

Ministry of Health and Family Welfare

2017



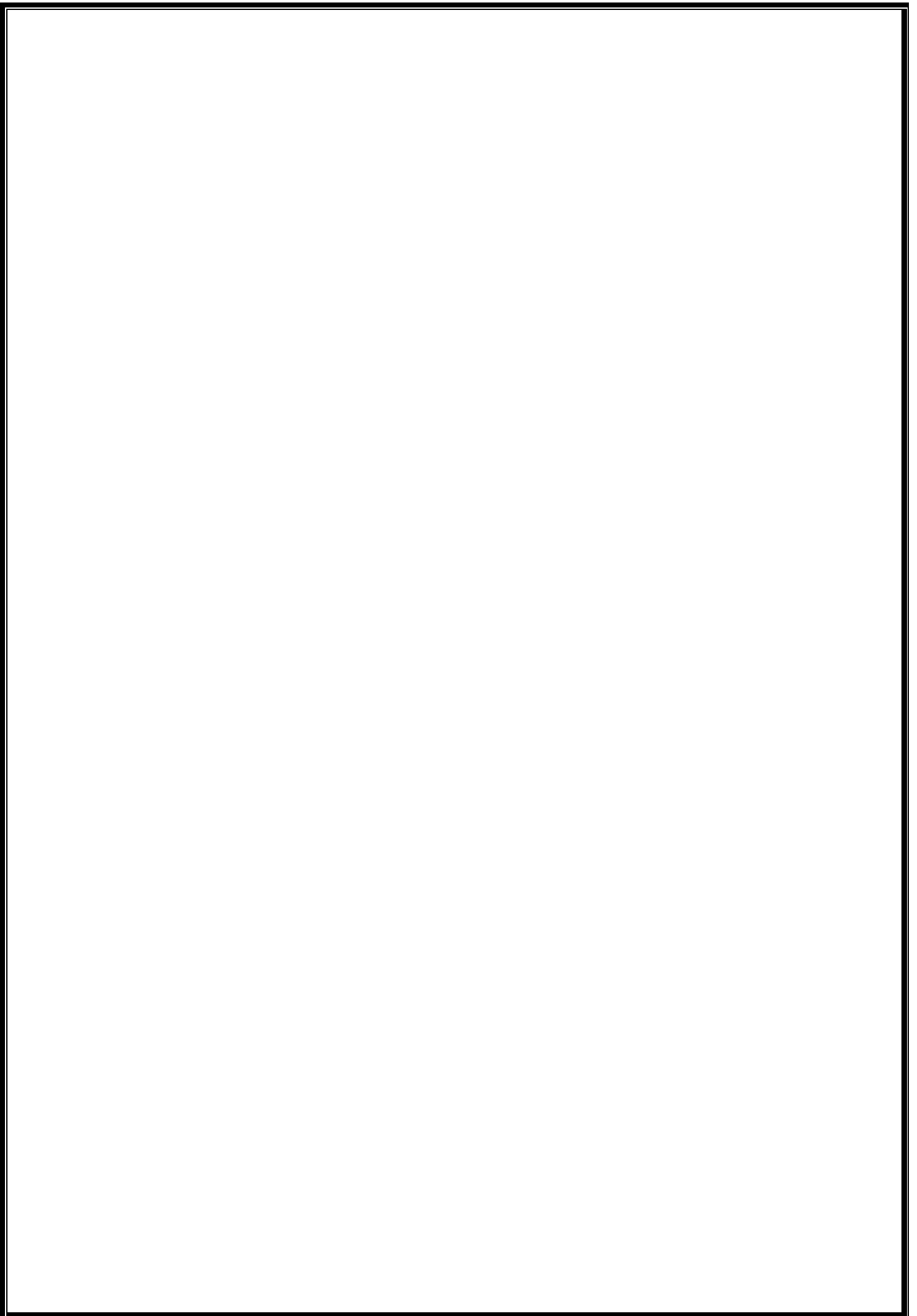
सत्यमेव जयते

Short Term Training Curriculum Handbook

PHLEBOTOMIST



**Standards in accordance with
The National Skills Qualifications Framework (NSQF)
Ministry of Skill Development and Entrepreneurship**



