Model Curriculum

Medical Laboratory Technician

SECTOR: HEALTHCARE

SUB-SECTOR: ALLIED HEALTH & PARAMEDICS

OCCUPATION: MEDICAL LABORATORY TECHNICIAN

REF ID: HSS/Q0301, VERSION 1.0

NSQF LEVEL: 4

Skill India
कौशल भारत - कुशल भारत

Healthcare Sector Skill Council

N·S·D·C National Skill Development Corporation
Transforming the skill landscape

Certificate

CURRICULUM COMPLIANCE TO QUALIFICATION PACK – NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

HEALTHCARE SECTOR SKILL COUNCIL

for the

MODEL CURRICULUM

Complying to National Occupational Standards of
Job Role/ Qualification Pack: '**Medical Laboratory Technician**' QP No. '**HSS/Q 0301 NSQF Level 4**'

Date of Issuance: **November 30th, 2015**

Valid up to: **November 29th, 2016**

* *Valid up to the next review date of the Qualification Pack*

Authorised Signatory
(Healthcare Sector Skill Council)

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Medical Laboratory Technician

CURRICULUM / SYLLABUS

This program is aimed at training candidates for the job of a "Medical Laboratory Technician", in the "Healthcare" Sector/Industry and aims at building the following key competencies amongst the learner

Program Name	**<Medical Laboratory Technician >**		
Qualification Pack Name & Reference ID.	HSS/Q0301, version 1.0		
Version No.	1.0	**Version Update Date**	11 – 01 – 2016
Pre-requisites to Training	Class XII in Science		
Training Outcomes	**After completing this programme, participants will be able to:** • Demonstrate knowledge about the healthcare sector and diagnostic services • Demonstrate the ability to perform clinical skills essential in providing basic diagnostic services such as Correctly collect, transport, receive, accept or reject and store blood /urine/stool and tissue samples, etc.; Conduct analysis of body fluids/ samples; Maintain, operate and clean laboratory equipment; Provide technical information about test results; Prepare and document medical tests and clinical results; etc. • Demonstrate quality assurance in Laboratory works • Practice infection control measures • Demonstrate readily availability of medical and diagnostic supplies • Demonstrate techniques to maintain the personal hygiene needs • Demonstrate actions in the event of medical and facility emergencies • Demonstrate professional behavior, personal qualities and characteristics of a Medical laboratory Technician • Demonstrate good communication, communicate accurately and appropriately in the role of Medical laboratory Technician		

This course encompasses 18 out of 18 National Occupational Standards (NOS) of "Medical laboratory Technician" Qualification Pack issued by "SSC: Healthcare Sector Skill Council".

S.No	Module	Key Learning Outcomes	Equipment Required
1	**Healthcare Systems, Laboratory and Delivery** **Theory Duration** (hh:mm) 03:00 **Practical Duration** (hh:mm) 02:00 **Corresponding NOS Code** Introduction	• Basic Understanding of Healthcare Service Providers (primary, secondary & tertiary) • Basic Understanding of Hospital Functions • Basic Understanding of Diagnostic Centers and medical laboratory facilities • Understanding of Laboratory at different level (National / State / District)	Mock diagnostic labs
2.	**Role of the Medical Laboratory Technician** **Theory Duration** (hh:mm) 04:00 **Practical Duration** (hh:mm) 01:00 **Corresponding NOS Code** Introduction	• To develop broad understanding of the Role of MLT • To identify Laboratory maintenance needs to be taken care by MLT • To develop Understanding of Patient Comforts and Safety • To develop understanding of Laboratory Test Results • To exhibit Ethical Behaviour	E-modules to learn MLT roles
3.	**Structure and Function of Human Body** **Theory Duration** (hh:mm) 50:00	• Basic understanding of organization of body cells, tissues, organs, organ systems, membranes and glands in human body • Understanding basic unit of body - Cell • Understanding different types of tissues • Understanding different types of organ systems. • Understanding different types of body fluids, secretions and excretions • Understanding different parts of body	Models, charts and diagrams of different systems, organs of human body

S.No	Module	Key Learning Outcomes	Equipment Required
	Practical Duration (hh:mm) 02:00 **Corresponding NOS Code** HSS / N / 0301, HSS/N/0302, HSS/N/ 0304 & HSS/N/0305	• Understanding Endocrine system in human body • Understanding cardiovascular system and blood vessels in human body • Understanding musculo-skeletal system in human body • Describe Digestive System in human body • Describe Respiratory system in human body • Describe Urinary System in human body • Describe Nervous System in human body • Describe Sense organs in human body • Describe Reproductive System in human body • Describe Integumentary system and Lymphatic system	
4.	**Introduction to Biochemistry, Haematology and Clinical Pathology** **Theory Duration** (hh:mm) 50:00 **Practical Duration** (hh:mm) 40:00 **Corresponding NOS Code** HSS/ N 0301, HSS/ N 0302 & HSS/ N 0304	• Elementary knowledge of inorganic chemistry • Elementary knowledge of organic chemistry • Elementary knowledge of Physical Chemistry • Elementary knowledge of analytical chemistry • Understand blood and collection of blood sample in detail • Understand Haemoglobin (Hb)in detail • Understand reticulocytes in detail • Understand red blood cells in detail • Understand White blood cells in detail • Understand Haemostasis & Coagulation Mechanism and testing in detail • Understand Bone marrow in detail • Understand Detailed Examination of Urine • Understand Detailed Examination of Stool • Understand Detailed Examination of Sputum • Understand Detailed Examination of Semen • Understand Detailed Examination of CSF and Other Body Fluids Like Pleural Fluid, Pericardial Fluid, Peritoneal Fluid, Synovial Fluid,Ascitic Fluid.	Microscope; Stopwatch; Spirit Lamp; Glass Slides, coverslips & mounting media; Staining solution / reagents / Romanowsky stains; Normal Saline; Pipettes Glass - (1 mL, 2 mL, 5 mL, 10 mL); Micropipettes -(0- 50 uL, 100-1000 uL); Gloves; Beaker / glass flask; Cedarwood oil; Distilled water; Hypochlorite solution; Tissue paper / Filter paper / Cotton; Centrifuge; Incubator; Refrigerator; Tube racks / slide racks; Buffer; Modified Neubers chamber; RBC pipette; WBC Pipette; Pasteur Pipette; Diluting fluids; Glass tubes; Urine Testing strips; Occult blood strips; Bio hazard bags for Waste Disposal / Blue sharps container for waste disposal; Registers for documentation; **Reagents for Chemical tests** (Bendict reagent, Glacial acetic acid, Ammonium sulphate, Sodium nitroprusside, Ammonia,

S.No	Module	Key Learning Outcomes	Equipment Required
			Barium chloride, Fouchet reagent, Sulphur powder, Ehrlich reagent); Blotting paper for BT; Capillary tube for CT; Westergren tubes & sodium citrate reagent; Sahli's Hemoglobinometer; Simple Balance; Semiautomated analyzer - Micros - 3 part differential
5	**Introduction to Laboratory related Medical Terminology** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 10:00 **Corresponding NOS Code** HSS / N / 0304	• Understand appropriate use of laboratory related medical terminology in daily activities with colleagues, patients and family	E modules and internet use to learn medical terms
6.	**Pre-analytical Laboratory Testing Process** **Theory Duration** (hh:mm) 50:00 **Practical Duration** (hh:mm) 70:00 **Corresponding NOS Code** HSS/N/0301, HSS/N/0302, HSS/N/0303,	• To gain broad understanding of different types of samples to be taken in medical laboratory • To gain broad understanding about Sample Handling • To gain broad understanding of different equipment useful for blood sample collection. • To gain broad understanding of correct method of blood sample collection. • To gain broad understanding on collection method of samples other than blood samples • To gain broad understanding of correct procedure of sample transportation.	Equipment's used for sample collection, sample test request forms, Test formats, Slides, microscope, needles, gauge etc.

