

ANNUAL INSTRUCTIONAL PLAN

HEALTH AND SANITARY INSPECTOR (42 WEEKS)

(Curriculum as per DGT / CSTARI Guidelines for Health & Sanitary Inspector CTS Scheme)

Trade Name	HEALTH AND SANITARY INSPECTOR (Non-Engineering)
NSQF Level & Duration	NSQF Level-3.5 One Year Duration (42 Weeks)
Academic Session	
Institute Name & Address	
Instructor Name & Designation	
Group Instructor (GI) Name	
Principal / Superintendent Name	

WEEKLY INSTRUCTIONAL BREAKUP (WEEK 01 TO WEEK 42)

Week No.	Trade Practical (Professional Skills)	Trade Theory (Professional Knowledge)
Week 1	- Familiarization with institute, health inspector labs, sanitation tools, and safety equipment. - Demonstration and practice of nutritional requirement charts for various age groups. - Prepare dietary calculation sheets for infants, preschool, and school-going children. - Assessment of height, weight, Head Circumference, and Body Mass Index (BMI).	- Introduction to Health and Sanitary Inspector trade, job roles, and career pathways. - Food and nutrition: Definition, functions of food, and classification of essential nutrients. - Proteins, fats, carbohydrates: Dietary sources, daily allowances, and energy calculations. - Factors considered in meal planning, nutritional requirements of different physiological age groups.
Week 2	- Demonstration on charts showing vitamin and mineral deficiency disorders. - Clinical assessment of signs: Night blindness, Bitot's spots, rickets, scurvy, beriberi, goitre. - Demonstration of clinical diagnosis of Nutritional Anaemia using Haemoglobin meter (Sahli's method). - Tabulate differences between Kwashiorkor and Marasmus with visual photographic charts.	- Vitamins (Fat-soluble A, D, E, K and Water-soluble B-complex, C): Functions, sources, and deficiencies. - Minerals (Iron, Calcium, Iodine, Zinc): Physiological roles, deficiency manifestations, and prevention. - Protein Energy Malnutrition (PEM): Kwashiorkor, Marasmus, etiology, symptoms, and rehabilitation. - Low Birth Weight (LBW) babies: Causes, prevention, and special nutritional care.
Week 3	- Plan and prepare balanced therapeutic diet menus for hypertensive and diabetic patients. - Prepare customized therapeutic diet charts for nephritis, cardiac disease, and cirrhosis of liver. - Calculate total daily caloric intake and macro-nutrient split for sedentary, moderate, and heavy workers.	- Therapeutic Diets: Principles, low sodium diet, diabetic exchange lists, and high protein diets. - Renal diets (low potassium/protein), low fat diets, and bland diets in gastrointestinal diseases. - Role of regular physical exercise, lifestyle modifications, and dietary fiber in chronic disease prevention. - Diet survey methods: Weightment method, 24-hour recall method, and family dietary assessments.
Week 4	- Demonstrate food spoilage factors on perishable commodities (milk, meat, vegetables, fruits). - Practice household food preservation techniques: Use of common salt, sugar syrup, oil, and vinegar. - Inspection of commercial food premises, food hygiene standards, and kitchen equipment sanitization. - Visit local dairy plant to observe commercial milk pasteurization and refrigeration systems.	- Food preservation: Principles, household and industrial methods (drying, canning, pickling, freezing). - Milk sanitation: Milk-borne diseases, testing milk quality, and clean milk production. - Pasteurization of milk: Holder method, High-Temperature Short-Time (HTST), and UHT methods. - Food safety and kitchen sanitation: Prevention of cross-contamination, vector exclusion, and dish washing.
Week 5	- Classify natural water resources: Surface water (rivers, lakes, ponds) and ground water (wells, springs). - Prepare pie-charts of global water distribution (freshwater, seawater, ice caps, potable water). - Tabulate per capita water demand for domestic consumption, hospitals, commercial complexes, and schools. - Draw schematic sketch of Rainwater Harvesting (RWH) rooftop catchment and recharge pit systems.	- Environmental sanitation: WHO definition, importance of safe and wholesome potable water. - Sources of water supply: Rainwater, surface water, ground water; merits, demerits, and yields. - Water consumption norms: Per capita daily water requirement for domestic and public utilities. - Rainwater harvesting: Catchments, filtration chambers, percolation pits, and ground water recharge.
