



Model Curriculum

QP Name: Phlebotomist

QP Code: HSS/Q0501

QP Version: 3.0

NSQF Level: 4

Model Curriculum Version: 1.0

Healthcare Sector Skill Council || Healthcare Sector Skill Council, 520, DLF Tower A, 5th Floor, Jasola
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Training Parameters

Sector	Healthcare
Sub-Sector	Allied Health & Paramedics
Occupation	Diagnostic
Country	India
NSQF Level	4
Aligned to NCO/ISCO/ISIC Code	NCO-2015/ 3212.0601
Minimum Educational Qualification and Experience	<p>12th Grade Pass with Science</p> <p>or</p> <p>Completed 2nd year of the 3-year regular diploma after 10th</p> <p>Or</p> <p>10th Grade Pass with 2 years relevant experience</p> <p>Or</p> <p>11th Grade pass with 1 year relevant experience</p> <p>or</p> <p>Previous relevant Qualification of NSQF Level 3.5 and with 1.5 year relevant experience</p> <p>Or</p> <p>Previous relevant qualification of NSQF Level 3 with 3 years of relevant experience</p>
Pre-Requisite License or Training	Not Applicable
Minimum Job Entry Age	18 Years
Last Reviewed On	29/01/2021
Next Review Date	29/01/2026
NSQC Approval Date	29/01/2021
QP Version	3.0
Model Curriculum Creation Date	29/01/2021
Model Curriculum Valid Up to Date	29/01/2026

Model Curriculum Version	1.0
Minimum Duration of the Course	900 Hrs.
Maximum Duration of the Course	900 Hrs.

Program Overview

This section summarizes the end objectives of the program along with its duration.

Training Outcomes

At the end of the program, the learner should have acquired the listed knowledge and skills.

- Organize pre-procedural requirements of sample collection such as necessary equipment and supplies etc.
- Perform sample collection following best practices
- Prepare the patient for special procedures.
- Instruct the patients in collection of other types of samples such as urine, stool, sputum, etc.
- Carry out transfer and storage of samples.
- Prepare for site visits while following visit etiquettes.
- Maintain professional behaviour with co-workers, patients and their families.
- Co-ordinate with colleagues and other people to complete work.
- Apply the health, safety and security protocols at the workplace such as effective infection control protocols to ensure the safety of self, patient and colleagues
- Follow infection control, sanitization, disinfection and bio medical waste protocols.

Compulsory Modules

The table lists the modules and their duration corresponding to the Compulsory NOS of the QP.

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
HSS/N0510: Perform pre-procedural activities of sample collection	60:00	75:00	60:00	00:00	195:00
Module 1: Introduction to healthcare systems & laboratory services	10:00	10:00	00:00	00:00	
Module 2: Roles and responsibilities of a phlebotomist	10:00	10:00	00:00	00:00	
Module 3: Structure and Function of Human Body	10:00	10:00	00:00	00:00	
Module 4: Basic sensitization to various departments of the medical laboratory	15:00	20:00	00:00	00:00	
Module 5: Pre-procedural activities of sample collection	15:00	25:00	00:00	00:00	

HSS/N0511: Perform procedural activities of sample collection	35:00	40:00	75:00	00:00	150:00
Module 6: Procedural activities of sample collection	35:00	40:00	00:00	00:00	
HSS/N0512: Perform post- procedural activities of sample collection	30:00	30:00	30:00	00:00	90:00
Module 7: Post-procedural activities of sample collection	20:00	20:00	00:00	00:00	
Module 8: Reporting and Documentation	10:00	10:00	00:00	00:00	
HSS/N9619: Follow etiquette for site visits	20:00	40:00	15:00	00:00	75:00
Module 9: Prepare for site visit	10:00	15:00	00:00	00:00	
Module 10: Follow etiquette for site visits	10:00	25:00	00:00	00:00	
HSS/N9615: Maintain a professional behavior with colleagues, patients and others	05:00	10:00	15:00	00:00	30:00
Module 11: Maintain interpersonal relationship with colleagues and others	05:00	10:00	00:00	00:00	
HSS/N9616: Maintain professional and medico-legal conduct	05:00	10:00	15:00	00:00	30:00
Module 12: Maintain professional and medico-legal conduct	05:00	10:00	00:00	00:00	

HSS/N9617: Maintain a safe, healthy and secure environment	05:00	10:00	15:00	00:00	30:00
Module 13: Maintain a safe, healthy and secure working environment	05:00	10:00	00:00	00:00	
HSS/N9618: Follow infection control policies & procedures including biomedical waste disposal protocols	15:00	45:00	15:00	00:00	75:00
Module 14: Infection control policies and procedures	05:00	20:00	00:00	00:00	
Module 15: Bio Medical Waste Management	05:00	10:00	00:00	00:00	
Module 16: Personal Hygiene	05:00	15:00	00:00	00:00	
Bridge Modules	35:00	100:00	30:00	00:00	165:00
Module 17: Basic Computer Knowledge	05:00	20:00	00:00	00:00	
Module 18: Basic sensitization on preanalytical laboratory errors	05:00	10:00	00:00	00:00	
Module 19: Basic sensitization on analytical laboratory testing process	10:00	25:00	00:00	00:00	
Module 20: Basic sensitization on post-analytical laboratory testing process	10:00	20:00	00:00	00:00	
Module 21: Sensitization on current best practices in laboratory	05:00	25:00	00:00	00:00	

Total	210:00	360:00	270:00	00:00	840:00
<u>Module 22:</u> <u>Employability</u> <u>Skills</u> <u>DGT/VSQ/N010</u> <u>2 (60 hours)</u>	60:00	00:00	00:00	00:00	
Total	270:00	360:00	270:00	00:00	900:00

Module Details

Module 1: Introduction to healthcare systems & laboratory services

Mapped to: HSS/N0510

Terminal Outcomes:

- Describe the basic structure and function of Laboratory Services.
- Identify the roles and responsibilities of Phlebotomist.
- Describe medical and ethical issues related to the function in the hospital environment.