S.No	Module	Key Learning Outcomes	Equipment Required
	HSS/N/0304, HSS/N/0305, HSS/N/0306, HSS/N/0307 & HSS/N/9602		
7.	**Personnel Hygiene** **Theory Duration** (hh:mm) 08:00 **Practical Duration** (hh:mm) 02:00 **Corresponding NOS Code** HSS/N/9610, HSS/N/0301 & HSS/N/0303	• To develop understanding of the concept of Healthy Living • To develop understanding & procedures of Hand Hygiene • To develop techniques of Grooming • To be equipped with Techniques of Use of PPE • To be vaccinated against common infectious diseases	PPE, vaccination kits, hand hygiene measures
8.	**Safety & First Aid** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 10:00 **Corresponding NOS Code** HSS/N/0301 & HSS/N/9606	• To develop understanding and precautions to ensure Patient's Safety • To develop basic understanding and precautions to ensure sample preservation while Transporting • Describe common emergency conditions and what to do in medical emergencies • Describe basics of first aid • To develop understanding and precautions to ensure self safety	Patient safety tools such as wheel chairs, trolleys, side rails, PPE, First Aid kit, betadine, cotton, bandages, sanitizers, disinfectants etc.
9.	**Bio Medical Waste Management** **Theory Duration** (hh:mm) 10:00	• To gain understanding of importance of proper and safe disposal of bio-medical waste & treatment • To gain understanding of categories of bio-medical waste • To learn about disposal of bio-medical waste – colour coding, types of containers, transportation of waste, etc.	Different coded color bins, different variety of bio medical waste management, Visit to treatment plan of bio medical waste etc

S.No	Module	Key Learning Outcomes	Equipment Required
	Practical Duration (hh:mm) 10:00 **Corresponding NOS Code** HSS / N / 9609	• To gain broad understanding of standards for bio-medical waste disposal • To gain broad understanding of means of bio-medical waste treatment	
10.	**Introduction to Bacteriology, Immunology and Serology** **Theory Duration** (hh:mm) 45:00 **Practical Duration** (hh:mm) 45:00 **Corresponding NOS Code** HSS/ N 0301, HSS/ N 0302 & HSS/ N 0304	• To gain Broad Understanding about Introduction to Microbiology • Understand common methods of sterilization & disinfections • Understand cultivation of bacteria • To gain Broad Understanding about Pyogenic cocci • To gain Broad Understanding about Gram Negative Bacilli • To gain Broad Understanding about Gram positive Bacilli & Anaerobes • To gain Broad Understanding about Mycobacteria • To gain Broad Understanding about Spirochaetes • Introductory session on Immunity • To gain Broad Understanding about Immunology and Serology	Use of E-modules from internet to learn sample and cells for blood, sputum, semen, CSF, Pleural Fluid, Pericardial Fluid, Peritoneal Fluid, Synovial Fluid, Ascitic Fluid, Slides, microscope, needles, gauge etc
11.	**Sensitization to Blood Banking** **Theory Duration** (hh:mm) 15:00 **Practical Duration** (hh:mm) 15:00 **Corresponding NOS Code** HSS/ N 0301, HSS/ N 0302 & HSS/ N 0304	• Understand Immuno- hematology • in detail • Understand ABO blood group system in detail • Understand Rh blood group system in detail • Understand other blood group systems in brief • Understand methodology to identify blood groups • Understand different aspects of Blood transfusion techniques • Understand Investigation of transfusion reaction. • Understand transfusion of various • components of blood • Understand Serum immunoglobulin • Understand different aspects of working in blood	Use of E-modules from internet to learn blood groups, Slides, microscope, needles, gauge etc

S.No	Module	Key Learning Outcomes	Equipment Required
		bank.	
12	**Introduction to Clinical Biochemistry** **Theory Duration** (hh:mm) 25:00 **Practical Duration** (hh:mm) 40:00 **Corresponding NOS Code** HSS/ N 0301, HSS/ N 0302 & HSS/ N 0304	• Elementary knowledge of Carbohydrates • Elementary knowledge of lipids • Elementary knowledge of Proteins • Elementary knowledge of Enzymes • Elementary knowledge of Clinical enzymology • Elementary knowledge of Hormones • Elementary knowledge of Minerals and Electrolytes • Understand about Therapeutic Drug Monitoring • Elementary knowledge of Acid Base Balance • To gain broad Understanding and practicality about different organ profiles	Microscope; Stopwatch; Spirit Lamp; Glass Slides, coverslips & mounting media; Staining solution / reagents / Romanowsky stains; Normal Saline; Pipettes Glass - (1 mL, 2 mL, 5 mL, 10 mL); Micropipettes -(0- 50 uL, 100-1000 uL); Gloves; Beaker / glass flask; Cedarwood oil; Distilled water; Hypochlorite solution; Tissue paper / Filter paper / Cotton; Centrifuge; Incubator; Refrigerator; Tube racks / slide racks; Buffer; Modified Neubers chamber; RBC pipette; WBC Pipette; Pasteur Pipette; Diluting fluids; Glass tubes; Urine Testing strips; Occult blood strips; Bio hazard bags for Waste Disposal / Blue sharps container for waste disposal; Registers for documentation; **Reagents for Chemical tests** (Bendict reagent, Glacial acetic acid, Ammonium sulphate, Sodium nitroprusside, Ammonia, Barium chloride, Fouchet reagent, Sulphur powder, Ehrlich reagent); Blotting paper for BT; Capillary tube for CT; Westergren tubes & sodium citrate reagent; Sahli's Hemoglobinometer; Simple Balance; Semiautomated analyzer - Micros - 3 part differential
13	**Analytical Laboratory Testing Process-I**	• To gain broad understanding about Laboratory planning • To develop understanding about laboratory	Microscope; Stopwatch; Spirit Lamp; Glass Slides, coverslips & mounting

S.No	Module	Key Learning Outcomes	Equipment Required
	Theory Duration (hh:mm) 50:00 **Practical Duration** (hh:mm) 70:00 **Corresponding NOS Code** HSS/N/0301, HSS/N/0302, HSS/N/0303, HSS/N 0304, HSS/N 0305, HSS/N 0306, HSS/N 0307& HSS/N/9602, HSS/N 9606	operations • To gain broad understanding of care of laboratory glassware, equipment and instruments • To gain broad understanding about Specimen Handling • To be equipped with Techniques of Disinfection & Sterilization of rubber goods, laboratory equipment & other instruments • To gain broad understanding of setting up, calibrating, operating, cleaning, maintaining, troubleshooting and validation of laboratory equipment used in quantitative or qualitative analysis.	media; Staining solution / reagents / Romanowsky stains; Normal Saline; Pipettes Glass - (1 mL, 2 mL, 5 mL, 10 mL); Micropipettes -(0- 50 uL, 100-1000 uL); Gloves; Beaker / glass flask; Cedarwood oil; Distilled water; Hypochlorite solution; Tissue paper / Filter paper / Cotton; Centrifuge; Incubator; Refrigerator; Tube racks / slide racks; Buffer; Modified Neubers chamber; RBC pipette; WBC Pipette; Pasteur Pipette; Diluting fluids; Glass tubes; Urine Testing strips; Occult blood strips; Bio hazard bags for Waste Disposal / Blue sharps container for waste disposal; Registers for documentation; **Reagents for Chemical tests** (Bendict reagent, Glacial acetic acid, Ammonium sulphate, Sodium nitroprusside, Ammonia, Barium chloride, Fouchet reagent, Sulphur powder, Ehrlich reagent); Blotting paper for BT; Capillary tube for CT; Westergren tubes & sodium citrate reagent; Sahli's Hemoglobinometer; Simple Balance; Semiautomated analyzer - Micros - 3 part differential
14	**Observing & Reporting** **Theory Duration** (hh:mm) 06:00	• Understand the importance and method of Observing and reporting while dealing with patients during sample and report collection • Understand the importance and method of Observing and reporting while assisting the pathologists and other members of the team • Understanding the importance of verbally	Sample forms and formats