Week 6	- Prepare charts of water pollutants, industrial effluents, agricultural runoff, and public health impacts. - Tabulate common waterborne diseases: Cholera, typhoid, hepatitis A/E, amoebiasis, dracunculiasis. - Compare properties of potable water, wholesome water, contaminated water, and polluted water. - Draw layout diagrams of modern Sanitary Wells and Tube Wells showing sanitary protection zones.	- Water pollution: Sources, industrial toxins, domestic sewage, agricultural chemicals, and detergents. - Waterborne diseases: Bacterial, viral, protozoal, and helminthic infections, transmission cycles. - Public health hazards of hard water, fluoride contamination (fluorosis), and heavy metals (arsenic, lead). - Sanitary dug wells: Parapet wall, apron, lining, drainage channel, and location distance from latrines.
Week 7	- Collect water samples from domestic taps, rivers, open wells, and borewells for laboratory analysis. - Perform testing for physical parameters of water: Temperature, Turbidity (Jackson/Nephelometer), color, odor. - Perform testing for chemical parameters of water: pH value, Total Dissolved Solids (TDS), and hardness. - Practice well disinfection calculation: Volume calculation and bleaching powder dosage determination.	- Standards of water quality: Physical, chemical, and microbiological drinking water standards (IS:10500). - Water sampling protocols: Sampling bottles, sterile precautions, labelling, and preservation techniques. - Well disinfection: Principles of chlorination, contact time, and calculation of chlorine requirement. - Double-pot method of chlorination for community dug wells during epidemics.

Week No.	Trade Practical (Professional Skills)	Trade Theory (Professional Knowledge)
Week 8	- Calculate Chlorine Demand of water using Horrocks's Cloth and determine breakpoint chlorination. - Test residual free chlorine in drinking water using Orthotolidine (OT) and DPD chloroscope testing kits. - Draw schematic flow diagram of municipal water treatment plant showing all sequential stages. - Visit municipal water treatment plant to observe rapid sand filters, coagulant dosing, and backwashing.	1. Large-scale water purification: Storage, sedimentation with coagulation (alum dosing), rapid sand filtration. 2. Slow sand filter vs Rapid sand filter: Construction, filtration rate, filter bed cleaning, and loss of head. 3. Chlorination of water: Action of chlorine, forms of chlorine, breakpoint chlorination, and contact period. 4. Small-scale water purification: Boiling, chemical disinfection, ceramic candle filters, and UV/RO units.
Week 9	- Inspect and compare visual samples of clear potable water, sullage, and night soil sewage effluents. - Categorize environmental impacts of unsanitary night soil disposal on soil, groundwater, and vector breeding. - Prepare charts of fecal-borne diseases: Helminthic infestations (roundworm, hookworm), cholera, dysentery. - Visit Sulabh Shauchalaya complex to study community toilet design, operation, and maintenance.	1. Night soil disposal: Public health hazards of open defecation and unsanitary latrines. 2. Fecal-oral disease transmission: 5-F diagram (Fluid, Fingers, Flies, Fomites, Fields) and barrier concept. 3. Sanitation principles: Safe confinement, sanitary containment, and treatment of human excreta. 4. Community sanitary complexes: Design norms, water supply, ventilation, and maintenance models.
Week 10	- Study technical construction drawings of service-type latrines vs non-service sanitary latrines. - Draw structural details of Bore Hole Latrine, Dug Well Latrine, and RCA (Research-cum-Action) Latrine. - Inspect water-seal traps (P-trap) and understand self-cleansing velocity and trap seal depth. - Prepare models/charts showing working principle of Pour-Flush Water-Seal Latrines.	1. Classification of latrines: Service latrines, non-service sanitary latrines, and water-carriage latrines. 2. Bore Hole and Dug Well Latrines: Depth, squatting plate, lining, and operational lifespan. 3. RCA Latrine: Design specifications, pan design, water-seal depth (20 mm), and prevention of odor/flies. 4. Twin-pit pour-flush latrine: Alternating pit mechanism, digestion of sludge, and conversion to manure.
