Model Curriculum

Blood Bank Technician

SECTOR: HEALTHCARE

SUB-SECTOR: ALLIED HEALTH & PARAMEDICS

OCCUPATION: Blood Bank Technician

REF ID: HSS/Q2801, VERSION 1.0

NSQF LEVEL: 4

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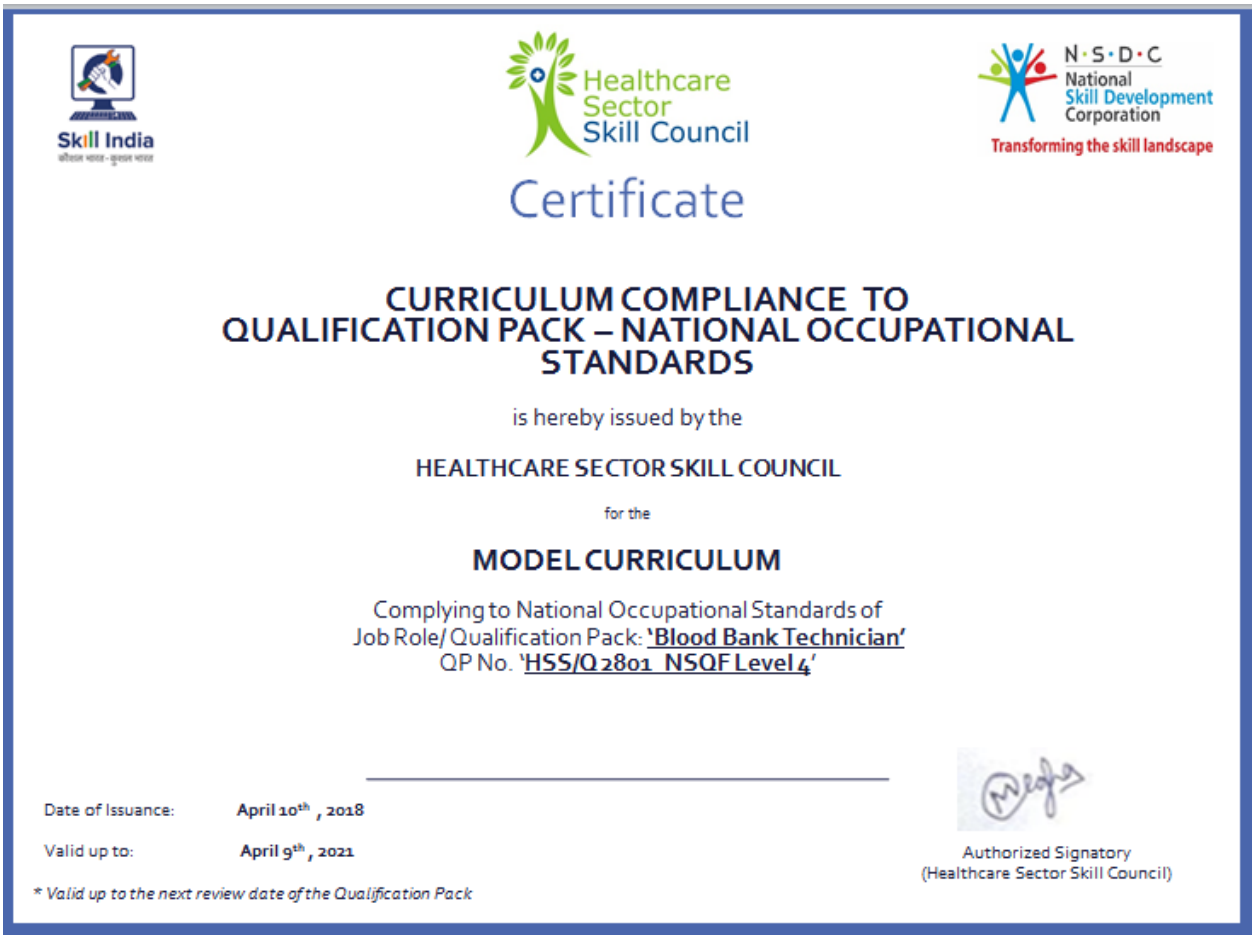

Certificate

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: 'Blood Bank Technician' QP No. 'HSS/Q2801 NSQF Level 4'

Date of Issuance: April 10th , 2018

Valid up to: April 9th , 2021

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

Authorized Signatory (Healthcare Sector Skill Council)

Blood Bank Technician

CURRICULUM / SYLLABUS

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

Program Name	**Blood Bank Technician**		
Qualification Pack Name & Reference ID.	HSS/Q2801, version 1.0		
Version No.	1.0	**Version Update Date**	24/05/2018
Pre-requisites to Training	Class XII in Science Or Level 3 Phlebotomy with experience of minimum three years in the laboratory setup		
Training Outcomes	**After completing this programme, participants will be able to:** • Demonstrate knowledge about the healthcare sector and diagnostic services • Identify his roles & responsibilities different from various other Laboratory personnel. • Test for blood group antigens, compatibility and antibody identification • Investigate abnormalities such as hemolytic diseases of the newborn, hemolytic anemias and adverse reactions to transfusion • Perform blood collection and processing, including selecting donors, collecting blood, typing blood and molecular testing • Perform viral marker testing to ensure patient safety • Check blood for any viral/bacterial infections • Be cautious of transfusion- transmission infections • Follow strict aseptic techniques during execution of the process. • Follow hospital protocals for safety of self and the blood products. • Store donated blood effectively • Check compatibility of blood • Practice infection control measures • 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 blood bank technician • Demonstrate good communication, communicate accurately and appropriately in the role of blood bank technician		

This course encompasses 15 out of 15 National Occupational Standards (NOS) of "Blood Bank Technician" Qualification Pack issued by "Healthcare Sector Skill Council".

S.No	Module	Key Learning Outcomes	Equipment Required
1	**Introduction to Healthcare Systems, Laboratory Services & Blood banks** **Theory Duration** (hh:mm) 03:00 **Practical Duration** (hh:mm) 02:00 **Corresponding NOS Code** Bridge Module	• Develop understanding of healthcare service providers (primary, secondary & tertiary) • Develop understanding of blood bank department in a hospital • Acquaint with the structure of a blood bank collection room, room equipment, their principles and use, emergency exits &c.	Mock blood bank set-up
2.	**Role of the Blood Bank Technician** **Theory Duration** (hh:mm) 04:00 **Practical Duration** (hh:mm) 01:00 **Corresponding NOS Code** Bridge Module	• Identify the various areas of work for a blood bank technician. • Identify himself as a professional and distinguish with other laboratory personnel. • Understand the roles & responsibilities of blood bank technician • Identify laboratory maintenance needs to be taken care by blood bank technician • Maintain & ensure patient comfort and safety • Exhibit ethical behaviour	
3.	**Structure and Function of Human Body** **Theory Duration** (hh:mm) 15:00 **Practical Duration** (hh:mm) 15:00	• Understand basic structure and function of the body system and associated component including ✓ cells, tissue & organ ✓ cardiovascular system ✓ respiratory System ✓ musculoskeletal system ✓ endocrine system ✓ digestive system ✓ urinary system ✓ reproductive system ✓ integumentary system ✓ lymphatic system ✓ nervous system including sensory system-	Anatomical structures of human body, chart and poster and demonstrative equipments