Duration: 10:00	Duration: 10:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Describe the basic structure and function of healthcare facilities available at various levels, hospice care and clinics. • Discuss various types of laboratories in the hospital. • Describe the diagnostic centres and medical lab facilities at different levels (national, state and district). • Discuss the relevant legal responsibilities of a phlebotomist with respect to their functions in the hospital environment. 	<ul style="list-style-type: none"> • Assess areas of personal attitude and conduct of the Phlebotomist.
Classroom Aids:	
Computer with internet, Video presentation	
Tools, Equipment and Other Requirements	
NA	

Module 2: Roles and responsibilities of a phlebotomist

Mapped to: HSS/N0510

Terminal Outcomes:

- Identify the roles and responsibilities of Phlebotomist.

Duration: 10:00	Duration: 10:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> Discuss the role and responsibilities of a phlebotomist. Discuss a Phlebotomist's role in the process of quality improvement. Discuss the laboratory maintenance needs that need to be taken care of by the Phlebotomist. Discuss the role of a phlebotomist in ensuring comfort and safety while drawing blood. Recall ethical behaviour at the workplace. Explain the appropriate use of laboratory related medical terminology in daily activities with colleagues, patients and family. Describe the general and specific etiquettes to be observed on the duty. Explain the importance of conservation of resources in the laboratories 	<ul style="list-style-type: none"> Prepare a chart depicting roles and responsibilities of a phlebotomist at different sites.
Classroom Aids:	
Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster, AV Aids for Understanding Human Body Structure and Function	
Tools, Equipment and Other Requirements	
Mobile phones, radio communication equipment, megaphones	

Module 3: Structure and Function of Human Body

Mapped to: HSS/N0510

Terminal Outcomes:

- Describe basic structure and function of the human body.

Duration: 10:00	Duration: 10:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain the organisation of body cells, tissues, organs, organ systems, membranes and glands in the human body. • Describe cell and various types of tissues. • Describe different types of organ systems. • Describe different types of body fluids, secretions and excretions. • Identify different parts of the body using charts and models. • Explain the structure and functioning of human body systems using charts and models. • Design various working models depicting functioning of human body systems 	<ul style="list-style-type: none"> • Identify various body parts/organs using 3D models of human organ system. • Design various working models depicting functioning of each human body system.
Classroom Aids:	
Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster, AV Aids for Understanding Human Body Structure and Function	
Tools, Equipment and Other Requirements	
3D models of human body and accessory organs, model human skeletal system, organ specimen.	

Module 4: Basic sensitization

Mapped to: HSS/N0510

Terminal Outcomes:

- Sensitize about various departments and field in the laboratory.
- Explain about various samples collection method.
- Discuss about various departments and the

Duration: 15:00	Duration: 20:00
<p>Theory – Key Learning Outcomes</p> <ul style="list-style-type: none"> • Explain the basics of inorganic and organic chemistry. • Describe the blood sample collection process in detail. • Explain the basics of haematology. • Explain the basics of coagulation mechanism and testing in brief. • Describe the process of sampling of sputum, semen, CSF and other body fluids like pleural fluid, pericardial fluid, peritoneal fluid, synovial fluid, ascitic fluid. • Explain the basics of histopathology. • Explain the basics of cytology and cytopathology. • Explain the basics of microbiology (bacteria, virus, fungus and parasites). • Explain the basics of immunology and serology. • Identify instruments and standard operating procedures related to haematology laboratory. • Identify instruments and standard operating procedures related to biochemistry laboratory. • Identify instruments and standard operating procedures related to serology laboratory. • Identify instruments and standard operating procedures related to coagulation. • Identify instruments and standard operating procedures related to histopathology and cytology section. 	<p>Practical – Key Learning Outcomes</p> <ul style="list-style-type: none"> • Prepare a list of various samples and their methods of collection like Blood, Urine, CSF, Sputum etc • Demonstrate the correct techniques of blood sample collection. • Demonstrate the correct method of sampling. • Prepare a chart of the various fields in the laboratory. • Demonstrate the correct method of using tools and equipments in the laboratory. • Prepare a list of various departments in the laboratory and their functions.
<p>Classroom Aids:</p> <p>Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster, AV Aids for Understanding Human Body Structure and Function</p>	
<p>Tools, Equipment and Other Requirements</p> <p>Slides, microscope, test tube racks.</p>	

Module 5: Pre-procedural activities of sample collection

Mapped to: HSS/N0510

Terminal Outcomes:

- Identify the different types of samples to be taken in the medical laboratory.
- Explain the correct process of sample handling.
- Demonstrate the various pre procedural activities to be performed before sample collection.