S.No	Module	Key Learning Outcomes	Equipment Required
	Practical Duration (hh:mm) 04:00 **Corresponding NOS Code** HSS/ N 0304 & HSS/ N 0305	informing the person in authority	
15	**Documentation** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 10:00 **Corresponding NOS Code** HSS/ N 0304 & HSS/ N 0305	• Understand guidelines for documentation • Understand Guidelines for Collecting documentation • Learn various types of records in laboratory set up • Understand uses and importance of records in laboratory set up • Understand essential requirement of records • Understand abbreviations and symbols • Enter, transcribe, record, store, or maintain information in written or electronic/magnetic form	Sample forms and fomats
16	**Professional Behavior in Healthcare Setting** **Theory Duration** (hh:mm) 05:00 **Practical Duration** (hh:mm) 05:00 **Corresponding NOS Code** HSS/N/9603 & HSS / N / 9607	• How to maintain restful environment • Learn General and Specific etiquettes to be observed on duty • Understand need for compliance of organizational hierarchy and reporting • Understand the legal and ethical issues • Understand importance of conservation of resources in laboratories	Self-learning and understanding AV Aids

S.No	Module	Key Learning Outcomes	Equipment Required
17	**Infection control and prevention** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 10:00 **Corresponding NOS Code** HSS/N/9610	• Understand practices to curb infection • Understand hospital borne infections • Understand prevention and treatment of needle stick injury • Understand management of blood and body substance spills in the health caresetting	Hand sanitizers, PPE, Hand washing techniques, steriliser, disinfectants, policies and procedures for infection control
18	**Patient's Rights & Responsibilities** **Theory Duration** (hh:mm) 07:00 **Practical Duration** (hh:mm) 03:00 **Corresponding NOS Code** HSS / N / 9605	• Understand sensitivities involved in patient's right • Learn medical laboratory technician's role in maintaining patient's rights	E-modules and mock diagnostic lab for learning and understanding patient rights
19	**Patient's Environment** **Theory Duration** (hh:mm) 02:00 **Practical Duration** (hh:mm) 03:00	• Describe things necessary to make the patient feel safe and comfortable while collection • Describe impact of comfort on patients health • Describe importance and methodology of cleanliness, and hygiene environment in collection space	E-modules, mock environment to learn and understand conducive patient environment

S.No	Module	Key Learning Outcomes	Equipment Required
	Corresponding NOS Code HSS / N / 9606		
20	**Introduction to Histopathology** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 15:00 **Corresponding NOS Code** HSS/ N 0301, HSS/ N 0302, HSS/ N 0304 & HSS/ N 0409	• Brief introduction of histopathology • Elementary knowledge of specimen collection • Elementary knowledge of tissue fixatives • Elementary knowledge of tissue processing • Understand about section cutting • Understand about Staining • Elementary knowledge of Decalcification	Stopwatch; Normal Saline; Pipettes Glass - (1 mL, 2 mL, 5 mL, 10 mL); Micropipettes -(5 uL, 25 uL, 50 uL, 100 uL, 1000 uL); Gloves; Beaker / glass flask; Distilled water; Hypochlorite solution; Tissue paper / Filter paper / Cotton; Centrifuge; Incubator; Refrigerator; Tube racks / slide racks; Simple Balance; Semiautoanalyzer & Test reagents; Spectrophotometer / Colorimeter; Registers for documentation; Bio hazard bags for Waste Disposal; Urine Analyzer
21	**Introduction to Cytopathology** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 15:00 **Corresponding NOS Code** HSS/ N 0301, HSS/ N 0302, HSS/ N 0304 & HSS/ N 0409	• Brief introduction of cytology and cytopathology • Elementary knowledge of specimen collection and transportation • Elementary knowledge of precautions to be taken for gynaecological samples • Elementary knowledge of specimen collection, transportation and preservation of non-gynaecological samples • Understand about fixation and fixative • Understand about fluid specimen • Describe the Papanicolaou stain • Describe about mounting of cell sample • Describe the other and special stains	Simple Balance/Electronic balance; L-Mould / Embedding station; Microtome; Waterbath; Hot plate; Clearing & Dehydrating solutions; Tissue processing Jars; Staining moulds / staining jars / Slide trays; Grossing Equipment like surgical blade / knife / cassettes; Embedding rings for embedding station; Forceps for handling tissues in embedding; Paraffin wax; Fixatives- Formalin, Bouins fluid etc.
22	**Analytical Laboratory Testing Process-II** **Theory Duration** (hh:mm) 40:00	• To gain broad understanding of chemicals/reagents useful in sample analysis • To gain broad understanding of maintaining record of inventory , test results, etc. • Able to inspect the availability of medical supplies or diagnostic kits	Simple Balance/Electronic balance; L-Mould / Embedding station; Microtome; Waterbath; Hot plate; Clearing & Dehydrating solutions; Tissue processing Jars;

S.No	Module	Key Learning Outcomes	Equipment Required
	Practical Duration (hh:mm) 60:00 **Corresponding NOS Code** HSS/N/0301, HSS/N/0302, HSS/N/0303, HSS/N 0304, HSS/N 0305, HSS/ N 0306, HSS/N 0307& HSS/N/9602, HSS/N 9606	• To develop understanding about laboratory safety	Staining moulds / staining jars / Slide trays; Grossing Equipment like surgical blade / knife / cassettes; Embedding rings for embedding station; Forceps for handling tissues in embedding; Paraffin wax; Fixatives- Formalin, Bouins fluid etc.
23	**Introduction to Advanced techniques and future trends in laboratory science-I** **Theory Duration** (hh:mm) 90:00 **Practical Duration** (hh:mm) 90:00 **Corresponding NOS Code** HSS/ N 0301, HSS/ N 0302, HSS/N 0303, HSS/N/ 0306, HSS/ N 0307	• Updated on advanced techniques and future trends in field of biochemistry • Updated on advanced techniques and future trends in field of haematology & blood banking • Updated on advanced techniques and future trends in field of clinical pathology • Updated on advanced techniques and future trends in field of histopathology & cytopathology	Simple Balance/Electronic balance; L-Mould / Embedding station; Microtome; Waterbath; Hot plate; Clearing & Dehydrating solutions; Tissue processing Jars; Staining moulds / staining jars / Slide trays; Grossing Equipment like surgical blade / knife / cassettes; Embedding rings for embedding station; Forceps for handling tissues in embedding; Paraffin wax; Fixatives- Formalin, Bouins fluid etc.
24	**Fine needle aspiration**	• Understand the purpose of fine needle aspiration • Describe the procedure of fine needle aspiration. • Understand about section cutting	Needle aspiration kit, mannequin, gauge, mock diagnostic lab

S.No	Module	Key Learning Outcomes	Equipment Required
	Theory Duration (hh:mm) 05:00 **Practical Duration** (hh:mm) 20:00 **Corresponding NOS Code** HSS/ N 0409		
25	**Introduction to Parasitology, Mycology and Virology** **Theory Duration** (hh:mm) 35:00 **Practical Duration** (hh:mm) 40:00 **Corresponding NOS Code** HSS/ N 0301, HSS/ N 0302 & HSS/ N 0304	• Describe the Morphology, Life-Cycle, Pathogenicity and Laboratory diagnosis of protozoa • Describe Morphology, Life-Cycle, Pathogenicity and Laboratory diagnosis of helminths and nematodes • Describe the Morphology and classification of pathogenic fungi • Describe the Classification and general properties of viruses • Describe the Morphology, pathogenicity and laboratory diagnosis of human viruses.	Learn through E modules, visit to diagnostic facility to learn about it
26	**Post-Analytical Laboratory Testing Process** **Theory Duration** (hh:mm) 30:00 **Practical Duration** (hh:mm) 50:00	• Describe archiving protocol emphasizing on storage and retrieval of samples, specimens, data and records. archiving • Describe source of error/ interference/ quality of work and initiate corrective action as applicable • Describe assessment of results to initiate follow-up testing • Differentiation between clinically significant and insignificant findings • Able to establish and monitor quality assurance programs or activities to ensure the accuracy of laboratory results.	Slides, microscope, needles, gauge etc. Samples formats and process to learn best practises etc. Mock environment of diagnostic lab