S.No	Module	Key Learning Outcomes	Equipment Required
	Corresponding NOS Code Bridge Module	Eye & ears ✓ special senses – smell, taste, visual and equilibrium & Hearing ✓ immune system • Understand process, condition & resources required by the body to support healthy functioning ✓ body regulation including maintenance of body temperature, fluid & electrolyte balance, elimination of body wastes, maintenance of blood pressure ✓ protection form infection ✓ active & Passive physical activities	
4	**Sensitization to Biochemistry and Clinical Biochemistry** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 5:00 **Corresponding NOS Code** HSS/ N2802, HSS/ N 2805, HSS/ N 2807	• Acquire elementary knowledge of inorganic, organic, physical and analytical chemistry • Acquire elementary knowledge of Carbohydrates, lipids, proteins, enzymes, hormones, minerals and electrolytes.	Microscope; Stopwatch; Spirit Lamp; Glass Slides, coverslips, sample AV Aids
5	**Sensitization to Haematology and Clinical Pathology** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 05:00 **Corresponding NOS Code** HSS/ N2802, HSS/ N 2805, HSS/ N 2807	• Understand the basic concepts of hematology. • Identify different type of anti-coagulants • Understand the complete structure and components of a hemogram. • Analyse different methods of hemoglobin screening. • Understand blood and collection of blood sample in detail • Understand blood components in detail • Understand Haemostasis & Coagulation Mechanism and testing in detail • Understand elementary concepts of examination of body fluids like urine, sputum, semen, etc.	Use of E-modules from internet to learn sample and cells for blood, sputum, semen, other body fluids, Slides, microscope, needles, gauge etc

S.No	Module	Key Learning Outcomes	Equipment Required
6	**Basic Sensitization to Parasitology, Mycology, Bacteriology and Virology** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 10:00 **Corresponding NOS Code** HSS/ N2802, HSS/ N 2805, HSS/ N 2807	• Describe the basic concepts of microbiology & microscopy. • Understand common methods of sterilization & disinfections • Acquaint with the various groups and classes of bacteria. • Acquire the basic knowledge of various concepts of parasitology, mycology, bacteriology and virology. • Acquire the basic knowledge of staining techniques. • Understand the concept of bacteriological media, pure cultures and cultural chracteristics, bacteria of medical importance. • Acquire knowledge about various transfusions related infections like, HIV, HCV, Syphilis, Hepatitis, etc. • Acquire knowledge about various diagnostic tests like ELISA and other tests for transfusion related to infections.	Learn through E modules, microscope, slides, cover slip, gram-stain, fixed sample slides or cultures.
7	**Introduction to Blood Bank related Medical Terminology** **Theory Duration** (hh:mm) 05:00 **Practical Duration** (hh:mm) 05:00 **Corresponding NOS Code** Bridge Module	• Understand various terminologies related to blood bank, blood transfusion, fluid borne disorders like, Acidosis, Acute hemolytic transfusion reaction, Agranulocytes, Albumin, Alkaline Phosphatase, Allogeneic or Allogeneic Blood, Anticoagulant, Antiserum, Anisocytosis, Autologous Blood, Blood Cells, Bone marrow, Codominance, Creatinine etc. • Understand, identify and use the various instruments and reagents used in the blood bank.	Flip charts of basic and important terminologies
8	**Bio Medical Waste Management** **Theory Duration** (hh:mm) 05:00	• Acquire understanding of importance of proper and safe disposal of bio-medical waste & treatment • Acquire understanding of categories of bio-medical waste • Demonstrate best practices about disposal of bio-medical waste – colour coding,	Different coded color bins, different variety of bio medical waste management, Visit to treatment plan of bio medical waste etc, puncture proof containers

S.No	Module	Key Learning Outcomes	Equipment Required
	Practical Duration (hh:mm) 05:00 **Corresponding NOS Code** HSS/N 9609	types of containers, transportation of waste, etc. • Follow standards for bio-medical waste disposal • Acquire understanding of means of bio-medical waste treatment • Support the role of an infection control team	
9	**Infection control and prevention** **Theory Duration** (hh:mm) 05:00 **Practical Duration** (hh:mm) 10:00 **Corresponding NOS Code** HSS/N 9610	• Identify deviation from normal health • Explain Hospital borne infections • Explain practices to curb the disease • Ensure that standard precautions for infection prevention and control and other relevant health and safety measures are taken	Hand sanitizers, PPE, Hand washing technique charts, steriliser, disinfectants, policies and procedures for infection control
10	**Personnel Hygiene** **Theory Duration** (hh:mm) 03:00 **Practical Duration** (hh:mm) 02:00 **Corresponding NOS Code** HSS/N 9606, HSS/N 9610	• Acquire understanding of the concept of healthy living • Demonstrate procedures of hand hygiene • Develop techniques of grooming • Equip oneself with techniques of use of PPE • Vaccinate oneself against common infectious diseases • Maintain peaceful environment • Learn general and specific etiquettes to be observed on duty • Describe the importance of conservation of resources in medical facility	PPE, vaccination kits, hand hygiene measures
11	**Safety & First Aid** **Theory Duration**	• Describe basics of first aid • Develop understanding and precautions to ensure self safety	PPE, First Aid kit, betadine, cotton, bandages, sanitizers, disinfectants etc.

S.No	Module	Key Learning Outcomes	Equipment Required
	(hh:mm) 05:00 **Practical Duration** (hh:mm) 05:00 **Corresponding NOS Code** HSS/N 9606, HSS/N 9610	• Describe common emergency conditions and what to do in medical emergencies	
12	**Soft Skills and Communications** **Theory Duration** (hh:mm) 15:00 **Practical Duration** (hh:mm) 15:00 **Corresponding NOS Code** HSS/N 9603, HSS/N 9604, HSS/N 9605, HSS/N 9607	• Understand art of effective communication • Ensure effective communication with patients & family • Ensure 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 problem solving • Understand need for customer service and service excellence in medical service • Understand work ethics in hospital set up • Learn goal setting, team building, team work, time management, thinking and reasoning & communicating with others • 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 analyze, evaluate and apply the information gathered from observation, experience, reasoning, or communication to act efficiently • Learn planning and organization of work • Learn identification of rapidly changing situations and adapt accordingly	Case- studies samples, instructional videos