Duration: 15:00	Duration: 25:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Identify the different types of samples to be taken in the medical laboratory. • Explain the correct process of sample handling. • Explain the process of interpretation of the test request forms correctly. • Describe the correct method of preparing a site for obtaining blood samples. • Describe the correct method of assisting the patient before, during and after collection of the blood specimen. • Explain the process of sampling of sputum. • Explain the process of guiding the patient for collection of semen sample. 	<ul style="list-style-type: none"> • Prepare a list of various types of samples • Demonstrate the correct techniques of Sample handling. • Identify different types of useful equipment for blood sample collection. • Demonstrate the correct method of sample site preparing. • Prepare a chart on the various responsibilities of a phlebotomist to be performed before, during and after sample collection. • Demonstrate the correct method of sputum and semen sample collection.
Classroom Aids:	
Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster, AV Aids for Understanding Human Body Structure and Function	
Tools, Equipment and Other Requirements	
sample test request forms, test formats, slides, cover slips, tuberculin syringes, urine and stool collection containers	

Module 6: Procedural activities of sample collection

Mapped to: HSS/N0511

Terminal Outcomes:

- Perform correct method of preparing an appropriate site for obtaining blood samples.
- Carry out drawing blood specimens from patients.
- Carry out preparing and labelling the blood sample for test, procedures and identification purposes.
- Assisting the patient before, during and after collection of the blood specimen.
- Carry out sample collection other than blood samples.

Duration: 35:00	Duration: 40:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Enumerate common pre-analytical errors and complication of sample collection. • Enumerate various types of blood collection devices and other equipment required such as syringe, evacuated tubes, different gauged needles etc. • Classify different types of blood collection tubes with their additives. • Describe the usage of tourniquet and its duration of application. • Distinguish different types of tubes, types and co-relate with the type of sample to be collected such as serum, plasma, etc. • Enumerate different types of needle gauges with their colour codes. • Explain the cause of haemolysis and the process of preventing the same. • Explain the order of draw (for the tube types). • Explain the correct method of preparing an appropriate site for obtaining blood samples. • Explain the correct method of drawing blood specimens from patients. • Explain the correct method of preparing and labelling the blood sample for test, procedures and identification purposes. • Explain the correct method of assisting the patient before, during and after collection of the blood specimen. • Explain the correct method of collecting samples other than blood samples. 	<ul style="list-style-type: none"> • Prepare a list of various types of samples • Demonstrate the correct techniques of Sample handling. • Identify different types of useful equipment for blood sample collection. • Demonstrate the correct method of sample site preparing. • Prepare a chart on the various responsibilities of a phlebotomist to be performed before, during and after sample collection. • Demonstrate the correct method of sputum and semen sample collection.
Classroom Aids:	
Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster, AV Aids for Understanding Human Body Structure and Function	
Tools, Equipment and Other Requirements	
Needle of various gauges, isopropyl alcohol, tourniquet, cotton swab, gauze pieces, sample test request forms, stop watch, filter paper, tuberculin vials, swab sticks, blotting paper for BT, capillary tube for CT test formats, slides, Lancet and Micro collection devices	

Module 7: Post-procedural activities of sample collection

Mapped to: HSS/N0512

Terminal Outcomes:

- Demonstrate the correct techniques of Sample labelling, packaging and transporting.
- Demonstrate the correct method of assisting the patient after collection of the blood specimen.
- Demonstrate the correct technique of various sample storage.
- Demonstrate the method of stock management.

Duration: 20:00	Duration: 20:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain various standard operating procedures for sample storage and transportation with reference to temperature, humidity, leak proofing etc. • Describe the significance of critical alert values in laboratory reports. • Explain the process of managing inventory through checklists and inventory registers. • Explain the correct method of labelling and preparing the collected sample for testing and identification purposes. • Explain the correct method of assisting the patient after collection of the blood specimen. • Explain the correct method of storage of various collected samples other than blood. • Explain the correct procedure of sample transportation. • Discuss the process of organizing stocks related to phlebotomy as per organizational practices 	<ul style="list-style-type: none"> • Demonstrate the correct techniques of Sample labelling, packaging and transporting. • Demonstrate the correct method of assisting the patient after collection of the blood specimen. • Demonstrate the correct technique of various sample storage. • Demonstrate the method of stock management.
Classroom Aids:	
Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster, AV Aids for Understanding Human Body Structure and Function	
Tools, Equipment and Other Requirements	
Sample forms and formats, sample transport bags	

Module 8: Reporting and Documentation

Mapped to: HSS/N5012,

Terminal Outcomes:

- Demonstrate technical skills of Storage and retention and retrieval of database and records.
- Maintain confidentiality of records

Duration: 10:00	Duration: 10:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Define the scope of practice for Phlebotomist in reporting and documentation. • Define reporting matrix and discuss the methods. • Explain the importance of maintaining various records. • Explain various types of records to be maintained by the department. • Discuss essential components of various types of records. • Explain the method of documentation and retrieval of documents. • Discuss the importance of reporting and recording patient information. • Discuss the importance of confidentiality in patient report information. 	<ul style="list-style-type: none"> • Enter data in various forms and format according to the standard guidelines. • Create a sample set of documents to record procedure related information of client. • Demonstrate how to compile all the relevant information in sample formats necessary to create the database of client. • Demonstrate the use of Hospital Information System (HIS) to prepare a • sample record on client dietetic information.
Classroom Aids:	
Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Duster.	
Tools, Equipment and Other Requirements	
Sample formats of reports and hospital documents, various forms of consent	

Module 9: Prepare for site visit.