S.No	Module	Key Learning Outcomes	Equipment Required
	Corresponding NOS Code HSS/N/0301, HSS/N/0302, HSS/N/0303, HSS/N 0304, HSS/N 0305, HSS/N 0306, HSS/N 0307& HSS/N/9602, HSS/N 9606		
27.	**Introduction to Advanced techniques and future trends in laboratory science-II** **Theory Duration** (hh:mm) 60:00 **Practical Duration** (hh:mm) 80:00 **Corresponding NOS Code** HSS/ N 0301, HSS/ N 0302, HSS/N 0303, HSS/N/ 0306, HSS/ N 0307	• Updated on advanced techniques and future trends in field of microbiology • Updated on advanced techniques and future trends in field of diagnostic microbiology • Updated on advanced techniques and future trends in field of molecular diagnostic technique • Updated on advanced techniques and future trends in field of tele-pathology	E-modules and internet use Av Aids
28	**Sensitization on current best practices in laboratory** **Theory Duration** (hh:mm) 03:00	• Elementary knowledge on Good Clinical Laboratory Practices (GCLP) of WHO • Elementary Knowledge of laboratory safety guidance of OSHA (Occupational Safety and Health Administration), U.S. Department of Labor • Elementary Knowledge of other current practices in laboratory used worldwide	E-modules and internet use Av Aids

S.No	Module	Key Learning Outcomes	Equipment Required
	Practical Duration (hh:mm) 02:00 **Corresponding NOS Code** HSS/ N 0301, HSS/ N 0302, HSS/N 0303, HSS/N/ 0306, HSS/ N 0307		
29	**Basic Computer Knowledge** **Theory Duration** (hh:mm) 05:00 **Practical Duration** (hh:mm) 10:00 **Corresponding NOS Code** HSS/N/0301, HSS/N/0302, HSS/N/0303, HSS/ N 0304, HSS/ N 0305, HSS/ N 0306	• To gain broad understanding about Application of computers in laboratoryPractice • Introduction to Computers: • Block diagram • Input and Output devices • Storage devices • Introduction to operating systems • Need of Operating systems (OS) • Function of OS • Windows 2000 – Utilities and basic operations • Microsoft office 2000 – MS Word, MS Excel	Computer with internet facility
30	**Soft Skills and Communications** **Theory Duration** (hh:mm) 35:00 **Practical Duration** (hh:mm) 25:00	• Understand Art of Effective Communication • Able to handle effective Communication with Patients & Family • Able to handle effective Communication with Peers/ colleagues using medical terminology in communication • Learn basic reading and writing skills • Learn sentence formation • Learn grammar and composition • Learn how to enhance vocabulary • Learn Goal setting, team building, team work, time management, thinking and reasoning & communicating with others • Learn problem solving	Self-learning and understanding

S.No	Module	Key Learning Outcomes	Equipment Required
	Corresponding NOS Code HSS / N/9603, HSS/N/9604, HSS/N/9605 & HSS/N 9607	• Understand need for customer service and service excellence in Medical service • Understand work ethics in hospital set up • Learn objection handling • Learn Telephone and Email etiquettes • Learn Basic computer working like feeding the data, saving the data and retrieving the data. • Learn to analyse, evaluate and apply the information gathered from observation, experience, reasoning, or communication to act efficiently • Learn identification of rapidly changing situations and adapt accordingly • Learn decision making ability • Learn planning and organization of work	

	Total Duration **Theory Duration (hh:mm)** **693:00** **Practical Duration (hh:mm)** **807:00** **OJT Duration (hh:mm)** **500:00**	**Unique Equipment Required:** Syringes & Needles, Butterfly needle(as required), Spirit & cotton / Spirit swabs, Betadine / Povidone iodine solution, All types of vacutainers - SST, Red top, Lavender Top, Grey top, Green Top, Light blue, Yellow top, including Blood culture bottle; Vacutainer Needles, Gloves, Tourniquet, Hand sanitizer, Highlighter & Marker, White stickers, Test tube racks, Stool & Urine Routine & Culture Containers / 24 hour urine containers, Aluminum Foil, Manual Receipt Book, Pen, Blank TRF, Glucose powder, Needle Cutter, Spillage handling kit(red bag, culture vial carrying 1% hypochlorite, paper towelette), Bio hazard bags for Waste Disposal / Blue sharps container for waste disposal; First Aid Box - Thrombophob, Tongue Depressor; Swab sticks, Tuberculin syringe, Tuberculin vial - 1 TU, Blotting Paper for BT, Capillary tube for CT, Stop watch, Simple Weighing balance, Height chart, Weighing scale for weight of patients, Plastic Measuring cylinder - 1 L, Tissue paper, Registers for documentation, Mannequin of phlebotomy; Microscope; Stopwatch; Spirit Lamp; Glass Slides, coverslips & mounting media; Staining solution / reagents / Romanowsky stains; Normal Saline; Pipettes Glass - (1 mL, 2 mL, 5 mL, 10 mL); Micropipettes -(5 uL, 25 uL, 50 uL, 100 uL, 1000 uL); Gloves; Beaker / glass flask; Distilled water; Hypochlorite solution; Tissue paper / Filter paper / Cotton; Centrifuge; Incubator; Refrigerator; Tube racks / slide racks; Simple Balance; Semiautoanalyzer & Test reagents; Spectrophotometer / Colorimeter; Registers for documentation; Bio hazard bags for Waste Disposal; Urine Analyzer; Buffer; Modified Neubers chamber; RBC pipette; WBC Pipette; Pasteur Pipette; Diluting fluids; Glass tubes; Urine Testing strips; Occult blood strips; Bio hazard bags for Waste Disposal / Blue sharps container for waste disposal; Registers for documentation; Reagents for Chemical tests (Bendict reagent, Glacial acetic acid, Ammonium sulphate, Sodium nitroprusside, Ammonia, Barium chloride, Fouchet reagent, Sulphur powder, Ehrlich reagent); Blotting paper for BT; Capillary tube for CT; Westergren tubes & sodium citrate reagent; Sahli's Hemoglobinometer; Simple Balance; Semiautomated analyzer - Micros - 3 part differential; Sample Container / Swab sticks / culture bottles / Syringe & Needles; Sterile Loops; Petridish; Antibiotic discs; Culture media; Reagents for Biochemical tests; Rapid test kits for Malaria, Dengue, HIV, HCV, Typhoid, Pregnancy; Laminar Flow; Autoclave - separate for media sterilization and waste disposal; Simple Balance/Electronic balance; L-Mould / Embedding station; Microtome; Waterbath; Hot plate; Clearing & Dehydrating solutions; Tissue processing Jars; Staining moulds / staining jars / Slide trays; Grossing Equipment like surgical blade / knife / cassettes; Embedding rings for embedding station; Forceps for handling tissues in embedding; Paraffin wax; Fixatives- Formalin, Bouins fluid etc. **Class Room equipped with following arrangements:** • Interactive lectures & Discussion • Brain Storming • Charts & Models • Activity • Video presentation **Skill lab equipped with following arrangements:** • Unique equipment as enlisted at the last

		• Practical Demonstration of various functions • Case study • Role play **Visit to Diagnostic Center & Hospital** • Field assignment

Grand Total Course Duration: 2000:00 Hours (1500 Hours for Class Room & Skill Lab Training + 500 Hours OJT/Internship/Clinical or Laboratory Training)