Week 11	- Draw plan and cross-sectional elevation of domestic Septic Tank with soak pit arrangement. - Calculate septic tank dimensions based on user capacity, liquid retention time, and sludge clearing interval. - Inspect septic tank baffles, scum boards, vent pipes, and effluent disposal into soak pits. - Draw flow diagram of decentralized sewage treatment systems and faecal sludge treatment plants (FSTP).	1. Septic Tanks: Operating principle, anaerobic digestion, sedimentation, and scum formation. 2. Design factors: Liquid depth, retention period (12-24 hours), sludge storage capacity, and inlet/outlet baffles. 3. Disposal of septic tank effluent: Soakage pits, dispersion trenches, and sub-surface irrigation. 4. Faecal Sludge and Septage Management (FSSM): Desludging schedule, vacuum tankers, and safe disposal.
Week 12	- Survey and identify primary sources of municipal solid waste (residential, commercial, street sweepings). - Tabulate categories of solid waste: Biodegradable, recyclable, domestic hazardous, and inert materials. - Prepare pie charts showing physical composition of Municipal Solid Waste (MSW) in Indian towns. - Demonstrate source segregation practice using two-bin (green for wet, blue for dry) and three-bin systems.	1. Solid Waste Management: Definition, sources, generation rates, and characteristics of municipal waste. 2. Public health and environmental hazards of unscientific dumping: Vector breeding, leachate, and odors. 3. Integrated Solid Waste Management (ISWM) hierarchy: Reduce, Reuse, Recycle, Recovery, and Disposal. 4. Solid Waste Management Rules: Statutory duties of waste generators, local municipal bodies, and segregation.
Week 13	- Demonstrate solid waste collection methods: Door-to-door collection, community bin storage, and street sweeping. - Compare manual collection vs mechanized compactor trucks and hydraulic tipper vehicles with sketches. - Draw layout plan of modern sanitary trenching grounds and transfer stations. - Practice principles of composting: Aerobic composting (Indore method) and anaerobic composting (Bangalore method).	1. Waste collection and transportation: Primary collection, secondary collection, transfer stations, and routing. 2. Storage bins: Design, placement, covered transportation vehicles, and prevention of littering. 3. Composting processes: Aerobic vs anaerobic biodegradation, carbon-to-nitrogen (C:N) ratio, and temperature. 4. Vermicomposting: Earthworm species (<i>Eisenia fetida</i>), bed preparation, moisture, and organic manure yield.
Week 14	- Visit local municipal waste processing facility: Composting plant, vermicompost yard, and material recovery facility. - Inspect Sanitary Landfill site: Clay liner, HDPE geomembrane, leachate collection pipes, and gas vent wells. - Draw layout diagram of municipal waste Incinerator and Waste-to-Energy (WtE) processing units. - Inspect operation of community Biogas plant running on biodegradable kitchen and animal wastes.	1. Sanitary Landfilling: Site selection criteria, daily soil cover, liner systems, and leachate management. 2. Landfill gases: Methane generation, fire hazard, greenhouse impact, and landfill monitoring. 3. Incineration of solid waste: Combustion temperature, primary and secondary chambers, and flue gas scrubbing. 4. Biogas technology: Anaerobic digester construction, methanogenesis, slurry utilization, and clean energy.

Week No.	Trade Practical (Professional Skills)	Trade Theory (Professional Knowledge)
Week 15	- Identify different categories of Bio-Medical Waste (BMW) generated in hospitals, clinics, and health centers. - Practice color-coded segregation of biomedical wastes into Yellow, Red, White (translucent), and Blue containers. - Demonstrate packaging, barcoding, biohazard symbol labeling, and puncture-proof sharp containers. - Demonstrate use of Personal Protective Equipment (PPE) for biomedical waste handling personnel.	- Bio-Medical Waste Management Rules: Classification, categories, and responsibilities of healthcare facilities. - Color-coding norms: Yellow (anatomical/chemical), Red (contaminated plastics), White (sharps), Blue (glassware). - Healthcare associated risks: Needle-stick injuries, hepatitis B, hepatitis C, HIV transmission, and safety guidelines. - Waste minimization: Substitution of hazardous materials, recycling non-infectious hospital waste.