Mapped to: HSS/N9619

Terminal Outcomes:

- Perform site visits preparation.

Duration: 10:00	Duration: 15:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • State the importance of being on time. • Explain phone etiquettes to be followed with the patient while organizing a site visit. • Explain the process of confirming the availability of patient and the respective tests for sampling. • State the importance of making the necessary preparations using checklist before a site-visit. • Describe the process to be followed in case of delay in reaching patient site. • State the importance of establishing the patient’s needs and expectation to ensure good quality service at the site. • Discuss the importance of maintaining privacy of the patient. • Describe the importance of carrying identification documents and introducing oneself to the patient on arrival. • Describe common expectations while visiting patient’s residential facilities. • Plan the route for site visit and determine travel time for reaching the site on time. • Explain the salient points of personal grooming standards. 	<ul style="list-style-type: none"> • Practice role play on site visits and its preparation.
Classroom Aids:	
Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster, AV Aids for Understanding Human Body Structure and Function	
Tools, Equipment and Other Requirements	
Checklist of equipment for site visit, syringe, needles, disposable container, tourniquet, isopropyl alcohol, cotton swab, gauze pieces, permanent marker pen, adhesive tape, evacuated/ non-evacuated tubes	

Module 10: Follow etiquette for site visits

Mapped to: HSS/N9619

Terminal Outcomes:

- Carry out site visits etiquettes during visit.

Duration: 10:00	Duration: 25:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Describe the steps to be followed before accessing and using patient facilities, resources and areas. • State the importance of setting correct expectations of follow-up action with the patient. • List the steps to ensure that patient facilities are not soiled or littered, and its importance. • Describe the procedure to follow in case there is an accident or mishap at the patient premises. • Explain the importance of time and site information with the collection centre. • Describe the correct waste disposal procedures. • Define various best practices of site visit such as taking prior permission. • Define the necessary adjustments required to be made to the space for carrying out required activities as per the standard. • Describe the process and sequence of activities to be carried out to the patient. • Discuss the process of handling queries. • Perform billing after the procedures are carried out. • Explain the process of waste disposal as per waste disposal guidelines. • Discuss the process of addressing delays, accidents or errors to ensure patient satisfaction. 	<ul style="list-style-type: none"> • Demonstrate the site visits etiquettes. • Demonstrate the method to be followed up after site visit • Demonstrate the correct waste disposal technique at the site. • Demonstrate the correct sequence of the procedure to be to be carried out. • Demonstrate the method of Billing process.
Classroom Aids:	
Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster, AV Aids for Understanding Human Body Structure and Function	
Tools, Equipment and Other Requirements	
Educational videos of case studies	

Module 11: Maintain interpersonal relationship with colleagues and others

Mapped to: HSS/N9615

Terminal Outcomes:

- Communicate effectively with client and team members
- Adhere to organizational code of conduct while handling conflicts

Duration: 05:00	Duration: 10:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Discuss the importance of timely communication between departments. • Explain the significance of maintaining confidentiality and privacy of the patient information. • Describe the importance of ensuring fulfilment of commitments. • Explain organization’s policies and procedures. • Discuss the importance of effective communication amongst colleagues 	<ul style="list-style-type: none"> • Apply guidelines related to usage of technical terms to ensure effective communication. • Apply time management skills. • Demonstrate problem solving and decision-making skills in different situations. • Demonstrate skills of teamwork and work prioritization in different team activities.
Classroom Aids:	
Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster, AV Aids for Understanding Human Body Structure and Function	
Tools, Equipment and Other Requirements	
Case studies showing teamwork and professionalism	

Module 12: Maintain professional and medico-legal conduct

Mapped to: HSS/N9616

Terminal Outcomes:

- Develop techniques of self-hygiene.
- Apply infection control policies and procedures during daily activities.

Duration: 05:00	Duration: 10:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Describe the Standard Operating Procedures related to medico-legal conduct • Discuss the best practices of code of conduct • Explain the importance of carrying out one’s duties and responsibilities and effects of non- compliance. • Explain the importance of maintaining professional relationships with other departments • Describe Standard Operating Procedures to reduce risks associated with quality and safety measures 	<ul style="list-style-type: none"> • Carry out proper and secure filing of accounts, funds and other related documents physically and electronically • Demonstrate the skills required for maintain balance sheet and cashflow • Prepare a sample report on various national and international accreditation guidelines. • Prepare a sample report on NABL standards
Classroom Aids:	
Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster	
Tools, Equipment and Other Requirements	

Module 13: Maintain a safe, healthy and secure working environment

Mapped to: HSS/N9617

Terminal Outcomes:

- Respond to institutional emergencies safely and appropriately
- Perform Basic Life Support or basic first aid in medical emergency situations, as and when required