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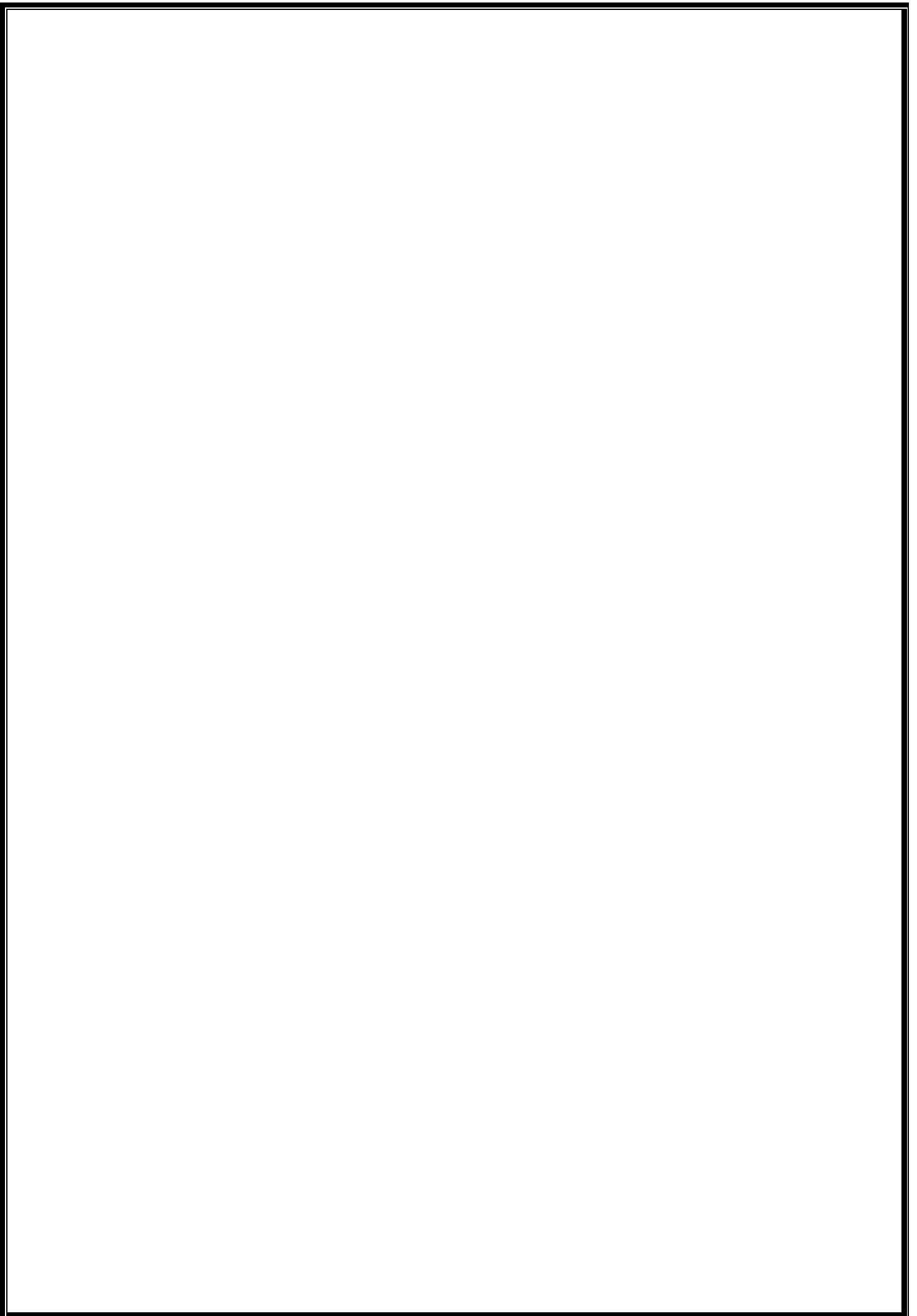
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Handbook

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INTRODUCTION TO THE SKILLS BASED TRAINING CURRICULA

The Skill based training courses are the training content developed for enhancing the specific skills of existing professionals or provide for a platform for imparting skills to candidates with no formal qualification.