Week 16	- Demonstrate operation of Autoclave, Hydroclave, and Microwave disinfection units for hospital waste. - Practice chemical disinfection of infected plastic tubing and syringes using sodium hypochlorite (1-2%). - Demonstrate sharp management: Hub cutter/needle burner operation and safe sharp pit construction. - Inspect common biomedical waste treatment facility (CBWTF): Dual-chamber incinerators and shredded plastic recycling.	- Treatment technologies for BMW: Autoclaving (steam sterilization parameters), hydroclaving, and microwaving. - Chemical disinfection: Concentration of hypochlorite solutions, contact time, and liquid waste neutralisation. - Deep burial pits and sharp pits: Standard dimensions, lime addition, encapsulation, and fencing rules. - Transport of infectious waste: Dedicated GPS-tracked closed vehicles, manifest system, and consignment notes.
Week 17	- Survey and classify Electronic Waste (E-waste): Obsolete computers, mobile phones, batteries, fluorescent tubes. - Tabulate toxic components in e-waste: Lead, mercury, cadmium, hexavalent chromium, and brominated flame retardants. - Prepare charts showing environmental pathways of e-waste pollutants into groundwater and food chains. - Demonstrate safe handling, collection, and authorized channelization of domestic and institutional e-waste.	- E-waste Management Rules: Extended Producer Responsibility (EPR), authorized recyclers, and collection centers. - Toxic hazards of e-waste: Heavy metal toxicity, open burning hazards, and informal recycling dangers in India. - Technologies for resource recovery: Dismantling, mechanical shredding, hydrometallurgy, and material refining. - Environmentally sound management of e-waste, occupational safety of recycling workers, and green purchasing.
Week 18	- Measure ambient atmospheric temperature and relative humidity using whirling psychrometer. - Identify primary sources of air pollution: Motor vehicles, thermal power plants, brick kilns, and crop burning. - Prepare posters and visual charts on Greenhouse Effect, Global Warming, and atmospheric smog. - Demonstrate demonstration of air-conditioning plant and HVAC duct filters for thermal comfort.	- Air pollution: Composition of clean air, primary vs secondary pollutants (SO₂, NO_x, CO, PM_{2.5}, PM₁₀, ozone). - Health effects of air pollution: Respiratory diseases (asthma, COPD, bronchitis), cardiovascular impacts. - Global warming and climate change: Greenhouse gases, global temperature rise, sea level changes, and carbon footprint. - Prevention and control of air pollution: Industrial scrubbers, electrostatic precipitators, and green belts.
Week 19	- Practice measuring environmental noise levels in residential, commercial, industrial, and silent zones using Sound Level Meter. - Tabulate permissible noise standards (dB levels) for day and night hours as per Noise Pollution Rules. - Prepare awareness posters on health hazards of noise pollution and noise control barriers. - Measure natural airflow velocity through doors and windows using digital vane anemometers.	- Noise pollution: Definition, physics of sound, decibel scale, and threshold of hearing. - Sources of noise: Traffic, industrial machinery, loudspeakers, construction equipment, and aircraft. - Health hazards of excessive noise: Auditory fatigue, permanent hearing loss, hypertension, stress, and sleep disruption. - Noise control regulations: Permissible limits, silent zones (around hospitals/schools), and acoustic insulation.
Week 20	- Identify and calculate ventilation requirements for classrooms, cinema halls, and hospital wards. - Demonstrate natural ventilation mechanisms: Wind action and stack effect (thermal buoyancy). - Inspect mechanical ventilation systems: Exhaust fans, plenum supply systems, and balanced air handling units. - Demonstrate techniques of indoor air disinfection: Ultraviolet Germicidal Irradiation (UVGI) and chemical sprays.	- Ventilation: Definition, physiological importance of air circulation, air change per hour (ACH) standards. - Factors affecting human thermal comfort: Air temperature, humidity, radiant heat, and air velocity. - Natural ventilation: Inlets, outlets, window placement, cross-ventilation, and chimney effect. - Mechanical ventilation systems: Exhaust system, positive pressure supply system, balanced system, and air filters.