Duration: 05:00	Duration: 10:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain the importance of maintaining health safety and security. • Describe basic first aid in case of emergencies. • Identify potential hazards in the hospital and hospital colour coding system. • Identify the suspicious package or items. • Explain the policies and rules of the organisation pertaining to safety and combating hazards. • Demonstrate the skills of infection control and use of personal protective equipment(PPE). 	<ul style="list-style-type: none"> • Demonstrate usage of hospital emergency codes and basic first aid in a mock drill depicting an institutional emergency. • Create a chart depicting different types of protective devices such as restraints and safety devices. • Create a flow chart depicting common emergency situations and its referral mechanism.
Classroom Aids:	
Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster	
Tools, Equipment and Other Requirements	
First aid kit, hospital codes, infection control protocols, Personal Protective Equipment, videos on safety	

Module 14: Infection control policies and procedures

Mapped to: HSS/N9618

Terminal Outcomes:

- Develop techniques of self-hygiene
- Apply infection control policies and procedures during daily activities

Duration: 05:00	Duration: 20:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Describe the importance of infection control and prevention. • Identify the factors which influence the outcome of an exposure to infection. • List strategies for preventing transmission of pathogenic organisms. • List the steps of spill management. • List the process of hand washing. • Enumerate various nosocomial infections • Explain the importance of incident reporting. • Develop techniques of self-grooming and maintenance. • Explain the concept of immunisation to reduce the health risks for self and patients. • Explain the concept of healthy living. • Describe the techniques of proper usage of PPE. • Explain the importance of PPE. • Explain various vaccinations against common infectious diseases 	<ul style="list-style-type: none"> • Demonstrate the steps of spill management. • Demonstrate the procedures of hand hygiene. • Demonstrate the process of donning and doffing of PPE..
Classroom Aids:	
Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster	
Tools, Equipment and Other Requirements	
Current guidelines on hand washing and hand rub techniques, spill kit, PPE such as gown, gloves, head cap	

Module 15: Bio Medical Waste Management

Mapped to: HSS/N9618,

Terminal Outcomes:

- Dispose of different types of biomedical waste in appropriate color coded bins/containers.
- Apply local guidelines of biomedical waste disposal system during daily activities.

Duration: 05:00	Duration: 10:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain the importance of proper and safe disposal of bio-medical waste and treatment. • Explain the categories of bio-medical waste • Discuss about disposal of bio-medical waste – colour coding, types of containers, transportation of waste, etc. • Explain standards for bio-medical waste disposal. • Discuss means of bio-medical waste treatment. 	<ul style="list-style-type: none"> • Segregate the biomedical waste applying the local guidelines. • Create a chart depicting different types of biomedical waste and various types of colour coded bins/containers used for disposal of biomedical waste. • Prepare a report on the observations from field assignment about the structure of transportation and treatment of biomedical waste.
Classroom Aids:	
Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Duster.	
Tools, Equipment and Other Requirements	
Different colour bins, hospital protocols for colour coding bins	

Module 16: Personal Hygiene

Mapped to: HSS/N9618

Terminal Outcomes:

- Demonstrate the correct technique of donning and doffing of PPE

Duration: 05:00	Duration: 15:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain the significance of maintaining personal hygiene. • Describe the principles of prevention of crossinfection. • Explain the importance of personal protective equipment (PPE). • Discuss the techniques of proper usage of personal protective equipment (PPE). 	<ul style="list-style-type: none"> • Demonstrate the correct technique of hand hygiene • Demonstrate the correct technique of donning and doffing of PPE • Prepare a chart of use of different PPE..
Classroom Aids:	
Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Duster.	
Tools, Equipment and Other Requirements	
Hand sanitizer, liquid soap, wash basin, water supply, paper towel, PPE	

Module 17: Basic Computer Knowledge

Mapped to: Bridge Module

Terminal Outcomes:

- Demonstrate the use of computers and internet operations.
- Apply basic computer knowledge in performing various activities

Duration: 05:00	Duration: 20:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Discuss the application of computers. • Differentiate between the hardware and software. • Differentiate between the input and output devices. • Discuss the foundation concept of operating systems and their functions. • Discuss the latest non-pirated version of software such as Windows 10, its utilities and basic operations of Microsoft office 2000 • – MS Word, MS Excel, PowerPoint Presentation. 	<ul style="list-style-type: none"> • Demonstrate the use of browser functions to surf on the Internet, send emails. • Demonstrate the use of HIS.
Classroom Aids:	
Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Duster.	
Tools, Equipment and Other Requirements	
Computer with internet facility and latest MS office	

Module 18: Basic sensitization on preanalytical laboratory errors

Mapped to: Bridge Module

Terminal Outcomes:

- Identify different physiological preanalytical variables.

Duration: 05:00	Duration: 10:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Classify preanalytical variables. • Enumerate different physiological preanalytical variables. • Enumerate different technical preanalytical variables. • Define Turn Around Time (TAT) with reference to respective laboratories. • Describe the causes of preanalytical errors. • List the steps to reduce preanalytical errors. • Enumerate various documents necessary for recording preanalytical errors 	<ul style="list-style-type: none"> • Identify different physiological preanalytical variables. • Identify the causes of preanalytical errors. • List the steps to reduce preanalytical errors. • Prepare a list of various documents necessary for recording preanalytical errors.
Classroom Aids:	
Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster, AV Aids for Understanding Human Body Structure and Function	
Tools, Equipment and Other Requirements	
Fishbone charts on causes of haemolysis	

Module 19: Basic sensitization on analytical laboratory testing process

Mapped to: Bridge Module

Terminal Outcomes:

- Perform sample transportation.
- Carry out sample storage.
- Perform sample handling.
- Carry out Inventory management.
- Demonstrate venous and arterial blood collection method.
- Prepare blood serum and plasma from blood.