(This syllabus/ curriculum has been approved by SSC: Healthcare Sector Skill Council)

Trainer Prerequisites for Job role: "Medical Laboratory Technician" mapped to Qualification Pack: "HSS/Q0301", version 1.0

Sr. No.	Area	Details
1	**Description**	To deliver accredited training service, mapping to the curriculum detailed above, in accordance with the Qualification Pack "HSS/Q0301".
2	**Personal Attributes**	Aptitude for conducting training, and pre/ post work to ensure competent, employable candidates at the end of the training. Strong communication skills, interpersonal skills, ability to work as part of a team; a passion for quality and for developing others; well-organised and focused, eager to learn and keep oneself updated with the latest in the mentioned field.
3	**Minimum Educational Qualifications**	• MD/DNB (Pathology/Microbiology/Laboratory Medicine/Biochemistry) • B.Sc. MLT with 3 years of experience • B.Sc/PhD in Medical biochemistry/Medical Microbiology • DCP
4a	**Domain Certification**	Certified for Job Role: "Medical Laboratory Technician" mapped to QP: "HSS/Q0301" with scoring of minimum 85%.
4b	**Platform Certification**	Recommended that the Trainer is certified for the Job Role: "Trainer", mapped to the Qualification Pack: "SSC/Q1402" with scoring of minimum 90%.
5	**Experience**	• Minimum 2 years site experience with B.Sc. MLT/NSQF Level 4 certified MLT HSS/Q0301, version 1.0 or B.Sc/M.Sc./PhD in Medical biochemistry/Medical Microbiology/clinical pathology

Annexure: Assessment Criteria

Assessment Criteria for Medical Laboratory Technician	
Job Role	Medical Laboratory Technician
Qualification Pack Code	HSS/Q0301, Version 1.0
Sector Skill Council	Healthcare Sector Skill Council

Sr. No.	Guidelines for Assessment
1.	Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC
2.	The assessment for the theory part will be based on knowledge bank of questions created by the SSC
3.	Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below)
4.	Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criteria
5.	To pass the Qualification Pack, every trainee should score as per assessment grid.
6.	In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack

Skills Practical and Viva (80% weightage)	
	Marks Allotted
Grand Total-1 (Subject Domain)	400
Grand Total-2 (Soft Skills and Communication)	100
Grand Total-(Skills Practical and Viva)	500
Passing Marks (80% of Max. Marks)	400
Theory (20% weightage)	
	Marks Allotted
Grand Total-1 (Subject Domain)	80
Grand Total-2 (Soft Skills and Comunication)	20
Grand Total-(Theory)	100
Passing Marks (50% of Max. Marks)	50
Grand Total-(Skills Practical and Viva + Theory)	600
Final Result	Criteria are to pass in both theory and practical individually. If fail in any one of them, then candidate is fail
Detailed Break Up of Marks	Skills Practical & Viva
Subject Domain	Pick any 2 NOS each of 200 marks totaling 400

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (400)	Out Of	Marks Allocation	
				Viva	Skills Practical
1. HSS/ N 0301 (Correctly collect, transport, receive, accept or reject and store blood/urine/stool and tissue samples)	PC1. Identify information by categorising, estimating, recognising the differences or similarities, and detecting changes in circumstances or events	200	10	0	10
	PC2. Have a fair knowledge of blood cell biology		20	20	0
	PC3. Perform phlebotomy effectively		60	0	60
	PC4. Respond to emergencies as they arise		20	10	10
	PC5. Apply the principles of genetics and immunology to transfusion practice		10	10	0
	PC6. Generate or use different sets of rules for combining or grouping things in different ways		10	10	0
	PC7. Be up-to-date technically and apply new knowledge to the job		10	10	0
	PC8. Know how to follow sample acceptance and rejection criteria		30	15	15
	PC9. Know how to pack, transport and store the samples		30	15	15
	Total		200	90	110
2.HSS/ N 0302 (Conduct analysis of body fluids/ samples)	PC1. Identify information by categorising, estimating, recognising differences or similarities, and detecting changes in components of body fluids/ samples	200	20	0	20
	PC2. Understand how samples of body fluids/ samples are collected and analysed		120	20	100
	PC3. Know what is implied by the presence of abnormal constituents in body fluids/ samples		60	60	0
	Total		200	80	120
3.HSS/ N 0303 (Maintain, operate and clean laboratory equipment)	PC1. Inspect equipment, structures, or materials to identify the cause of errors or other problems or defects	200	60	10	50
	PC2. Concentrate on a task over a period of time without being		40	0	40

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (400)	Out Of	Marks Allocation	
				Viva	Skills Practical
	distracted				
	PC3. Have sound knowledge of the functioning of lab equipment's and protocols for their cleaning and calibration		100	40	60
	Total		200	50	150
4.HSS/ N 0304 (Provide information about test results)	PC1. Be responsive to patient request and queries	**200**	40	10	30
	PC2. Combine separate pieces of information, or specific answers to problems, to interpret test results		160	60	100
	Total		200	70	130
5. HSS/ N 0305 (Prepare and document medical tests and clinical results)	PC1. Process information by compiling, coding, categorising, calculating, tabulating, auditing or verification of data	**200**	100	20	80
	PC2. Generate or use different sets of rules for combining or grouping things in different way		60	20	40
	PC3. Concentrate on a task over a period of time without being distracted		40	0	40
	Total		200	40	160
6.HSS/ N 0306 (Establish and monitor quality assurance program)	PC1. Identify information by categorising, estimating, recognising differences or similarities, and detecting changes in circumstances or events	**200**	20	0	20
	PC2. Inspect equipment, structures, or materials to identify the cause of errors or other problems or defects		60	10	50
	PC3. Process information by compiling, coding, categorising, calculating, tabulating, auditing or verification of data		60	10	50
	PC4. Apply general rules to specific problems to produce answers that make sense		30	5	25
	PC5. Combine pieces of information to form general rules or conclusions (includes finding a relationship among		30	10	20

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (400)	Out Of	Marks Allocation	
				Viva	Skills Practical
	seemingly unrelated events)				
	Total		200	35	165
7.HSS/ N 0307 Supervise and guide other laboratory personnel)	PC1. Inspect equipment, structures, or materials to identify the cause of errors or other problems or defects	**200**	60	20	40
	PC2. Generate or use different sets of rules for combining or grouping things in different ways		60	10	50
	PC3. Deal with people at junior levels to effectively direct their work towards optimum output		80	10	70
	Total		200	40	160
8.HSS/ N 0308 (Conduct research under guidance)	PC1. Identify information by categorising, estimating, recognising differences or similarities, and detecting changes in circumstances or events	**200**	20	0	20
	PC2. Inspect equipment, structures, or materials to identify the cause of errors or other problems or defects		60	10	50
	PC3. Apply general rules to specific problems to produce answers that make sense		30	5	25
	PC4. Combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events)		30	10	20
	PC5. Concentrate on a task over a period of time without being distracted		40	0	40
	PC6. Understand the need and importance of research and the protocols for conducting the same		20	20	0
	Total		200	45	155
9. HSS/ N 0409 (Assist in fine needle aspiration cytology)	PC1. Swab the skin with an antiseptic solution	**200**	50	10	40
	PC2. Prepare the needle of very fine diameter for the process		50	10	40
	PC3. Take and record the vitals (pulse, blood pressure, temperature, etc.)		50	10	40