S.No	Module	Key Learning Outcomes	Equipment Required
		• Learn decision making ability • Establish trust and rapport with colleagues • Maintain competence within one's role and field of practice • Promote and demonstrate good practice as an individual and as a team member at all times	
13	**Sensitization to Immunology, Serology and Blood Banking** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 10:00 **Corresponding NOS Code** HSS/N 2802, HSS/N 2805, HSS/N 2807	• Acquire broad understanding about immunology and serology • Understand immuno- hematology in detail • Understand concept of blood banking- screening and selection of donor. • Acquaint with cardinal rules of blood grouping ABO, RH and other system of grouping, subgroup A, Bombay blood group and their antibodies. • Understand the concept of antibodies to ABO system, Anti 'AB' and Anti 'H' antibody. • 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 • Select blood bags for component preparation and prepare red cell concentrate, fresh frozen plasma, platelet concentrate etc. • Transport and store blood components • Practise effective inventory management • Understand different aspects of working in blood bank.	Use of E-modules from internet to learn blood groups, Slides, microscope, needles, gauge etc
14	**Vital parameters & Testing** **Theory Duration** (hh:mm)	• Explain the importance of the measurement of vital signs during the process of blood donation. • Measure the heart rate, respiratory rate, breathing rate, blood pressure and body	Pulse oximeter, BP apparatus (digital/manual), stethoscope, thermometer (digital/manual), timer, performa, charts, Hemocue/Hemoglobinometer

S.No	Module	Key Learning Outcomes	Equipment Required
	05:00 **Practical Duration** (hh:mm) 15:00 **Corresponding NOS Code** HSS/N 2801	temperature and/or other vital parameters as appropriate. • Recognise the level of vital parameters under which blood donation could be performed • Ensure that the Hb and blood pressure is at required levels • Record the baseline vital signs of the patient during the process of blood donation. • Identify and manage potential and actual risks to the safety of the potential donor • Accurately document the collected vital parameters in a timely manner • Accurately communicate the assessment regarding the suitability of the individual to • Identify and report any signs of abnormality • Check vital signs of the donor at periodic intervals when blood donation is taking place • Ensure proper comfort to the donor while measurement and reduce apprehension of the donor. • Understand the importance of proper identification of the potential donor • Analyze the risks to quality and safety because of lack of knowledge of the vital parameters • Interpret and perform risk management procedures	
15	**Screening of Blood Donor: History Taking** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 20:00	• Acquaint with the format of the taking history of the patient. • Establish trust and rapport with the patient while history taking. • Obtain blood donor's personal detail to select a suitable donor whose blood will be safe for a recipient such as name, father's name, age, address, telephone no., etc. and the questionnaire to access their present and past health status. • Ascertain the patient's age for blood	Format of case taking; checklist for acceptability and rejection of potential donor; e-modules, case studies, Donor card with questionnaire forms

S.No	Module	Key Learning Outcomes	Equipment Required
	Corresponding NOS Code HSS/N 2802	donation. Ensure that the lower age limit of blood donation is 18 years and upper age limit is 60-70 years. • Interview the potential blood donors and collect relevant information about their medical history such as, whether the individual ever had heart, lung, blood diseases or any other medical conditions, pregnancy etc.; previous blood donation done and any history of allergy or vertigo • Obtain the medical history esp. history of any previous blood donation, tattoo, needle stick injury etc. • Check blood donor's hemoglobin level to ensure that he/she is not suffering from anemia and can safely donate a unit of blood. • Ascertain the medical history and record Donor's weight, blood pressure, pulse and temperature before accepting them as blood donor. • Report if any abnormality is seen in the donor • Determine whether the individual can safely donate blood without experiencing any negative health effect • Accurately document the collected medical history of the potential donor in a timely manner • Accurately communicate whether the individual is suitable to donate blood • Defer or reject donor based on the current vitals and medical history example if the donor has taken some unacceptable medicines, vaccinations, or has suffered from some diseases like Hepatitis / jaundice, Heart Disease / surgery, Kidney, liver, lung disease, Abnormal bleeding tendencies, I V Drug use, Cancer, AIDS, or persons involved in high-risk activities or groups etc. • Understand the prescribed conditions under which blood could be donated by an individual	

S.No	Module	Key Learning Outcomes	Equipment Required
16	**Pre-analytical Laboratory Testing Process** **Theory Duration** (hh:mm) 30:00 **Practical Duration** (hh:mm) 40:00 **Corresponding NOS Code** HSS/N 2803, HSS/N 2804, HSS/N 2805	• Follow proper identification procedure of blood donor • Make necessary entries in the donors register, select appropriate bag, inspect bag for any defects and discoloration, and apply pressure to check for any leaks. • Inspect the anticoagulant and additive solution for appropriate volume, color and particulate contaminates, enter back tube no. in the donor register. • Prepare bag level with donor identity, unit no., blood group, date of bleeding on the bag. • Withdraw blood with the help of a sterile and disposable kit after cleaning blood donors arm with an antiseptic solution. • Strip the donor tubing completely as possible in to the bag, starting at seal. • Work quickly to prevent blood from clotting in the tube. • Invert bag several time to mix thoroughly, and then allow tube to refill with anticoagulated blood from the bag. • Apply pressure with sterile gauze over the point of entry of the needle, apply bandage after bleeding stops. • Keep the donor under observation for some time. • Talk with the donor, divert his attention and keep the donor comfortable in cool and friendly environment • Allow donor to sit after donation. • Monitor the donors' condition and behaviour for any sign of adverse reaction event • Identify any sign of occurrence of an adverse event like sweating, low blood pressure, pallor or feeling faint etc. during the blood donation procedure • Identify development of a haematoma under the skin at the injection site • Respond to any signs of adverse reaction of the donor and take appropriate action,	Blood mixer machine, Tube sealer, Refrigerated/Insulated boxes to carry blood bags, Arm rest, hand sponges, Linen, mattresses, pillows, Artery forceps, scissors, tongue depressor, kidney trays, etc., Needle cutter, Oxygen cylinder, Infusion stand, Bins for collecting infectious and non-infectious waste materials, Single/Double/Triple blood bags - 350/450 mL capacity, Test tubes - large and small, $CuSO_4$ solution, Disposables lancets, Cotton swabs, Band-Aids, Antiseptic solution, Antisera (optional), Glass slides, glass beakers, Pasteur pipettes, Sodium hypochlorite solutions, Emergency medicines, Markers, donor identification stickers, Anticoagulant solution, Dry ice or coolant

