.

3475 ATHLETES, SPORTSPERSONS AND RELATED ASSOCIATED PROFESSIONALS

Athletes, sportspersons and related associated professionals participate in competitive sporting events, conduct sports training, compile rules concerning sports events, and control the progress of these events.

3475.10 Fitness Trainer and Aerobic Instructor instructs or coaches groups or individuals in exercise activities and the fundamentals of sports. Demonstrates techniques and methods of participation. Observes participants and inform them of corrective measures necessary to improve their skills. Conducts therapeutic, recreational, or athletic activities. Evaluates individuals' abilities, needs, and physical conditions, and develops suitable training

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programmes to meet any special requirements. Explains and enforces safety rules and regulations governing sports, recreational activities, and the use of exercise equipment. Instructs participants in maintaining exertion level in order to maximize benefits from exercise routines. Monitors participants' progress and adapts programmes as needed. Observes participants and informs them of corrective measures necessary for skill improvement. Offers alternatives during classes to accommodate different levels of fitness. Plans physical education programmes to promote development of participants' physical attributes and social skills. Plans routines, chooses appropriate music, and chooses different movements for each set of muscles, depending on participants' capabilities and limitations.

3475.15 Physical Training Instructor conducts physical training classes, organises games and coaches students in games and athletics. Trains and engages students of colleges, schools and allied institutions individually or in-groups in calisthenics (science of bodily exercise with out apparatus or with light hand apparatus), gymnastics, and other physical exercises to promote strength and gracefulness, or to reduce and correct body. Teaches use of dumb-bells, bars and other equipments. Organises, leads, instructs and referees games such as hockey, basketball, football or kabaddi and organises inter-class, inter-units, or inter-district sports competitions and athletic meets. Supervises maintenance of gymnasium and sports equipments. Organises picnics, tours and other recreational activities of students. May give health talks and ensure personal cleanliness and community hygiene among students. May be designated as **Physical Director, Drill Master, Games Teacher, Physical Training Mistress (for girls)** according to degree of responsibility and nature of duties performed.

3475.20 Professional Sportsman takes part in public exhibitions or competitions of games or sports for gain. Discusses details of engagement with clubs, institutions etc. for participation in exhibition games or sports. Plays games or participates in sports according to established rules, exhibiting his

talent, prowess, skill, style, etc. Visits different centres and places to participate in games according to engagement. May coach players in particular games for consideration. May sign contracts for engagement. May be designated as **Cricket Professional; Football Professional; Tennis Professional** etc. according to games in which proficient and engaged.

3475.30 Jockey rides racehorse at racetrack for consideration, observing rules. Makes daily visits to race-track during racing season to ride race horses on track at different speeds to keep horses in fit condition. Observes horse's performances during run and discusses with Race Horse Trainer horse's behaviour for further training. Receives riding instructions from Trainer on racing day regarding race events, names and positions of horses and other particulars and hints. Wears prescribed coloured apparel, number etc., according to turf rules for race event. Mounts horse and takes it round paddock for punters' view. Rides and positions horse at prescribed place on starting gate on track at scheduled time and runs horse on start signal at top speed along track to winning post according to track rules. Dismounts from horse after event and removes saddle from horse and goes to weighing room for weighing if required. Takes exercises to keep body fit and maintain correct weight. May undertake stable management.

3475.40 Athletic Coach trains or coaches athlete in technique, and rules of competitive track and field events such as sprints, shot-put, javelin throw, pole-vault etc. Prepares schedule of field and track events in which coaching is desired and explains and instructs on fundamental skills and rules of event to individual or groups of athletes under training. Demonstrates techniques of play by personal example; Pays specific attention to health building and improving stamina by recommending and demonstrating various types of exercises, drills and assists them to acquire proficiency. May accompany teams going out for competition.

3475.45 Sports Coach coaches potential sportsmen or player with talent and promise in fundamentals, techniques and rules of competitive sports or games. Selects

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potential sportsmen or players of talent and instructs them in fundamentals and rules of game and teaches them planning and movements. Demonstrates techniques of play by action and actual playing. Drills in fundamentals until players become familiar with all phases of game. Watches, players in action and offers helpful criticism and corrective methods. Suggests or recommends various physical exercises to keep body fit and supple. Accompanies team on tours, maintains discipline and team spirit among players. May act as **Umpire** or **Referee** in matches or in tournaments. May settle disputes of contending teams in play. May be designated according to sport coached such as **Tennis Coach, Football Coach, Hockey Coach, Cricket Coach** etc.

3475.50 Riding Instructor instructs and teaches pupil in technique of horsemanship, equitation, showing how to mount horse, how to post, and how to control horses, actions in walking, galloping, trotting, cantering, and jumping. Takes pupil to track and provides horse as per requirements and explains various riding equipments and their uses. Demonstrates positions and postures of body and limbs for mounting horses positioning of saddle, controlling horses actions in walking, trotting and galloping etc. Familiarises pupils in fundamentals of horsemanship by regular practice until proficiency is acquired. Gives instructions in stable management such as grooming and feeding of horses, maintenance of cleanliness of stable and keeping riding kit in good condition. May give coaching in tent pegging and playing polo. May give instructions in horse keeping on scientific lines.

3475.60 Umpire; Referee (Sports) conducts games and sports in accordance with rules and pronounces instantaneous decisions. Inspects play-ground or area before commencement of game to ensure that lines and other markings in field are made properly and according to rules of game. Examines sports material such as balls, rackets, bats, hockey sticks to be used in game for proper specifications; Calls contestants or captains of contesting teams in field and tosses or supervises toss for choice of field side or team to start game. Observes movement and position of ball and players

for infringement of game rules, and awards scoring points or imposes penalties, by giving hand signals, calling loud or blowing whistle. Warns and cautions erring players for deliberate breach of game-rules. Pronounces instantaneous judgement on appeal by either party of contestant during play. Stops play at scheduled hour for close of game or earlier in emergency. May suspend any player from match or game for gross misconduct or persistent foul play. May be designated according to type of game judged such as **Cricket Umpire; Hockey Umpire; Football Referee; Volleyball Referee**. May check bonafides of players in tournament.

3475.70 Marker (Sports) marks and maintains athletic tracks and courts for various sports events and games. Measures and marks out ground, courts according to specifications using measuring tape, lime powder, or chalk. Supervises cleaning, sweeping, lining and rolling of cricket pitch, hockey or football fields, tennis or badminton courts, sport tracks etc. Maintains billiard table by periodical ironing of cushion surface and marking out playing and scoring lines. Attends courts and fields events, follows game in progress and supplies sporting gear and equipment when necessary. Exhibits scoring board, and notes and announces scoring points of players. Collects charges or fees for game, where prescribed, and accounts it to superior. Maintains sports equipment like cricket bats, badminton and tennis racquets, nets, posts etc. May act as professional coach in particular game, give practice to players or teach game to beginners.

3475.90 Athletes, Sportspersons and Related Associate Professionals, other include associate professionals who participate in competitive sporting events, conduct sports training, compile rules concerning sports events, and control the progress of these events not classified elsewhere.

348 RELIGIOUS ASSOCIATE PROFESSIONALS

Religious associate professionals participate in the practice of religious works, or devote their lives to contemplative prayer or meditation, or preach and propagate the

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teachings of their particular religion.

**3480 RELIGIOUS ASSOCIATE
PROFESSIONALS**

Religious associate professionals undertake religious works, devote their lives to contemplative prayer or meditation, or preach and propagate the teachings of their particular religion.