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (400)	Out Of	Marks Allocation	
				Viva	Skills Practical
	before the procedure is started				
	PC4. Prepare the equipment and slides for examining the sample		50	10	40
	Total		200	40	160
10. HSS/ N 9610 (Follow infection control policies and procedures)	PC1. Preform the standard precautions to prevent the spread of infection in accordance with organisation requirements	**200**	5	0	5
	PC2. Preform the additional precautions when standard precautions alone may not be sufficient to prevent transmission of infection		5	0	5
	PC3. Minimise contamination of materials, equipment and instruments by aerosols and splatter		5	5	0
	PC4. Identify infection risks and implement an appropriate response within own role and responsibility		20	10	10
	PC5. Document and report activities and tasks that put patients and/or other workers at risk		5	0	5
	PC6. Respond appropriately to situations that pose an infection risk in accordance with the policies and procedures of the organization		5	0	5
	PC7. Follow procedures for risk control and risk containment for specific risks		10	0	10
	PC8. Follow protocols for care following exposure to blood or other body fluids as required		10	0	10
	PC9. Place appropriate signs when and where appropriate		20	10	10
	PC10. Remove spills in accordance with the policies and procedures of the organization		5	0	5
	PC11. Maintain hand hygiene by washing hands before and after patient contact and/or after any activity likely to cause contamination		5	0	5
	PC12. Follow hand washing		5	0	5

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (400)	Out Of	Marks Allocation	
				Viva	Skills Practical
	procedures				
	PC13. Implement hand care procedures		5	0	5
	PC14. Cover cuts and abrasions with water-proof dressings and change as necessary		5	5	0
	PC15. Wear personal protective clothing and equipment that complies with Indian Standards, and is appropriate for the intended use		5	0	5
	PC16. Change protective clothing and gowns/aprons daily, more frequently if soiled and where appropriate, after each patient contact		5	0	5
	PC17. Demarcate and maintain clean and contaminated zones in all aspects of health care work		20	10	10
	PC18. Confine records, materials and medicaments to a well-designated clean zone				
	PC19. Confine contaminated instruments and equipment to a well-designated contaminated zone				
	PC20. Wear appropriate personal protective clothing and equipment in accordance with occupational health and safety policies and procedures when handling waste		5	0	5
	PC21. Separate waste at the point where it has been generated and dispose of into waste containers that are colour coded and identified		5	0	5
	PC22. Store clinical or related waste in an area that is accessible only to authorised persons		5	5	0
	PC23. Handle, package, label, store, transport and dispose of waste appropriately to minimise potential for contact with the waste and to reduce the risk to the environment from accidental release		5	0	5
	PC24. Dispose of waste safely in		5	5	0

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (400)	Out Of	Marks Allocation	
				Viva	Skills Practical
	accordance with policies and procedures of the organisation and legislative requirements				
	PC25. Wear personal protective clothing and equipment during cleaning procedures		5	0	5
	PC26. Remove all dust, dirt and physical debris from work surfaces		5	0	5
	PC27. Clean all work surfaces with a neutral detergent and warm water solution before and after each session or when visibly soiled		5	0	5
	PC28. Decontaminate equipment requiring special processing in accordance with quality management systems to ensure full compliance with cleaning, disinfection and sterilisation protocols		5	0	5
	PC29. Dry all work surfaces before and after use		5	0	5
	PC30. Replace surface covers where applicable		5	0	5
	PC31. Maintain and store cleaning equipment		5	5	0
	Total		200	55	145
Soft Skills and Communication		**Pick one field from both parts each carrying 50 marks totaling 100**			

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (100)	Out Of	Marks Allocation	
				Viva	Observation/ Role Play
Part 1 (Pick one field randomly carrying 50 marks)					
1. Attitude					
HSS/ N 9603 (Act within the limits of one's competence and authority)	PC1. Adhere to legislation, protocols and guidelines relevant to one's role and field of practice	**30**	2	0	2
	PC2. Work within organisational systems and requirements as appropriate to one's role		2	0	2
	PC3. Recognise the boundary of one's role and responsibility and seek supervision when situations are beyond one's competence and authority		8	4	4
	PC4. Maintain competence within one's role and field of practice		2	0	2
	PC5. Use relevant research based protocols and guidelines as evidence to inform one's practice		4	2	2
	PC6. Promote and demonstrate good practice as an individual and as a team member at all times		4	2	2
	PC7. Identify and manage potential and actual risks to the quality and safety of practice		4	2	2
	PC8. Evaluate and reflect on the quality of one's work and make continuing improvements		4	2	2
			30	12	18
HSS/ N 9607 (Practice Code of conduct while performing duties)	PC1. Adhere to protocols and guidelines relevant to the role and field of practice	**20**	3	1	2
	PC2. Work within organisational systems and requirements as appropriate to the role		3	1	2
	PC3. Recognise the boundary of the role and responsibility and seek supervision when situations are beyond the competence and authority		3	1	2
	PC4. Maintain competence within		1	0	1

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (100)	Out Of	Marks Allocation	
				Viva	Observation/ Role Play
	the role and field of practice				
	PC5. Use protocols and guidelines relevant to the field of practice		4	2	2
	PC6. Promote and demonstrate good practice as an individual and as a team member at all times		1	0	1
	PC7. Identify and manage potential and actual risks to the quality and patient safety		1	0	1
	PC8. Maintain personal hygiene and contribute actively to the healthcare ecosystem		4	2	2
			20	7	13
Attitude Total		**50**	50	19	31
2. Work Management					
HSS/ N 9602 (Ensure availability of medical and diagnostic supplies)	PC1. Maintain adequate supplies of medical and diagnostic supplies	**25**	5	5	0
	PC2. Arrive at actual demand as accurately as possible		5	3	2
	PC3. Anticipate future demand based on internal, external and other contributing factors as accurately as possible		10	5	5
	PC4. Handle situations of stock-outs or unavailability of stocks without compromising health needs of patients/ individuals		5	5	0
			25	18	7
HSS/ N 9605 (Manage work to meet requirements)	PC1. Clearly establish, agree, and record the work requirements	**25**	10	5	5
	PC2. Utilise time effectively		3	0	3
	PC3. Ensure his/her work meets the agreed requirements		3	0	3
	PC4. Treat confidential information correctly		3	3	0
	PC5. Work in line with the organisation's procedures and policies and within the limits of his/her job role		6	3	3

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (100)	Out Of	Marks Allocation	
				Viva	Observation/ Role Play
			25	11	14
Work Management Total		**50**	50	29	21
Part 2 (Pick one field as per NOS marked carrying 50 marks)					
1. Team Work					
HSS/ N 9604 (Work effectively with others)	PC1. Communicate with other people clearly and effectively	**50**	3	0	3
	PC2. Integrate one's work with other people's work effectively		3	0	3
	PC3. Pass on essential information to other people on timely basis		3	0	3
	PC4. Work in a way that shows respect for other people		3	0	3
	PC5. Carry out any commitments made to other people		6	6	0
	PC6. Reason out the failure to fulfil commitment		6	6	0
	PC7. Identify any problems with team members and other people and take the initiative to solve these problems		16	8	8
	PC8. Follow the organisation's policies and procedures		10	4	6
			50	24	26
2. Safety management					
HSS/ N 9606 (Maintain a safe, healthy, and secure working environment)	PC1. Identify individual responsibilities in relation to maintaining workplace health safety and security requirements	**50**	6	2	4
	PC2. Comply with health, safety and security procedures for the workplace		4	0	4
	PC3. Report any identified breaches in health, safety, and security procedures to the designated person		4	3	1
	PC4. Identify potential hazards and breaches of safe work practices		6	4	2
	PC5. Correct any hazards that		6	4	2

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (100)	Out Of	Marks Allocation	
				Viva	Observation/ Role Play
	individual can deal with safely, competently and within the limits of authority				
	PC6. Promptly and accurately report the hazards that individual is not allowed to deal with, to the relevant person and warn other people who may get affected		6	4	2
	PC7. Follow the organisation's emergency procedures promptly, calmly, and efficiently		6	2	4
	PC8. Identify and recommend opportunities for improving health, safety, and security to the designated person		6	4	2
	PC9. Complete any health and safety records legibly and accurately		6	2	4
			50	25	25
3. Waste Management					
HSS/ N 9609 (Follow biomedical waste disposal protocols)	PC1. Follow the appropriate procedures, policies and protocols for the method of collection and containment level according to the waste type	**50**	6	2	4
	PC2. Apply appropriate health and safety measures and standard precautions for infection prevention and control and personal protective equipment relevant to the type and category of waste		8	4	4
	PC3. Segregate the waste material from work areas in line with current legislation and organisational requirements		4	0	4
	PC4. Segregation should happen at source with proper containment, by using different colour coded bins for different categories of waste		8	4	4
	PC5. Check the accuracy of the		4	2	2