Week 21	- Identify liquid waste sources: Domestic sullage, black water, commercial effluent, and industrial liquid wastes. - Demonstrate various plumbing tools: Hacksaw, pipe cutter, pipe vice, pipe wrenches, and thread seal tapes. - Inspect flushing cisterns (bell type, siphon type), ball valves, float mechanisms, and overflow pipes. - Inspect sanitary plumbing traps: 'P' trap, 'S' trap, 'Q' trap, gully trap, floor trap (nahni trap), and interceptor trap.	- Liquid waste disposal: Definition of sewage, sullage, effluent, and sewage conveyance systems. - Plumbing principles: Water seal in traps, loss of seal (siphonage, evaporation, back pressure), and prevention. - Sanitary plumbing fittings: Wash basins, water closets, urinals, kitchen sinks, and flushing cisterns. - Plumbing tools, pipe joints (PVC, CPVC, GI, cast iron), and sanitary maintenance.

Week No.	Trade Practical (Professional Skills)	Trade Theory (Professional Knowledge)
Week 22	• Draw layout sketches of separate, combined, and partially combined sewerage systems. • Inspect sewer appurtenances: Drop manholes, lamp holes, catch basins, cleanouts, and inverted siphons. • Inspect inspection chambers and sewer manholes; practice safety procedures before entering sewer lines. • Demonstrate gas testing in sewer lines (detecting hydrogen sulfide, methane, carbon monoxide, oxygen deficiency).	1. Sewerage systems: Separate system vs Combined system; merits, demerits, and topography suitability. 2. Sewers: Materials (RCC, stoneware, PVC), minimum self-cleansing velocity, non-scouring velocity, and sewer gradients. 3. Sewer appurtenances: Manholes (shallow, normal, deep), spacing, drop manholes, and ventilation shafts. 4. Occupational safety in sewer cleaning: Toxic sewer gas hazards, gas detectors, breathing apparatus, and mechanization.
Week 23	• Draw flow diagram of centralized Sewage Treatment Plant (STP) showing sequential treatment stages. • Inspect primary treatment units: Screen chambers, grit chambers, and primary sedimentation clarifiers. • Inspect secondary biological treatment: Trickling filters and Activated Sludge Process (aeration tanks). • Visit municipal STP: Observe sludge digestion tanks, drying beds, chlorination of treated effluent, and sewage farming.	1. Sewage treatment: Objectives, characteristics of sewage (BOD, COD, suspended solids, pH). 2. Primary treatment: Physical screening, grit removal, skimming tanks, and plain sedimentation. 3. Secondary biological treatment: Aerobic decomposition, activated sludge process, trickling filters, and oxidation ponds. 4. Tertiary treatment and effluent reuse: Disinfection of treated water, sewage farming, and industrial reuse.
Week 24	• Visit local burial and cremation grounds; inspect sanitary facilities, water supply, and boundary fencing. • Study different disposal methods for deceased humans: Earth burial, wood pyre cremation, and electrical cremation. • Inspect environmental operation of Electrical Crematoriums and CNG / Bio-gas crematoriums. • Review legal provisions, medical certification of cause of death, and registration records for disposal of dead.	1. Disposal of the dead: Public health aspects, sanitation requirements of burial and cremation grounds. 2. Earth burial: Soil depth requirements, decomposition process, groundwater contamination risks, and graveyard spacing. 3. Cremation methods: Traditional open pyre vs modern electric and gas crematoriums (fuel efficiency, smoke reduction). 4. Legal aspects: Births and Deaths Registration Act, death certificates, mortuary hygiene, and dead body preservation.
Week 25	• Collect soil samples from agricultural land, refuse dump sites, and reclaimed industrial lands. • Perform laboratory testing for soil pH, texture, organic matter, and moisture retention capacity. • Prepare charts of soil-transmitted helminths (STH): Hookworm (Ancylostoma), Ascaris, Trichuris. • Inspect sanitary land reclamation projects (quarry filling, low-lying ground reclamation with sorted debris).	1. Soil sanitation: Composition of soil, ground air, ground water, and significance in community health. 2. Soil pollution: Chemical pesticides, industrial effluents, open defecation, and radioactive contamination. 3. Health hazards from polluted soil: Tetanus, anthrax, hookworm infestation, and pathogenic bacteria survival. 4. Land reclamation: Techniques of filling low-lying lands, stabilizing landfill areas, and environmental recovery.