S.No	Module	Key Learning Outcomes	Equipment Required
		which may require to halt the procedure • Effectively report the sign of occurrence of an adverse event to the appropriate member of the team, in a timely manner • Identify need of re-adjustment of the needle in situation of change in flow of blood • Identify any problem in the blood collection procedure, like problem with the blood collection packs or harnesses , and take required action immediately • Record all relevant information clearly and appropriately • Be aware of serious complication of blood donation like syncope and keep necessary kits ready for resuscitation. • Call the medical officer-in-charge of the blood collection team when reaction occurs to a donor, but ensuring the prevention of the donor from falling down and without upsetting the other donors. • Place the donor on the bed or floor with a pillow under the feet to subside minor reactions. • Fold the arm with a cotton wool pad in between and raise the folded hand a little upward to stop bleeding from the seal of venipuncture • Re-seal the venipuncture site, once the bleeding stops. • Segregate all the discarded blood bag tubing and needles separately for disposal as per bio-safety protocols and waste management. • Ensure the bio-medical waste never be left unattended. • Destroy the needles, lancet and syringes with the needle cutter. • Clean the entire area with a disinfectant-sodium hypochlorite (working area and phenyl or bleaching powder- floor) after the camp is over. • After donation, allow donor to sit in the refreshment area under observation and	

S.No	Module	Key Learning Outcomes	Equipment Required
		served with some light refreshments. • Advise donors to increase their water consumption during the day and refrain from smoking for half an hour. • Ensure timely implementation of appropriate procedures to collect blood • Ensure handling of blood in correct and safe manner • Follow correct procedure of collected blood transportation	
17	**Basic Sensitization on Analytical Laboratory Testing Process** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 10:00 **Corresponding NOS Code** HSS/ N 2805	• Develop broad understanding about laboratory operations • Ensure care of laboratory glassware, equipment and instruments • Ensure handling of collected blood in safe and efficient manner • Equip yourself with techniques of disinfection & sterilization of rubber goods, laboratory equipment & other instruments • Ensure setting up, calibrating, operating, cleaning, maintaining, troubleshooting and validation of laboratory equipment used in quantitative or qualitative analysis. • Acquaint yourself with chemicals/reagents useful in sample analysis • Gain broad understanding of maintaining record of inventory, test results, etc. • Able to inspect the availability of medical supplies or diagnostic kits • Develop understanding about laboratory safety	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; Bio hazard bags for Waste Disposal / Blue sharps container for waste disposal; Registers for documentation; Reagents for Chemical tests; Semiautomated analyzer - Micros - 3 part differential
18	**Screening of Donated blood: Basic & advanced serological techniques** **Theory Duration** (hh:mm) 15:00	• Understand the cruciality of screening of donated blood. • Acquire knowledge of basic serological techniques • Acquire knowledge of advanced serological techniques • Test the blood donation for ABO (blood type), Rh groups (i.e. positive or negative) and red cell antibodies	Blotting paper for BT; Capillary tube for CT; Westergren tubes & sodium citrate reagent; Sahli's Hemoglobinometer; Simple Balance

S.No	Module	Key Learning Outcomes	Equipment Required
	Practical Duration (hh:mm) 25:00 **Corresponding NOS Code** HSS/N 2805	• Screen the blood donation for any infectious disease, like HIV, Hepatitis B, Hepatitis C, syphilis, Malaria, Dengue etc. • Record and report results of screening clearly and accurately, as per the guidelines • Ensure timely implementation of appropriate procedures • Ensure that standard precautions for infection prevention and control and other relevant health and safety measures are taken • Acquire preliminary information of Coomb's Test, its procedure, sources of error, control and its clinical application	
19	**Advanced Techniques of blood donation** **Theory Duration** (hh:mm) 15:00 **Practical Duration** (hh:mm) 15:00 **Corresponding NOS Code** HSS/N 2803	• Understand the foundation of blood donation technique. • Acquire brief information on the conventional or old methods of blood donation techniques. • Identify different advanced methodologies of blood donation like additional donor testing like typing other Rh antigen (C, E, c and e) and K, as well as testing for hemoglobin S. • Understand other red cell antigens	Instructional videos, cold chain equipments
20	**Blood Bank administration** **Theory Duration** (hh:mm) 05:00 **Practical Duration** (hh:mm) 15:00 **Corresponding NOS Code**	• Acquaint with the infrastructure of the blood bank • Manage the equipment and supplies required in the blood bank • Follow protocols for rejection, acceptance and retrieval of donated blood and its necessary documents • Perform emergency duty on notional basis • Assist the blood bank supervisor in his work • Manage the blood collection room equipment, their principles and use.	Mock blood bank set-up

S.No	Module	Key Learning Outcomes	Equipment Required
	HSS/N 2806		
21	**Observing, Reporting & Documentation during blood donation** **Theory Duration** (hh:mm) 05:00 **Practical Duration** (hh:mm) 05:00 **Corresponding NOS Code** HSS/N 2806	• Efficiently handle the blood donations and perform relevant documentations • Identify any defect with the blood packs, like damaged pack, pack not sealed properly etc. • Record and report the defect identified with the blood pack to the concerned authority • Clearly and accurately document all the relevant information • Properly label the blood donations • Safely handle and store the blood donations	Sample formats and blood packs
22	**Professional Behavior in Healthcare Setting** **Theory Duration** (hh:mm) 03:00 **Practical Duration** (hh:mm) 02:00 **Corresponding NOS Code** HSS/N 9603, HSS/N 9607	• Learn to maintain restful environment • Learn the 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	Case studies
23	**Patient's Rights & Responsibilities** **Theory Duration** (hh:mm) 03:00 **Practical Duration** (hh:mm) 02:00	• Understand sensitivities involved in patient's right • Learn blood bank technician's role in maintaining patient's rights	

S.No	Module	Key Learning Outcomes	Equipment Required
	Corresponding NOS Code HSS/N 9605		
24	**Patient's Environment in Hospital, Blood bank & Camps** **Theory Duration** (hh:mm) 04:00 **Practical Duration** (hh:mm) 06:00 **Corresponding NOS Code** HSS/N 9606	• Describe things necessary to make the patient feel safe and comfortable while blood collection • Describe impact of comfort on patients health • Describe importance and methodology of cleanliness, and hygiene environment in collection space • Monitor donor recruitment and retention. • Encourage the technique for conversion of first time donors into regular voluntary donors in camps.	E-modules, mock environment
25	**Blood Donations in Camps** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 20:00 **Corresponding NOS Code** HSS/N 2801, HSS/N , HSS/N 2802, HSS/N 2803, HSS/N 2804 , HSS/N 2806, HSS/ N 9610	• Ensure effective infection free blood banking • Encourage recruitment and retention of blood donors in the community • Arrange venue with a facility of water, electricity and a toilet for organizing blood donation camp. • Estimate the requirement of blood units of blood bank for a particular period. • Based on the availability of blood units in their stock, determine the number of blood units required by them through camps. • Take a prior permission for organizing camp from the state blood transfusion council (SBTC), if required. • Arrange a talk on the importance of voluntary blood donation to the potential donors few days before the camp. • Assist the hospital administrators for media coverage and sponsorship for adequate coverage and support to the camp. • Document all relevant correspondence for	Sphygmomanometer, Stethoscope, Blood mixer machine, Tube sealer, Weighing machine, Hemocue/Hemoglobinometer, Refrigerated/Insulated boxes to carry blood bags, Arm rest, hand sponges, Linen, mattresses, pillows, Artery forceps, scissors, tongue depressor, kidney trays, etc., Needle cutter, Oxygen cylinder, Infusion stand, Bins for collecting infectious and non-infectious waste materials, Single/Double/Triple blood bags - 350/450 mL capacity, Test tubes - large and small, Donor card with questionnaire forms, $CuSO_4$ solution, Disposables lancets, Cotton swabs, Band-Aids, Antiseptic solution, Antisera (optional), Glass slides, glass beakers, Pasteur pipettes, Sodium hypochlorite solutions,