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (100)	Out Of	Marks Allocation	
				Viva	Observation/ Role Play
	labelling that identifies the type and content of waste				
	PC6. Confirm suitability of containers for any required course of action appropriate to the type of waste disposal		4	4	0
	PC7. Check the waste has undergone the required processes to make it safe for transport and disposal		4	4	0
	PC8. Transport the waste to the disposal site, taking into consideration its associated risks		4	4	0
	PC9. Report and deal with spillages and contamination in accordance with current legislation and procedures		4	4	0
	PC10. Maintain full, accurate and legible records of information and store in correct location in line with current legislation, guidelines, local policies and protocols		4	4	0
			50	32	18
4. Quality Assurance					
HSS/ N 9611: Monitor and assure quality	PC1. Conduct appropriate research and analysis	**50**	6	2	4
	PC2. Evaluate potential solutions thoroughly		8	4	4
	PC3. Participate in education programs which include current techniques, technology and trends pertaining to the dental industry		4	0	4
	PC4. Read Dental hygiene, dental and medical publications related to quality consistently and thoroughly		8	4	4
	PC5. Report any identified breaches in health, safety, and security procedures to the designated person		4	2	2
	PC6. Identify and correct any hazards that he/she can deal with		4	4	0

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Total Marks (100)	Out Of	Marks Allocation	
				Viva	Observation/ Role Play
	safely, competently and within the limits of his/her authority				
	PC7. Promptly and accurately report any hazards that he/she is not allowed to deal with to the relevant person and warn other people who may be affected		4	4	0
	PC8. Follow the organisation's emergency procedures promptly, calmly, and efficiently		4	4	0
	PC9. Identify and recommend opportunities for improving health, safety, and security to the designated person		4	4	0
	PC10. Complete any health and safety records legibly and accurately		4	4	0
			50	32	18
Grand Total-2 (Soft Skills and Communication)		**100**			
Detailed Break Up of Marks			**Theory**		
Subject Domain			**Pick all NOS totalling 80 marks**		

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Weightage	Marks Allocation
			Theory
1. HSS/ N 0301 (Correctly collect, transport, receive, accept or reject and store blood/urine/stool and tissue samples)	PC1. Identify information by categorising, estimating, recognising the differences or similarities, and detecting changes in circumstances or events	**8**	8
	PC2. Have a fair knowledge of blood cell biology		
	PC3. Perform phlebotomy effectively		
	PC4. Respond to emergencies as they arise		
	PC5. Apply the principles of genetics and immunology to transfusion practice		
	PC6. Generate or use different sets of rules for combining or grouping things in different ways		
	PC7. Be up-to-date technically and apply new knowledge to the job		
	PC8. Know how to follow sample acceptance and rejection criteria		
	PC9. Know how to pack, transport and store the samples		
	Total		8
2.HSS/ N 0302 (Conduct analysis of body fluids/ samples)	PC1. Identify information by categorising, estimating, recognising differences or similarities, and detecting changes in components of body fluids/ samples	**8**	8
	PC2. Understand how samples of body fluids/ samples are collected and analysed		
	PC3. Know what is implied by the presence of abnormal constituents in body fluids/ samples		
	Total		8
3.HSS/ N 0303 (Maintain, operate and clean laboratory equipment)	PC1. Inspect equipment, structures, or materials to identify the cause of errors or other problems or defects	**8**	8
	PC2. Concentrate on a task over a period of time without being distracted		
	PC3. Have sound knowledge of the functioning of lab equipment's and protocols for their cleaning and calibration		
	Total		8
4.HSS/ N 0304 (Provide information about test results)	PC1. Be responsive to patient request and queries	**8**	8
	PC2. Combine separate pieces of information, or specific answers to problems, to interpret test results		
	Total		8
5. HSS/ N 0305 (Prepare and	PC1. Process information by compiling, coding, categorising, calculating, tabulating, auditing or verification	**8**	8

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Weightage	Marks Allocation
			Theory
document medical tests and clinical results)	of data		
	PC2. Generate or use different sets of rules for combining or grouping things in different way		
	PC3. Concentrate on a task over a period of time without being distracted		
	Total		8
6.HSS/ N 0306 (Establish and monitor quality assurance program)	PC1. Identify information by categorising, estimating, recognising differences or similarities, and detecting changes in circumstances or events	**8**	8
	PC2. Inspect equipment, structures, or materials to identify the cause of errors or other problems or defects		
	PC3. Process information by compiling, coding, categorising, calculating, tabulating, auditing or verification of data		
	PC4. Apply general rules to specific problems to produce answers that make sense		
	PC5. Combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events)		
	Total		8
7.HSS/ N 0307 (Conduct research under guidance)	PC1. Identify information by categorising, estimating, recognising differences or similarities, and detecting changes in circumstances or events	**8**	8
	PC2. Inspect equipment, structures, or materials to identify the cause of errors or other problems or defects		
	PC3. Apply general rules to specific problems to produce answers that make sense		
	PC4. Combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events)		
	PC5. Concentrate on a task over a period of time without being distracted		
	PC6. Understand the need and importance of research and the protocols for conducting the same		
	Total		8
8.HSS/ N 0308 (Conduct research under guidance)	PC1. Identify information by categorising, estimating, recognising differences or similarities, and detecting changes in circumstances or events	**8**	8
	PC2. Inspect equipment, structures, or materials to identify		

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Weightage	Marks Allocation
			Theory
	the cause of errors or other problems or defects		
	PC3. Apply general rules to specific problems to produce answers that make sense		
	PC4. Combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events)		
	PC5. Concentrate on a task over a period of time without being distracted		
	PC6. Understand the need and importance of research and the protocols for conducting the same		
	Total		8
9. HSS/ N 0409 (Assist in fine needle aspiration cytology)	PC1. Swab the skin with an antiseptic solution	**8**	8
	PC2. Prepare the needle of very fine diameter for the process		
	PC3. Take and record the vitals (pulse, blood pressure, temperature, etc.) before the procedure is started		
	PC4. Prepare the equipment and slides for examining the sample		
	Total		8
10. HSS/ N 9610 (Follow infection control policies and procedures)	PC1. Preform the standard precautions to prevent the spread of infection in accordance with organisation requirements	**8**	8
	PC2. Preform the additional precautions when standard precautions alone may not be sufficient to prevent transmission of infection		
	PC3. Minimise contamination of materials, equipment and instruments by aerosols and splatter		
	PC4. Identify infection risks and implement an appropriate response within own role and responsibility		
	PC5. Document and report activities and tasks that put patients and/or other workers at risk		
	PC6. Respond appropriately to situations that pose an infection risk in accordance with the policies and procedures of the organization		
	PC7. Follow procedures for risk control and risk containment for specific risks		
	PC8. Follow protocols for care following exposure to blood or other body fluids as required		
	PC9. Place appropriate signs when and where appropriate		