Duration: 10:00	Duration: 25:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain the process of sample transportation. • Explain the process of sample storage after centrifugation. • Describe the correct process of specimen handling. • Discuss the importance of timely maintenance of inventory of medical supplies or diagnostic kits. • Describe various types of blood samples collected such as venous blood, arterial blood etc. • Define different types of blood matrix. • Describe the process of preparation of blood serum and plasma. • Explain the types of tests being conducted from blood sample types. 	<ul style="list-style-type: none"> • Identify different physiological Perform sample transportation. • Carry out sample storage. • Perform sample handling. • Carry out Inventory management. • Demonstrate venous and arterial blood collection method. • Prepare blood serum and plasma from blood. • Prepare a list of various test conducted from blood sample.
Classroom Aids:	
Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster, AV Aids for Understanding Human Body Structure and Function	
Tools, Equipment and Other Requirements	
Centrifuge, refrigerator	

Module 20: Basic sensitization on post-analytical laboratory testing process

Mapped to: Bridge Module

Terminal Outcomes:

- Store patient data and records
- Carry out retrieval of sample/specimen, records.
- Record vital signs of patients
- Demonstrate the process of sample recollection

Duration: 10:00	Duration: 20:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Describe archiving protocol emphasizing on storage of samples/ specimens. • Describe archiving protocol emphasizing on storage data and records. • Describe the retrieval of samples/ specimens • Describe the retrieval of data and records. • Describe source of error/ interference/ quality of work and initiate corrective action as applicable. • Explain various quality assurance activities which ensure the accuracy of working in a laboratory. • Define the process of sample recollection in case of repeat sample requests. • Explain the process of sample recollection. 	<ul style="list-style-type: none"> • Demonstrate correct method of sample recollection. • Demonstrate the method of retrieval of sample/specimen, records of patient. • Storage of patient data and records
Classroom Aids:	
Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster, AV Aids for Understanding Human Body Structure and Function	
Tools, Equipment and Other Requirements	
sample test request forms	

Module 21: Sensitization on current best practice in laboratory

Mapped to: Bridge Module

Terminal Outcomes:

- Describe the relevant legislation, standards, policies, and procedures, guidelines followed in the laboratory

Duration: 5:00	Duration: 25:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Summarize the reasons for forming a general Describe the good clinical laboratory practices (GCLP) recommended by World Health Organisation (WHO). • Describe the key points of Clinical Lab Standards Institute (CLSI) standard on sample collection. • Describe the good clinical laboratory practices (GCLP) of Indian Council of Medical Research (ICMR). • Describe the laboratory safety guidelines of OSHA (Occupational Safety and Health Administration), U.S. Department of Labor. • Describe the laboratory safety policies and protocols. • Explain the key points of standard ISO 15189 • Explain internal and external quality control documentation. • Discuss the best practices to be followed while carrying out job specific procedures. 	<ul style="list-style-type: none"> • Demonstrate the process of addressing discrepancies between personal values and difficult candidate / recipient situations. • Carry out the best practices during the procedure.
Classroom Aids:	
Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster, AV Aids for Understanding Human Body Structure and Function	
Tools, Equipment and Other Requirements	
Reference guideline charts and WHO, OSHA,(WHO), CLSI,ICMR	

Module 22: Employability Skills

Mapped to DGT/VSQ/N0102: Employability Skills (60 Hours)

Mandatory Duration: 60:00

Location: On-Site

S.No.	Module Name	Key Learning Outcomes	Duration (hours)
1.	Introduction to Employability Skills	<ul style="list-style-type: none"> Discuss the Employability Skills required for jobs in various industries. List different learning and employability related GOI and private portals and their usage. 	1.5
2.	Constitutional values - Citizenship	<ul style="list-style-type: none"> Explain the constitutional values, including civic rights and duties, citizenship, responsibility towards society and personal values and ethics such as honesty, integrity, caring and respecting others that are required to become a responsible citizen. Show how to practice different environmentally sustainable practices. 	1.5
3.	Becoming a Professional in the 21st Century	<ul style="list-style-type: none"> Discuss importance of relevant 21st century skills. Exhibit 21st century skills like Self-Awareness, Behavior Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn etc. in personal or professional life. Describe the benefits of continuous learning. 	2.5
4.	Basic English Skills	<ul style="list-style-type: none"> Show how to use basic English sentences for every day conversation in different contexts, in person and over the telephone. Read and interpret text written in basic English Write a short note/paragraph / letter/e-mail using basic English. 	10
5.	Career Development & Goal Setting	<ul style="list-style-type: none"> Create a career development plan with well-defined short- and long-term goals. 	2
6.	Communication Skills	<ul style="list-style-type: none"> Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette. Explain the importance of active listening for effective communication. Discuss the significance of working collaboratively with others in a team. 	5
7.	Diversity & Inclusion	<ul style="list-style-type: none"> Demonstrate how to behave, communicate, and conduct oneself appropriately with all genders and PwD. Discuss the significance of escalating sexual harassment issues as per POSH act. 	2.5
8.	Financial and Legal Literacy	<ul style="list-style-type: none"> Outline the importance of selecting the right financial institution, product, and service. Demonstrate how to carry out offline and online financial transactions, safely and securely. List the common components of salary and compute 	5
		income, expenditure, taxes, investments etc.	