S.No	Module	Key Learning Outcomes	Equipment Required
		future reference. • Supervise the venue for adequate facilities like space, furniture, heaters/coolers and other equipment. • Inspect pre-donation, donation and post-donation areas as per standards. • Liaise with the organizer and voluntary donor organization. • Display IEC materials and banners everywhere. • Assist in planning and organizing camps. • Ensure proper screening, blood collection and blood donor handling in camp as per protocol • Encourage donor to donate again after three months to inspire a donor to become a regular donor. • Handle the problems faced by donor in camp with tender, love, care and compassion. • Store the blood bag as per instructions, at correct temperatures. • Send Blood donors thanks giving letters and blood group identity certificate, reports of all mandatory tests like malaria, HIV, HbsAg, HCV and syphilis, if necessary. • Stay in constant touch with blood donors.	Emergency medicines, Markers, donor identification stickers, Anticoagulant solution, Dry ice or coolant, Donor card, certificates and donor pins, sample Banners/pamphlets/IEC materials for blood donation camp
26	**Basic Sensitization on Transfusion Medicine practices** **Theory Duration** (hh:mm) 10:00 **Practical Duration** (hh:mm) 10:00 **Corresponding NOS Code** HSS/N 2807	• Understand the conditions when blood transfusion is required • Identify the blood requirements of a patient, and the minimum information required to correctly identify the blood product • Immediately respond to the demand of a blood for transfusion • Ensure timely collection of correct blood product from the storage area • Check and verify the details of the blood with the patient requirements before issuing out the blood • Clearly and accurately document all the	Sample Requisite form for blood transfusion, mock storage area, label, blood bag

S.No	Module	Key Learning Outcomes	Equipment Required
		relevant information • Safely handle the blood products • Assist in patient monitoring during blood transfusion, if required • Understand the judicious use of blood	
27	**Compatibility check** **Theory Duration** (hh:mm) 20:00 **Practical Duration** (hh:mm) 30:00 **Corresponding NOS Code** HSS/N 2807	• Explain the importance of Compatibility check • Apply correct labelling techniques • Understand the cruciality of time in arranging blood. • Understand the basics & reasons of cross matching. • Do cross-matching of donor's RBCs with recepient's plasma either by serological or electronic methods as per standards & protocols in case of sufficient time. • Select compatible units for transfusion as per standards and protocols taking into consideration of recepient's condition and age in absence of ample time • Obtain a sample for compatibility testing as soon as clinical circumstances permit in case of issuance of non-crossmatched blood. • Switch to appropriate group-specific crossmatched blood as soon as possible, if required. • Treat all blood products as suspects of infectious diseases • Practice universal precautions • Double check the patient requirement with the labels on the blood bag before issuing.	Equipment and reagents used for cross-matching, label, blood bag
28	**Observing, Reporting & Documentation during blood issuing** **Theory Duration** (hh:mm) 05:00 **Practical Duration**	• 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	Formats and samples for documentation, Labels, blood bag

S.No	Module	Key Learning Outcomes	Equipment Required
	(hh:mm) 05:00 **Corresponding NOS Code** HSS/N 2807	informing the person in authority • Identify patient correctly • Determine the placement of correct label on the blood bag.	
29	**Sensitization on current best practices in blood banks** **Theory Duration** (hh:mm) 05:00 **Practical Duration** (hh:mm) 05:00 **Corresponding NOS Code** HSS/N 9611	• Understand the prospective techniques of blood banking • Understand the prospective technique of molecular techniques available for blood group testing. • Acquaint with the prospective techniques of cross matching.	Samples of updated guideline
30	**Quality Systems & Process Control** **Theory Duration** (hh:mm) 05:00 **Practical Duration** (hh:mm) 05:00 **Corresponding NOS Code** HSS/N 9611	• Understand the significance of quality, perception & its dimension • Understand the components of quality system • Enumerate the stages & elements quality system • Understand the process of quality system • Understand the significance of attending CME's for technician • Develop a broad understanding regarding 1) Hospital Information System 2) Quality Improvement Plan 3) Total Quality Management • Differentiate between quality control and assurance • Understand the factors which influences quality of care	Samples of updated guidelines
31.	**Basic Computer Knowledge** **Theory Duration**	• Gain broad understanding about Application of computers in laboratory Practice • Discuss about application of computers	

S.No	Module	Key Learning Outcomes	Equipment Required
	(hh:mm) 05:00 **Practical Duration** (hh:mm) 15:00 **Corresponding NOS Code** HSS/N 2806, HSS/N 2807	• Discuss the introduction to Computers • Discuss the foundation concept of operating systems • Describe the need of Operating systems (OS) • Explain the functions of OS • Describe the updated versions of Windows like 2008 or 2010 – Utilities and basic operations • Discuss the updated versions of Microsoft office like 2010, 2013 or 2016. • Describe the basic concepts of computer Hardware & Software • Explain the commonly used hospital softwares	
	Total Duration **Theory Duration (hh:mm)** **265:00** **Practical Duration (hh:mm)** **335:00** **OJT Duration (hh:mm)** **400:00**	**Class Room equipped with following arrangements:** Interactive lectures & Discussion, Brain Storming, Charts & Models, Activity, Video presentation, andVisit to Blood Bank. Sphygmomanometer, Stethoscope, Blood mixer machine, Tube sealer, Weighing machine, Hemocue/Hemoglobinometer, Refrigerated/Insulated boxes to carry blood bags, Arm rest, hand sponges, Linen, mattresses, pillows, Artery forceps, scissors, tongue depressor, kidney trays, etc., Needle cutter, Oxygen cylinder, Infusion stand, Bins for collecting infectious and non-infectious waste materials, Single/Double/Triple blood bags - 350/450 mL capacity, Test tubes - large and small, Donor card with questionnaire forms, $CuSO_4$ solution, Disposables lancets, Cotton swabs, Band-Aids, Antiseptic solution, Antisera (optional), Glass slides, glass beakers, Pasteur pipettes, Sodium hypochlorite solutions, Emergency medicines, Markers, donor identification stickers, Anticoagulant solution, Dry ice or coolant, Donor card, certificates and donor pins, sample Banners/pamphlets/IEC materials for blood donation camp, 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; Bio hazard bags for Waste Disposal / Blue sharps container for waste disposal; Registers for documentation; Reagents for Chemical tests; Semiautomated analyzer - Micros - 3 part differential, Blotting paper for BT; Capillary tube for CT; Westergren tubes & sodium citrate reagent; Sahli's Hemoglobinometer; Simple Balance, Charts, flip-charts and instructional videos.	