Week 26	• Conduct sanitary survey of residential houses using standard sanitary inspection checklists. • Assess residential housing standards: Plinth height, room floor area, cubic air space, ceiling height, and window area. • Calculate overcrowding indices: Persons per room, floor space per person, and separate sex room norms. • Inspect home food sanitation, kitchen drainage, household waste disposal, and fly/rodent proofing.	1. Healthy Housing: Basic human needs, physiological requirements, psychological needs, and accident prevention. 2. Housing standards: Location, site selection, building bylaws, plinth, wall damp proofing, and roof standards. 3. Overcrowding: Definition, criteria, health consequences (respiratory infections, skin diseases, psychological stress). 4. Rural housing problems in India, village sanitation improvement programs, and subsidized low-cost housing.
Week 27	• Plan and design sanitary arrangements for large temporary gatherings (fairs, pilgrimages, festivals, exhibitions). • Calculate emergency water supply requirements, number of temporary trench latrines, and handwashing stations. • Plan sanitary food stalls, food vendor medical check-ups, and waste collection points at fair sites. • Formulate disaster sanitation plan for flood/earthquake relief camps; prepare chlorine stock solutions.	1. Sanitation in fairs and festivals: Public health hazards of mass congregations, outbreak of cholera/diarrhea. 2. Water supply arrangements: Sourcing, emergency tanker chlorination, and distribution point protection. 3. Temporary sanitary latrines: Deep trench latrines, shallow trench latrines, chemical toilets, and disinfection. 4. Disaster management: Role of health inspector in natural calamities, epidemics containment, and relief camp hygiene.
Week 28	• Visit trade premises: Commercial dairy, industrial bakery, and municipal slaughterhouse. • Inspect hygiene standards, food handler cleanliness, water quality, waste disposal, and pest control. • Identify occupational hazard zones in factories: High noise areas, chemical exposure, poor lighting, dust areas. • Inspect industrial safety equipment: Eye wash stations, machine guards, emergency showers, and ventilation hoods.	1. Occupational health: Definition, objectives, workplace environmental factors, and occupational ergonomics. 2. Classification of occupational hazards: Physical (heat, noise, radiation), chemical (dust, gases), biological, mechanical. 3. Occupational diseases: Pneumoconiosis (silicosis, asbestosis, anthracosis, byssinosis), lead poisoning, occupational dermatitis. 4. Principles of occupational safety: Substitution, isolation, engineering controls, PPE, and periodic medical examinations.

Week No.	Trade Practical (Professional Skills)	Trade Theory (Professional Knowledge)
Week 29	- Inspect Personal Protective Equipment (PPE) used in industry: Safety helmets, goggles, ear defenders, respirators. - Study statutory provisions of the Factories Act regarding worker health, sanitation, safety, and welfare amenities. - Study Employees' State Insurance (ESI) Act benefits: Medical, sickness, maternity, and disablement benefits. - Prepare a workplace sanitary inspection report with hazard control recommendations.	- The Factories Act: Statutory provisions for cleanliness, disposal of wastes, ventilation, lighting, and spittoons. - Safety welfare requirements: Latrines, urinals, drinking water facilities, washing facilities, and first-aid appliances. - Employees' State Insurance (ESI) Act: Coverage, healthcare infrastructure, cash benefits, and occupational disease compensation. - Role of health inspector, factory management, and trade unions in workplace occupational safety committees.