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Weightage	Marks Allocation
			Theory
	PC10. Remove spills in accordance with the policies and procedures of the organization		
	PC11. Maintain hand hygiene by washing hands before and after patient contact and/or after any activity likely to cause contamination		
	PC12. Follow hand washing procedures		
	PC13. Implement hand care procedures		
	PC14. Cover cuts and abrasions with water-proof dressings and change as necessary		
	PC15. Wear personal protective clothing and equipment that complies with Indian Standards, and is appropriate for the intended use		
	PC16. Change protective clothing and gowns/aprons daily, more frequently if soiled and where appropriate, after each patient contact		
	PC17. Demarcate and maintain clean and contaminated zones in all aspects of health care work		
	PC18. Confine records, materials and medicaments to a well-designated clean zone		
	PC19. Confine contaminated instruments and equipment to a well-designated contaminated zone		
	PC20. Wear appropriate personal protective clothing and equipment in accordance with occupational health and safety policies and procedures when handling waste		
	PC21. Separate waste at the point where it has been generated and dispose of into waste containers that are colour coded and identified		
	PC22. Store clinical or related waste in an area that is accessible only to authorised persons		
	PC23. Handle, package, label, store, transport and dispose of waste appropriately to minimise potential for contact with the waste and to reduce the risk to the environment from accidental release		
	PC24. Dispose of waste safely in accordance with policies and procedures of the organisation and legislative requirements		
	PC25. Wear personal protective clothing and equipment during cleaning procedures		
	PC26. Remove all dust, dirt and physical debris from work surfaces		

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Weightage	Marks Allocation
			Theory
	PC27. Clean all work surfaces with a neutral detergent and warm water solution before and after each session or when visibly soiled		
	PC28. Decontaminate equipment requiring special processing in accordance with quality management systems to ensure full compliance with cleaning, disinfection and sterilisation protocols		
	PC29. Dry all work surfaces before and after use		
	PC30. Replace surface covers where applicable		
	PC31. Maintain and store cleaning equipment		
	Total		8
Grand Total-1 (Subject Domain)		**80**	**80**
Soft Skills and Communication		**Select each part each carrying 10 marks totalling 20**	

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Weightage	Marks Allocation
			Theory
Part 1 (Pick one field randomly carrying 50 marks)			
1. Attitude			
HSS/ N 9603 (Act within the limits of one's competence and authority)	PC1. Adhere to legislation, protocols and guidelines relevant to one's role and field of practice	**2**	2
	PC2. Work within organisational systems and requirements as appropriate to one's role		
	PC3. Recognise the boundary of one's role and responsibility and seek supervision when situations are beyond one's competence and authority		
	PC4. Maintain competence within one's role and field of practice		
	PC5. Use relevant research based protocols and guidelines as evidence to inform one's practice		
	PC6. Promote and demonstrate good practice as an individual and as a team member at all times		
	PC7. Identify and manage potential and actual risks to the quality and safety of practice		
	PC8. Evaluate and reflect on the quality of one's work and make continuing improvements		
	Total		2
HSS/ N 9607 (Practice Code of conduct while performing duties)	PC1. Adhere to protocols and guidelines relevant to the role and field of practice	**2**	2
	PC2. Work within organisational systems and requirements as appropriate to the role		
	PC3. Recognise the boundary of the role and responsibility and seek supervision when situations are beyond the competence and authority		
	PC4. Maintain competence within the role and field of practice		
	PC5. Use protocols and guidelines relevant to the field of practice		
	PC6. Promote and demonstrate good practice as an individual and as a team member at all times		
	PC7. Identify and manage potential and actual risks to the quality and patient safety		
	PC8. Maintain personal hygiene and contribute actively to the healthcare ecosystem		
	Total		2

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Weightage	Marks Allocation
			Theory
Attitude Total		**4**	4
2. Work Management			
HSS/ N 9602 (Ensure availability of medical and diagnostic supplies)	PC1. Maintain adequate supplies of medical and diagnostic supplies	**4**	4
	PC2. Arrive at actual demand as accurately as possible		
	PC3. Anticipate future demand based on internal, external and other contributing factors as accurately as possible		
	PC4. Handle situations of stock-outs or unavailability of stocks without compromising health needs of patients/ individuals		
	Total		4
HSS/ N 9605 (Manage work to meet requirements)	PC1. Clearly establish, agree, and record the work requirements	**2**	2
	PC2. Utilise time effectively		
	PC3. Ensure his/her work meets the agreed requirements		
	PC4. Treat confidential information correctly		
	PC5. Work in line with the organisation's procedures and policies and within the limits of his/her job role		
	Total		2
Work Management Total		**6**	6
Part 1 Total		**10**	10
Part 2 (Pick one field as per NOS marked carrying 50 marks)			
1. Team Work			
HSS/ N 9604 (Work effectively with others)	PC1. Communicate with other people clearly and effectively	**2**	2
	PC2. Integrate one's work with other people's work effectively		
	PC3. Pass on essential information to other people on timely basis		
	PC4. Work in a way that shows respect for other people		
	PC5. Carry out any commitments made to other people		
	PC6. Reason out the failure to fulfil commitment		
	PC7. Identify any problems with team members and other people and take the initiative to solve these problems		
	PC8. Follow the organisation's policies and procedures		
	Total		2

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Weightage	Marks Allocation
			Theory
2. Safety management			
HSS/ N 9606 (Maintain a safe, healthy, and secure working environment)	PC1. Identify individual responsibilities in relation to maintaining workplace health safety and security requirements	**2**	2
	PC2. Comply with health, safety and security procedures for the workplace		
	PC3. Report any identified breaches in health, safety, and security procedures to the designated person		
	PC4. Identify potential hazards and breaches of safe work practices		
	PC5. Correct any hazards that individual can deal with safely, competently and within the limits of authority		
	PC6. Promptly and accurately report the hazards that individual is not allowed to deal with, to the relevant person and warn other people who may get affected		
	PC7. Follow the organisation's emergency procedures promptly, calmly, and efficiently		
	PC8. Identify and recommend opportunities for improving health, safety, and security to the designated person		
	PC9. Complete any health and safety records legibly and accurately		
	Total		2
3. Waste Management			
HSS/ N 9609 (Follow biomedical waste disposal protocols)	PC1. Follow the appropriate procedures, policies and protocols for the method of collection and containment level according to the waste type	**4**	4
	PC2. Apply appropriate health and safety measures and standard precautions for infection prevention and control and personal protective equipment relevant to the type and category of waste		
	PC3. Segregate the waste material from work areas in line with current legislation and organisational requirements		
	PC4. Segregation should happen at source with proper containment, by using different colour coded bins for different categories of waste		
	PC5. Check the accuracy of the labelling that identifies the type and content of waste		
	PC6. Confirm suitability of containers for any required		

Assessable Outcomes	Assessment Criteria for the Assessable Outcomes	Weightage	Marks Allocation
			Theory
	course of action appropriate to the type of waste disposal		
	PC7. Check the waste has undergone the required processes to make it safe for transport and disposal		
	PC8. Transport the waste to the disposal site, taking into consideration its associated risks		
	PC9. Report and deal with spillages and contamination in accordance with current legislation and procedures		
	PC10. Maintain full, accurate and legible records of information and store in correct location in line with current legislation, guidelines, local policies and protocols		
	Total		4
4. Quality Assurance			
HSS/ N 9611: Monitor and assure quality	PC1. Conduct appropriate research and analysis	**2**	2
	PC2. Evaluate potential solutions thoroughly		
	PC3. Participate in education programs which include current techniques, technology and trends pertaining to the dental industry		
	PC4. Read Dental hygiene, dental and medical publications related to quality consistently and thoroughly		
	PC5. Report any identified breaches in health, safety, and security procedures to the designated person		
	PC6. Identify and correct any hazards that he/she can deal with safely, competently and within the limits of his/her authority		
	PC7. Promptly and accurately report any hazards that he/she is not allowed to deal with to the relevant person and warn other people who may be affected		
	PC8. Follow the organisation's emergency procedures promptly, calmly, and efficiently		
	PC9. Identify and recommend opportunities for improving health, safety, and security to the designated person		
	PC10. Complete any health and safety records legibly and accurately		
	Total		2
Part 2 Total		**10**	10
Grand Total-2 (Soft Skills and Comunication)		**20**	

सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
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Healthcare Sector Skill Council
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