		<ul style="list-style-type: none"> Discuss the legal rights, laws, and aids. 	
9.	Essential Digital Skills	<ul style="list-style-type: none"> Describe the role of digital technology in today's life. Demonstrate how to operate digital devices and use the associated applications and features, safely and securely. Discuss the significance of displaying responsible online behavior while browsing, using various social media platforms, e-mails, etc., safely and securely. Create sample word documents, excel sheets and presentations using basic features. Utilize virtual collaboration tools to work effectively. 	10
10.	Entrepreneurship	<ul style="list-style-type: none"> Explain the types of entrepreneurship and enterprises. Discuss how to identify opportunities for potential business, sources of funding and associated financial and legal risks with its mitigation plan. Describe the 4Ps of Marketing-Product, Price, Place and Promotion and apply them as per requirement. Create a sample business plan, for the selected business opportunity. 	7
11	Customer Service	<ul style="list-style-type: none"> Describe the significance of analyzing different types and needs of customers. Explain the significance of identifying customer needs and responding to them in a professional manner. Discuss the significance of maintaining hygiene and dressing appropriately. 	5
12	Getting Ready for Apprenticeship & Jobs	<ul style="list-style-type: none"> Create a professional Curriculum Vitae (CV). Use various offline and online job search sources such as employment exchanges, recruitment agencies, and job portals respectively. Discuss the significance of maintaining hygiene and confidence during an interview. Perform a mock interview. List the steps for searching and registering for apprenticeship opportunities. 	8

LIST OF TOOLS & EQUIPMENT FOR EMPLOYABILITY SKILLS

S No.	Name of the Equipment	Quantity
1.	Computer (PC) with latest configurations – and Internet connection with standard operating system and standard word processor and worksheet software (Licensed) (all software should either be latest version or one/two version below)	As required
2.	UPS	As required
3.	Scanner cum Printer	As required
4.	Computer Tables	As required
5.	Computer Chairs	As required
6.	LCD Projector	As required
7.	White Board 1200mm x 900mm	As required

Note: Above Tools & Equipment not required, if Computer LAB is available in the institute.

Mandatory Duration: 270:00

Recommended Duration: 00:00

Module Name: On-the-Job Training

Location: On Site

Terminal Outcomes

- Demonstrate the correct techniques of blood sample collection.
- Demonstrate the correct method of sampling.
- Demonstrate the correct method of using tools and equipments in the laboratory.
- Demonstrate the correct techniques of Sample handling.
- Identify different types of useful equipment for blood sample collection.
- Demonstrate the correct method of sample site preparing.
- Demonstrate the correct method of sputum and semen sample collection.
- Demonstrate the correct techniques of Sample handling.
- Identify different types of useful equipment for blood sample collection.
- Demonstrate the correct method of sample site preparing.
- Demonstrate the correct method of sputum and semen sample collection
- Demonstrate the correct techniques of Sample labelling, packaging and transporting.
- Demonstrate the correct method of assisting the patient after collection of the blood specimen.
- Demonstrate the correct technique of various sample storage.
- Demonstrate the method of stock management.
- Carry out sample storage.
- Perform sample handling.
- Carry out Inventory management.
- Demonstrate venous and arterial blood collection method.
- Demonstrate correct method of sample recollection.
- Demonstrate the method of retrieval of sample/specimen, records of patient.
- Demonstrate the process of addressing discrepancies between personal values and difficult candidate / recipient situations.
- Demonstrate the site visits etiquettes.
- Demonstrate the method to be followed up after site visit
- Demonstrate the correct waste disposal technique at the site.
- Demonstrate the correct sequence of the procedure to be carried out.
- Demonstrate the method of Billing process.
- Demonstrate problem solving and decision-making skills in different situations.
- Demonstrate skills of teamwork and work prioritization in different team activities
- Demonstration of documentation and recording of equipment to hospital staff with data entry as per protocols including reading of instrument/equipment, recording and record maintenance
- Demonstrate handling of biomedical waste from its segregation in different coloured dustbin as per the protocol.
- Demonstrate spillage management with 1% hypochlorite solution.
- Demonstrate donning and doffing off PPE.