Grand Total Course Duration: 1000:00 Hours (Theory Duration: 265:00+ Practical Duration: 335:00+ 400 Hours of Mandatory OJT)

- **Mandatory 400 Hours of OJT/Internship/Clinical or Laboratory Training)**

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

Trainer Prerequisites for Job role: "Blood Bank Technician" mapped to Qualification Pack: "HSS/Q2801, 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/Q2801".
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**	• B.Sc. MLT with 3 years of experience in Blood Banking • Medical Graduate with Post graduate degree in Pathology with experience in Blood Banking
4a	**Domain Certification**	Certified for Job Role: "Blood Bank Technician" mapped to QP: "HSS/Q2801"version 1.0. Minimum accepted score is 80%.
4b	**Platform Certification**	Recommended that the Trainer is certified for the Job Role: "Trainer", mapped to the Qualification Pack: "MEP/Q0102". Minimum accepted score is 80%.
5	**Experience**	• B.Sc. MLT with 3 years of experience in Blood Banking

Annexure: Assessment Criteria

Assessment Criteria for Blood Bank Technician	
Job Role	Blood Bank Technician
Qualification Pack Code	HSS/Q 2801, 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

Grand Total-1 (Subject Domain)	**400**
Grand Total-2 (Soft Skills and Comunication)	**100**
Grand Total-(Skills Practical and Viva)	**500**
Passing Marks (80% of Max. Marks)	**400**

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**
Overall Result	**Criterion is 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 totalling 400			
National Occupational Standards (NOS)	Performance Criteria (PC)	Total Marks (400)	Out Of	Marks Allocation	
				Viva	Skills Practical
1.HSS/ N 2801: Assist nurse in checking vital parameters	PC1. Take measurements of pulse, blood pressure, and body temperature and/or other vital parameters, as appropriate	200	30	10	20
	PC2. Recognise the level of vital parameters under which blood donation could be performed		30	10	20
	PC3. Identify and manage potential and actual risks to the safety of the potential donor		30	10	20
	PC4. Accurately document the collected vital parameters in a timely manner		30	10	20
	PC5. Accurately communicate the assessment regarding the suitability of the individual to donate blood		30	10	20
	PC6. Establish trust and rapport with colleagues		10	5	5
	PC7. Maintain competence within one's role and field of practice		10	5	5
	PC8. Promote and demonstrate good practice as an individual and as a team member at all times		10	5	5
	PC9. Identify and manage potential and actual risks to the quality and safety of		10	5	5

	work				
	PC10. Evaluate and reflect on the quality of one's work and make continuing improvements		10	5	5
	Total		200	75	125
2.HSS/ N 2802: Collect blood donor's medical history and screen donors	PC1. Interview the potential blood donors and collect relevant information about their medical history	200	30	10	20
	PC2. Determine whether the individual can safely donate blood without experiencing any negative health effect		30	10	20
	PC3. Accurately document the collected medical history of the potential donor in a timely manner		30	10	20
	PC4. Accurately communicate whether the individual is suitable to donate blood		30	10	20
	PC5. Establish trust and rapport with colleagues		10	5	5
	PC6. Defer or reject donor based on the current vitals and medical history example if the donor has taken some unacceptable medicines, vaccinations, or has suffered from some diseases		30	10	20
	PC7. Maintain competence within one's role and field of practice		10	5	5
	PC8. Promote and demonstrate good practice as an individual and as a team member at all times		10	5	5
	PC9. Identify and manage potential and actual risks to the quality and safety of work		10	5	5
	PC10. Evaluate and reflect on the quality of one's work and make continuing improvements		10	5	5
	Total		200	75	125
3.HSS/ N 2803: Draw Blood from Donor	PC1. Select equipment and supplies needed to collect blood by venipuncture procedure	200	15	5	10
	PC2. Understand the importance of antiseptics and disinfectants to maintain safety		15	5	10
	PC3. Efficiently perform procedures to locate veins to puncture		20	5	15
	PC4. Identify types of additives used in blood collection		15	5	10

	PC5. Identify anatomical site to perform venepuncture		20	5	15
	PC6. Prepare the anatomical site and clean the site to perform venepuncture		20	5	15
	PC7. Perform venepuncture procedure as per the guidelines		20	5	15
	PC8. Ensure timely implementation of appropriate procedures to collect blood		15	5	10
	PC9. Ensure that standard precautions for infection prevention and control, and other relevant health and safety measures are taken		15	5	10
	PC10. Recognise the boundary of one's role and responsibility		5	2	3
	PC11. Seek supervision from superior when situations are beyond one's competence and authority		15	5	10
	PC12. Establish trust and rapport with colleagues		5	2	3
	PC13. Maintain competence within one's role and field of practice		5	2	3
	PC14. Promote and demonstrate good practice as an individual and as a team member at all times		5	2	3
	PC15. Identify and manage potential and actual risks to the quality and safety of practice		5	2	3
	PC16. Evaluate and reflect on the quality of one's work and make continuing improvements		5	2	3
	Total		200	62	138
4.HSS/ N 2804 Monitor donor during the donation procedure	PC1. Monitor the donors' condition and behaviour for any sign of adverse reaction event	200	15	5	10
	PC2. Identify any sign of occurrence of an adverse event during the blood donation procedure		20	5	15
	PC3. Respond to any signs of adverse reaction of the donor and take appropriate action, which may require to halt the procedure		20	5	15
	PC4. Effectively report the sign of occurrence of an adverse event to the appropriate member of the team, in a timely manner		15	5	10
	PC5. Identify need of re-adjustment of the needle in situation of change in flow of blood		20	5	15

	PC6. Identify any problem in the blood collection procedure, like problem with the blood collection packs or harnesses, and take required action immediately		20	5	15
	PC7. Record all relevant information clearly and appropriately		15	5	10
	PC8. Ensure timely implementation of appropriate procedures to collect blood		15	5	10
	PC9. Ensure that standard precautions for infection prevention and control and other relevant health and safety measures are taken		15	5	10
	PC10. Recognise the boundary of one's role and responsibility		5	2	3
	PC11. Seek supervision from superior when situations are beyond one's competence and authority		15	5	10
	PC12. Establish trust and rapport with colleagues		5	2	3
	PC13. Maintain competence within one's role and field of practice		5	2	3
	PC14. Promote and demonstrate good practice as an individual and as a team member at all times		5	2	3
	PC15. Identify and manage potential and actual risks to the quality and safety of practice		5	2	3
	PC16. Evaluate and reflect on the quality of one's work and make continuing improvements		5	2	3
	Total		200	62	138
5.HSS/ N 2805 Screen donated blood for presence of any infection	PC1. Test the blood donation for ABO (blood type), Rh groups (i.e. positive or negative) and red cell antibodies	200	40	10	30
	PC2. Screen the blood donation for any infectious disease, like HIV, Hepatitis B,Hepatitis C, syphilis, Malaria, Dengue etc.		40	10	30
	PC3. Record and report results of screening clearly and accurately, as per the guidelines		30	10	20
	PC4. Ensure timely implementation of appropriate procedures		20	10	10
	PC5. Ensure that standard precautions for infection prevention and control and other relevant health and safety measures are taken		20	10	10