Week 30	- Identify common disease vectors: Mosquitoes (Anopheles, Culex, Aedes), houseflies, sandflies, fleas, lice, ticks. - Identify commonly used chemical insecticides: Organochlorines, organophosphates, carbamates, and synthetic pyrethroids. - Prepare chemical insecticide dilutions: Calculate powder/liquid formulation concentrations for spraying. - Practice biological control: Breeding and introduction of larvivorous fish (Gambusia affinis, Poecilia reticulata).	- Vector-borne diseases: Malaria, dengue, chikungunya, filariasis, kala-azar, Japanese encephalitis, plague. - Mosquito lifecycle (egg, larva, pupa, adult) and distinguishing characteristics of Anopheles, Culex, Aedes. - Vector control methods: Environmental sanitation (source reduction), chemical control, biological control, genetic control. - Insecticides: Modes of action (contact, stomach, fumigant), residual insecticides, and insecticide resistance.
Week 31	- Identify parts of hand compression sprayers, knapsack sprayers, stirrup pumps, and thermal fogging machines. - Practice dismantling, cleaning nozzle tips, replacing gaskets, lubricating pump cylinders, and reassembling sprayers. - Practice Indoor Residual Spraying (IRS) technique on wall surfaces maintaining uniform swaths and nozzle distance. - Prepare and apply larvicides (Abate/Temephos, mineral oils) and rodenticide bait preparations (Zinc phosphide, Bromadiolone).	- Spraying equipment: Hand compression sprayers, stirrup pumps, cold aerosol generators, and thermal foggers. - Indoor Residual Spraying (IRS): Purpose in malaria elimination, discharge rate, swath width, and spray techniques. - Larvicides: Chemical larvicides (temephos), biological larvicides (Bacillus thuringiensis israelensis - BTI), larvicidal oils. - Rodent control: Public health importance of rats, rat-proofing buildings, snap traps, and anticoagulant rodenticides.
Week 32	- Design educational posters and flipcharts on malaria prevention, dengue awareness, and source reduction. - Prepare and present a health talk on environmental sanitation using charts, posters, and audio-visual aids. - Demonstrate preparation and administration of Oral Rehydration Salts (ORS) solution for diarrheal dehydration. - Plan community health education campaign for schools and village community halls.	- Health Education: Definition, aims, objectives, and principles of effective health communication. - Communication process: Sender, message, channel, receiver, feedback, and communication barriers. - Methods of health education: Individual contacts, group discussions, role plays, panel discussions, and mass campaigns. - Audio-visual aids: Projected aids (slides, videos) vs non-projected aids (posters, flashcards, models, exhibitions).
Week 33	- Demonstrate the standard 7-step Handwashing technique with soap and water as per WHO guidelines. - Practice personal hygiene routines: Oral dental hygiene brushing techniques, skin, hair, and nail care. - Prepare educational charts showing behavioral habits affecting health: Tobacco chewing, smoking, alcohol, open spitting. - Discuss psychological defense mechanisms, positive health behaviors, and stress management in communities.	- Behavioral Science: Definition, significance in public health and sanitation practices. - Cultural customs, social beliefs, and taboos influencing personal cleanliness and community sanitation. - Personal hygiene: Care of skin, hair, teeth, feet, hands, nails, clothing, and sleep hygiene. - Behavioral change communication (BCC): Transition from knowledge to attitude and sustainable healthy practices.
Week 34	- Assemble and inspect contents of a comprehensive industrial and community First-Aid Box. - Practice Cardiopulmonary Resuscitation (CPR): Chest compressions, rescue breathing on training manikin. - Practice wound dressing and bandaging techniques: Roller bandages, triangular bandages, arm slings. - Practice emergency immobilization of fractures using splints; practice victim transport methods (stretcher, two-hand seat).	- First Aid: Aims, golden rules, assessment of casualty, and priority of treatment (Airway, Breathing, Circulation). - Cardiopulmonary Resuscitation (CPR): Indications, compression-to-ventilation ratio (30:2), AED defibrillator basics. - Wounds and hemorrhage: Types of wounds, arterial vs venous bleeding, pressure points, and tourniquet precautions. - Emergency management: Fractures, sprains, burns, scalds, heat stroke, chemical poisoning, snakebites, electric shock.