Annexure

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
MD/DNB	Pathology/Microbiology/Laboratory Medicine/Biochemistry	1		0		1 year of working experience in Pathology Lab is mandatory
Medical Graduate	MBBS	3		0		2 year of working experience in Pathology Lab is mandatory
Ph.D.	PhD in Medical biochemistry/Medical Microbiology/ Nursing	2		00		1 year of working experience in Pathology lab or Phlebotomy unit is mandatory
M.Sc.	Nursing	3		0		2 year of working experience in Phlebotomy Unit is mandatory
Graduate	M.Sc./B.Sc in Medical biochemistry/ Medical Microbiology/ B.Sc. (Nursing)/ Post Basic Bsc Nursing/ Bsc MLT	5		0		5 year of working experience in Pathology lab or Phlebotomy Unit is mandatory
Diploma	GNM (General Nursing Midwifery/ Medical Laboratory Technician)	7		0		5 year of working experience in Phlebotomy Unit or Pathology lab is mandatory

Trainer Certification	
Domain Certification	Platform Certification
Certified for Job Role: "Phlebotomist" mapped to QP: "HSS/Q0501 v3.0" with minimum score of 80%.	Recommended that the Trainer is certified for the Job Role: "Trainer (VET and Skills)", mapped to the Qualification Pack: "MEP/Q2601, v2.0" with minimum score of 80%.

Assessor Requirements

Trainer Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
MD/DNB	Pathology/Microbiology/Laboratory Medicine/Biochemistry	2		1		2 year of working experience in Pathology Lab is mandatory
Medical Graduate	MBBS	4		1		4 year of working experience in Pathology Lab is mandatory
Ph.D.	PhD in Medical biochemistry/Medical Microbiology/ Nursing	3		1		3 year of working experience in Pathology lab or Phlebotomy unit is mandatory
M.Sc.	Nursing	4		1		4 year of working experience in Phlebotomy Unit is mandatory
Graduate	M.Sc./B.Sc in Medical biochemistry/ Medical Microbiology/ B.Sc. (Nursing)/ Post Basic Bsc Nursing/ Bsc MLT	6		1		6 year of working experience in Pathology lab or Phlebotomy Unit is mandatory
Diploma	GNM (General Nursing Midwifery/ Medical Laboratory Technician)	8		1		8 year of working experience in Phlebotomy Unit or Pathology lab is mandatory

Assessor Certification	
Domain Certification	Platform Certification
Certified for Job Role: "Phlebotomist" mapped to QP: "HSS/Q0501 v3.0" with minimum score of 80%.	Recommended that the Assessor is certified for the Job Role: "Assessor (VET and Skills)", mapped to the Qualification Pack: "MEP/Q2701, v2.0" with minimum score of 80%.

Assessment Strategy

The emphasis is on 'learning-by-doing' and practical demonstration of skills and knowledge based on the performance criteria. Accordingly, assessment criteria for each job role is set and made available in qualification pack.

The assessment papers for both theory and practical would be developed by Subject Matter Experts (SME) hired by Healthcare Sector Skill Council or with the HSSC accredited Assessment Agency as per the assessment criteria mentioned in the Qualification Pack. The assessments papers would also be checked for the various outcome-based parameters such as quality, time taken, precision, tools & equipment requirement etc.

Each NOS in the Qualification Pack (QP) is assigned a relative weightage for assessment based on the criticality of the NOS. Therein each Element/Performance Criteria in the NOS is assigned marks on relative importance, criticality of function and training infrastructure.

The On the Job (OJT) training component, which is a mandatory part of the training, done by the candidate at a healthcare organization has to be appropriately captured as per OJT log book framework. This shall be assessed and would carry the weightage during final assessment done by HSSC as per assessment strategy defined for COVID Frontline Worker (Medical Equipment Support).

The following tools would be used for final assessment:

1. Practical Assessment: This comprises of a creation of mock environment in the skill lab which is equipped with all equipment required for the qualification pack.

Candidate's soft skills, communication, aptitude, safety consciousness, quality consciousness etc. is ascertained by observation and marked in observation checklist. The outcome is measured against the specified dimensions and standards to gauge the level of their skill achievements.

2. Viva/Structured Interview: This tool is used to assess the conceptual understanding and the behavioral aspects with regard to the job role and the specific task at hand. It also includes questions on safety, quality, environment and equipment etc.

3. Written Test: Question paper consisting of 100 MCQs (Hard:40, Medium:30 and Easy: 30) with questions from each element of each NOS. The written assessment paper is comprised of following types of questions:

- i. True / False Statements
- ii. Multiple Choice Questions
- iii. Matching Type Questions.
- iv. Fill in the blanks
- v. Scenario based Questions
- vi. Identification Questions

QA Regarding Assessors:

Assessors are selected as per the "eligibility criteria" laid down by HSSC for assessing each job role. The assessors selected by Assessment Agencies are scrutinized and made to undergo training and

introduction to HSSC Assessment Framework, competency based assessments, assessors guide etc. HSSC conducts “Training of Assessors” program from time to time for each job role and sensitize assessors regarding assessment process and strategy which is outlined on following mandatory parameters:

- 1) Guidance regarding NSQF
- 2) Qualification Pack Structure
- 3) Guidance for the assessor to conduct theory, practical and viva assessments
- 4) Guidance for trainees to be given by assessor before the start of the assessments.
- 5) Guidance on assessments process, practical brief with steps of operations practical observation checklist and mark sheet
- 6) Viva guidance for uniformity and consistency across the batch.
- 7) Mock assessments
- 8) Sample question paper and practical demonstration

References

Glossary

Sector	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
National Occupational Standards (NOS)	NOS are occupational standards which apply uniquely in the Indian context.
Qualifications Pack (QP)	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.

Acronyms and Abbreviations

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
CPR	Cardio Pulmonary Resuscitation