	PC6. Establish trust and rapport with colleagues		10	5	5
	PC7. Maintain competence within one's role and field of practice		10	5	5
	PC8. Promote and demonstrate good practice as an individual and as a team member at all times		10	5	5
	PC9. Identify and manage potential and actual risks to the quality and safety of practice		10	5	5
	PC10. Evaluate and reflect on the quality of one's work and make continuing improvements		10	5	5
	Total		200	75	125
6.HSS/ N 2806 Document, Label and Store Blood Donations	PC1. Efficiently handle the blood donations and perform relevant documentations	200	30	10	20
	PC2. Identify any defect with the blood packs, like damaged pack, pack not sealed properly etc.		30	10	20
	PC3. Record and report the defect identified with the blood pack to the concerned authority		30	10	20
	PC4. Clearly and accurately document all the relevant information		20	5	15
	PC5. Properly label the blood donations		20	5	15
	PC6. Safely handle and store the blood donations		20	5	15
	PC7. Assist in ensuring timely implementation of appropriate procedures		20	5	15
	PC8. Establish trust and rapport with colleagues		5	2	3
	PC9. Maintain competence within one's role and field of practice		5	2	3
	PC10. Ensure that standard precautions for infection prevention and control and other relevant health and safety measures are taken		5	2	3
	PC11. Promote and demonstrate good practice as an individual and as a team member at all times		5	2	3
	PC12. Identify and manage potential and actual risks to the quality and safety of practice		5	2	3
	PC13. Evaluate and reflect on the quality of one's work and make continuing improvements		5	2	3

	Total		200	62	138
7.HSS/ N 2807: Check Compatibility of Blood	PC1. Identify the blood requirements of a patient, and the minimum information required to correctly identify the blood product	200	30	10	20
	PC2. Immediately respond to the demand of a blood for transfusion		30	10	20
	PC3. Ensure timely collection of correct blood product from the storage area		30	10	20
	PC4. Check and verify the details of the blood with the patient requirements before issuing out the blood		30	10	20
	PC5. Clearly and accurately document all the relevant information		20	5	15
	PC6. Safely handle the blood products		20	5	15
	PC7. Ensure that standard precautions for infection prevention and control and other relevant health and safety measures are taken		15	5	10
	PC8. Establish trust and rapport with colleagues		5	2	3
	PC9. Maintain competence within one's role and field of practice		5	2	3
	PC10. Promote and demonstrate good practice as an individual and as a team member at all times		5	2	3
	PC11. Identify and manage potential and actual risks to the quality and safety of practice		5	2	3
	PC12. Evaluate and reflect on the quality of one's work and make continuing improvements		5	2	3
	Total		200	65	135
8. 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 procedures		5	0	5
	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 accordance with policies and procedures of the organisation and legislative requirements		5	5	0
	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 totalling 100**			
National Occupational Standards (NOS)	**Performance Criteria (PC)**	**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	50	4	0	4
	PC2. Work within organisational systems and requirements as appropriate to one's role		4	0	4
	PC3. Recognise the boundary of one's role and responsibility and seek supervision when situations are beyond one's competence and authority		14	6	8
	PC4. Maintain competence within one's role and field of practice		4	0	4
	PC5. Use relevant research based protocols and guidelines as evidence to inform one's practice		6	2	4
	PC6. Promote and demonstrate good practice as an individual and as a team member at all times		6	2	4
	PC7. Identify and manage potential and actual risks to the quality and safety of practice		6	2	4
	PC8. Evaluate and reflect on the quality of one's work and make continuing improvements		6	2	4
			50	14	36
2. Ethics					
HSS/ N 9607 (Practice Code of conduct while performing duties)	PC1. Adhere to protocols and guidelines relevant to the role and field of practice	50	8	2	6
	PC2. Work within organisational systems and requirements as appropriate to the role		8	2	6
	PC3. Recognise the boundary of the role and responsibility and seek supervision when situations are beyond the competence and authority		8	2	6

	PC4. Maintain competence within the role and field of practice		2	0	2
	PC5. Use protocols and guidelines relevant to the field of practice		10	4	6
	PC6. Promote and demonstrate good practice as an individual and as a team member at all times		2	0	2
	PC7. Identify and manage potential and actual risks to the quality and patient safety		2	0	2
	PC8. Maintain personal hygiene and contribute actively to the healthcare ecosystem		10	4	6
			50	14	36
3. Work Management					
HSS/ N 9605 (Manage work to meet requirements)	PC1. Clearly establish, agree, and record the work requirements	50	20	10	10
	PC2. Utilise time effectively		6	0	6
	PC3. Ensure his/her work meets the agreed requirements		6	0	6
	PC4. Treat confidential information correctly		6	6	0
	PC5. Work in line with the organisation's procedures and policies and within the limits of his/her job role		12	6	6
			50	22	28
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 individual can deal with safely, competently and within the limits of authority		6	4	2
	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 labelling that identifies the type and content of waste		4	2	2
	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 safely, competently and within the limits of his/her authority		4	4	0
	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

	Detailed Break Up of Marks Theory	**Theory**	
	Subject Domain	**Pick each NOS Compulsorily totaling 80**	
National Occupational Standards (NOS)	**Performance Criteria (PC)**	**Total Marks (80)**	**Marks Allocation** Theory
1.HSS/ N 2801: Assist nurse in checking vital parameters	PC1. Take measurements of pulse, blood pressure, and body temperature and/or other vital parameters, as appropriate	8	8
	PC2. Recognise the level of vital parameters under which blood donation could be performed		
	PC3. Identify and manage potential and actual risks to the safety of the potential donor		
	PC4. Accurately document the collected vital parameters in a timely manner		
	PC5. Accurately communicate the assessment regarding the suitability of the individual to donate blood		
	PC6. Establish trust and rapport with colleagues		
	PC7. Maintain competence within one's role and field of practice		
	PC8. Promote and demonstrate good practice as an individual and as a team member at all times		
	PC9. Identify and manage potential and actual risks to the quality and safety of work		
	PC10. Evaluate and reflect on the quality of one's work and make continuing improvements		
	Total		8
2.HSS/ N 2802: Collect blood donor's medical history and screen donors	PC1. Interview the potential blood donors and collect relevant information about their medical history	10	10
	PC2. Determine whether the individual can safely donate blood without experiencing any negative health effect		
	PC3. Accurately document the collected medical history of the potential donor in a timely manner		
	PC4. Accurately communicate whether the individual is suitable to donate blood		