Week 35	- Prepare charts of Communicable Diseases: Airborne (TB, measles, influenza), fecal-borne, and contact infections (scabies, leprosy). - Prepare charts of Non-Communicable Diseases (NCDs): Hypertension, coronary heart disease, diabetes mellitus, cancer. - Demonstrate epidemiological survey techniques for tracking communicable disease outbreaks in a locality. - Formulate epidemic containment measures: Case isolation, contact tracing, quarantine, and health education.	- Communicable diseases: Agent, host, environmental triad, modes of transmission, incubation period, and herd immunity. - Epidemiology, clinical features, and prevention of Swine Flu, Tuberculosis (NTEP), AIDS, Diphtheria, and Polio. - Non-Communicable Diseases (NCDs): Lifestyle risk factors, early screening, National NCD control programs. - Epidemic investigation steps: Verification of diagnosis, confirmation of epidemic, case finding, and control containment.

Week No.	Trade Practical (Professional Skills)	Trade Theory (Professional Knowledge)
Week 36	- Study the National Immunization Schedule (NIS) for infants, children, adolescents, and pregnant mothers. - Record vaccines: BCG, OPV, Pentavalent (DPT+HepB+Hib), Rotavirus, PCV, MR, and Tetanus-Diphtheria (Td). - Inspect cold chain equipment: Ice-Lined Refrigerators (ILR), Deep Freezers, vaccine carriers, cold boxes, and ice packs. - Study digital cold chain monitoring platforms: Electronic Vaccine Intelligence Network (eVIN) and Mission Indradhanush.	- Immunity: Active immunity vs Passive immunity, natural and artificial immunization. - National Immunization Schedule: Doses, timing, route of administration (oral, intradermal, subcutaneous, intramuscular). - Cold chain management: Importance of cold chain (+2°C to +8°C), freeze-sensitive vs heat-sensitive vaccines, VVM indicators. - National health programs: Mission Indradhanush, National Cold Chain Management Information System (NCCMIS).
Week 37	- Demonstrate operation of physical sterilization units: Autoclaves (121°C at 15 psi) and Hot Air Ovens (160°C for 2 hours). - Practice chemical disinfection of clinical articles using Halogens, potassium permanganate, phenol, and aldehydes. - Practice hospital infection control: Environmental surface cleaning, fumigation techniques, and UV radiation lamps. - Inspect hospital isolation wards, quarantine rooms, and personal protective clothing of healthcare workers.	- Sterilization vs Disinfection: Definitions, levels of disinfection (high, intermediate, low level). - Physical methods: Moist heat (autoclave), dry heat (hot air oven), incineration, radiation (UV, gamma rays). - Chemical disinfectants: Alcohols, halogens (chlorine, iodine), quaternary ammonium compounds, glutaraldehyde, formaldehyde. - Hospital infection control: Nosocomial infections, standard universal precautions, disinfection of surgical instruments.
Week 38	- Collect, compile, and calculate vital statistics from municipal records: Crude Birth Rate (CBR), Crude Death Rate (CDR). - Calculate Infant Mortality Rate (IMR), Maternal Mortality Ratio (MMR), and disease Morbidity rates from health data. - Perform household rapid detection tests for food adulterants: Starch in milk, vanaspati in ghee, metanil yellow in turmeric. - Review procedures for filing complaints, legal notices, and sampling under Food Safety and Standards Act (FSSAI).	- Demography: Definition, demographic stages (high stationary, expanding, low stationary), and demographic cycle in India. - Vital health indicators: CBR, CDR, IMR, Under-5 mortality, MMR, life expectancy at birth, and census surveys. - Public Health Legislation: The Epidemic Diseases Act, 1897; Registration of Births and Deaths Act; MTP Act; SITA Act. - Food safety laws: Food Safety and Standards Act (FSSAI), common food adulterants, sampling protocols, and legal prosecution.
Week 39	On the Job Training (OJT) / Group Project	On the Job Training (OJT) / Group Project
Week 40	On the Job Training (OJT) / Group Project	On the Job Training (OJT) / Group Project
Week 41	On the Job Training (OJT) / Group Project	On the Job Training (OJT) / Group Project
Week 42	On the Job Training (OJT) / Group Project	On the Job Training (OJT) / Group Project

APPROVAL & SIGNATURES

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Sign of Instructor	Sign of Group Instructor (GI)	Sign of Superintendent / Principal