	PC5. Establish trust and rapport with colleagues		
	PC6. Defer or reject donor based on the current vitals and medical history example if the donor has taken some unacceptable medicines, vaccinations, or has suffered from some diseases		
	PC7. Maintain competence within one's role and field of practice		
	PC8. Promote and demonstrate good practice as an individual and as a team member at all times		
	PC9. Identify and manage potential and actual risks to the quality and safety of work		
	PC10. Evaluate and reflect on the quality of one's work and make continuing improvements		
	Total		10
3.HSS/ N 2803: Draw Blood from Donor	PC1. Select equipment and supplies needed to collect blood by venipuncture procedure	10	10
	PC2. Understand the importance of antiseptics and disinfectants to maintain safety		
	PC3. Efficiently perform procedures to locate veins to puncture		
	PC4. Identify types of additives used in blood collection		
	PC5. Identify anatomical site to perform venepuncture		
	PC6. Prepare the anatomical site and clean the site to perform venepuncture		
	PC7. Perform venepuncture procedure as per the guidelines		
	PC8. Ensure timely implementation of appropriate procedures to collect blood		
	PC9. Ensure that standard precautions for infection prevention and control, and other relevant health and safety measures are taken		
	PC10. Recognise the boundary of one's role and responsibility		
	PC11. Seek supervision from superior when situations are beyond one's competence and authority		
	PC12. Establish trust and rapport with colleagues		
	PC13. Maintain competence within one's role and field of practice		

	PC14. Promote and demonstrate good practice as an individual and as a team member at all times		
	PC15. Identify and manage potential and actual risks to the quality and safety of practice		
	PC16. Evaluate and reflect on the quality of one's work and make continuing improvements		
	Total		10
4.HSS/ N 2804 Monitor donor during the donation procedure	PC1. Monitor the donors' condition and behaviour for any sign of adverse reaction event	10	10
	PC2. Identify any sign of occurrence of an adverse event during the blood donation procedure		
	PC3. Respond to any signs of adverse reaction of the donor and take appropriate action, which may require to halt the procedure		
	PC4. Effectively report the sign of occurrence of an adverse event to the appropriate member of the team, in a timely manner		
	PC5. Identify need of re-adjustment of the needle in situation of change in flow of blood		
	PC6. Identify any problem in the blood collection procedure, like problem with the blood collection packs or harnesses, and take required action immediately		
	PC7. Record all relevant information clearly and appropriately		
	PC8. Ensure timely implementation of appropriate procedures to collect blood		
	PC9. Ensure that standard precautions for infection prevention and control and other relevant health and safety measures are taken		
	PC10. Recognise the boundary of one's role and responsibility		
	PC11. Seek supervision from superior when situations are beyond one's competence and authority		
	PC12. Establish trust and rapport with colleagues		
	PC13. Maintain competence within one's role and field of practice		
	PC14. Promote and demonstrate good practice as an individual and as a team member at all times		
	PC15. Identify and manage potential and actual risks to the quality and safety of practice		

	PC16. Evaluate and reflect on the quality of one's work and make continuing improvements		
	Total		10
5.HSS/ N 2805 Screen donated blood for presence of any infection	PC1. Test the blood donation for ABO (blood type), Rh groups (i.e. positive or negative) and red cell antibodies	12	12
	PC2. Screen the blood donation for any infectious disease, like HIV, Hepatitis B,Hepatitis C, syphilis, Malaria, Dengue etc.		
	PC3. Record and report results of screening clearly and accurately, as per the guidelines		
	PC4. Ensure timely implementation of appropriate procedures		
	PC5. Ensure that standard precautions for infection prevention and control and other relevant health and safety measures are taken		
	PC6. Establish trust and rapport with colleagues		
	PC7. Maintain competence within one's role and field of practice		
	PC8. Promote and demonstrate good practice as an individual and as a team member at all times		
	PC9. Identify and manage potential and actual risks to the quality and safety of practice		
	PC10. Evaluate and reflect on the quality of one's work and make continuing improvements		
	Total		12
6.HSS/ N 2806 Document, Label and Store Blood Donations	PC1. Efficiently handle the blood donations and perform relevant documentations	12	12
	PC2. Identify any defect with the blood packs, like damaged pack, pack not sealed properly etc.		
	PC3. Record and report the defect identified with the blood pack to the concerned authority		
	PC4. Clearly and accurately document all the relevant information		
	PC5. Properly label the blood donations		
	PC6. Safely handle and store the blood donations		
	PC7. Assist in ensuring timely implementation of appropriate procedures		
	PC8. Establish trust and rapport with		

	colleagues		
	PC9. Maintain competence within one's role and field of practice		
	PC10. Ensure that standard precautions for infection prevention and control and other relevant health and safety measures are taken		
	PC11. Promote and demonstrate good practice as an individual and as a team member at all times		
	PC12. Identify and manage potential and actual risks to the quality and safety of practice		
	PC13. Evaluate and reflect on the quality of one's work and make continuing improvements		
	Total		12
7.HSS/ N 2807: Check Compatibility of Blood	PC1. Identify the blood requirements of a patient, and the minimum information required to correctly identify the blood product	12	12
	PC2. Immediately respond to the demand of a blood for transfusion		
	PC3. Ensure timely collection of correct blood product from the storage area		
	PC4. Check and verify the details of the blood with the patient requirements before issuing out the blood		
	PC5. Clearly and accurately document all the relevant information		
	PC6. Safely handle the blood products		
	PC7. Ensure that standard precautions for infection prevention and control and other relevant health and safety measures are taken		
	PC8. Establish trust and rapport with colleagues		
	PC9. Maintain competence within one's role and field of practice		
	PC10. Promote and demonstrate good practice as an individual and as a team member at all times		
	PC11. Identify and manage potential and actual risks to the quality and safety of practice		
	PC12. Evaluate and reflect on the quality of one's work and make continuing improvements		
	Total		12
8. HSS/ N 9610 (Follow	PC1. Preform the standard precautions to prevent the spread of infection in accordance	6	6

infection control policies and procedures)	with organisation requirements		
	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		
	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		
	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		6

Soft Skills and Communication		Select BOTH PARTS each carrying 10 marks totalling 20	
Assessable Outcomes	**Assessment Criteria for the Assessable Outcomes**	Total Marks (20)	Marks Allocation Theory
Part 1			
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	4	4
	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		
			4
2. Ethics			

HSS/ N 9607 (Practice Code of conduct while performing duties)	PC1. Adhere to protocols and guidelines relevant to the role and field of practice	4	4
	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		
			4
3. Work Management			
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		
			2
Part 1 Total		10	10
Part 2			
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		
			2
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		

			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 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		
			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		
			2
Part 2 Total		10	10