To undertake the skill based training programme, it is mandatory that the candidate must fulfil the entry criteria provided for the job profile. The training and assessment will certify that the candidate is able to undertake specific set of activities. **These must not be equated with the formal qualifications- diploma/ degrees which are given by a University.**

It is recommended that the employer must help the candidate in continuing the studies to degree level and formal qualification, if the candidate is willing to gain knowledge and wants to move up the traditional career pathway.

Who is a Phlebotomist?

Phlebotomy is the act of drawing or removing blood from the circulatory system through a cut (incision) or puncture in order to obtain a sample for analysis and diagnosis. Phlebotomy is also done as part of the patient's treatment for certain blood disorders.

Phlebotomist is a health care worker who performs phlebotomy in healthcare settings. A phlebotomist usually works in medical offices, clinics and laboratories. His/her job is to assist medical laboratory technologist/ doctors and nurses in order to exclusively take care of the blood collection process.

As they deal with patients, essential qualities include an orientation to service, empathy, basic communication skills and the ability to follow orders and behave ethically.

Scope of practice

The objective of the program is to develop a pool of trained workforce which can be employed by diagnostic service providers to assist medical laboratory technologist/pathologist. This course is geared to prepare personnel with 10+2 with science background and who desires to be employed as a Phlebotomist in a diagnostic care facility. This program focuses on the acquisition of skills necessary to draw quality blood samples from patients and prepare those specimens for medical testing.

As per the training modules at the end of the training, the candidate would be certified to perform following activities–

1. Demonstrate knowledge about the healthcare sector and diagnostic services
2. Demonstrate the ability to perform clinical skills essential in providing basic diagnostic services such as correctly collect, transport, receive, accept or reject and store blood /urine/stool and tissue samples, etc.; update patient records; etc.
3. Practice infection control measures, Biomedical Waste Management
4. Demonstrate techniques to maintain the personal hygiene needs
5. Demonstrate actions in the event of medical and facility emergencies
6. Demonstrate professional behaviour, personal qualities and characteristics of a Phlebotomist
7. Demonstrate good communication, communicate accurately and appropriately in the role of Phlebotomist

8. Basics of resuscitation

Minimum Entry requirement

Educational requirement - The candidate must have completed 10+2 with basic understanding of English and Mathematics.

Minimum Course duration

It is recommended that any programme developed from this curriculum should have a minimum duration of **663 hrs (148 hrs of Theory, 355 hours of Practical and 160 hours of internship)** to qualify as an entry level professional in the field of Phlebotomy.

Teaching faculty and infrastructure

The teaching faculty for this profession should have the following 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-organized and focused
- Eager to learn and keep oneself updated with the latest in the field

Medium of instruction:

English/ regional language shall be the medium of instruction for all the subjects of study and for examination of the course.

Attendance:

A candidate has to secure minimum 80% attendance in overall with at least-

1. 75% attendance in theoretical
2. 90% in Skills training (practical) for qualifying to appear for the final examination.

No relaxation, whatsoever, will be permissible to this rule under any ground including indisposition etc.

TRAINING CURRICULA FOR SKILL CERTIFICATION

MODULE – 1: FOUNDATION MODULE: INTRODUCTION TO THE PHLEBOTOMIST PROGRAM

Learning Outcomes: At the completion of this module, the student should be able to:

1. Understand the healthcare scenario in India
2. Understand the duties and responsibilities of a Phlebotomist
3. Learn the scope of work for a Phlebotomist
4. Adhere to legislation, protocols and guidelines relevant to one's role and field of practice
5. Work within organizational systems and requirements as appropriate to one's role
6. Recognize the boundary of one's role and responsibility and seek supervision when situations are beyond one's competence and authority
7. Maintain competence within one's role and field of practice
8. Understand the art of effective communication with various stakeholders like patients, nurses, etc.
9. Learn how to identify rapidly changing situations and adapt accordingly
10. Have a basic working knowledge of computers
11. Understand the importance of and process of first aid and triage
12. Understand his/her role in disaster preparedness and management

Content -

S. No.	Topics	Hours		
		Theory	Practical	Total
1.	Introduction to healthcare and hospitals	3	2	5
2.	Introduction to the Phlebotomist program	2	3	5
3.	Professionalism and Values	2	1	3
4.	Communication	3	7	10
5.	Interpersonal skills and working with others	2	3	5
6.	Computers and information technology	2	8	10
7.	Basics of emergency care and life support skills	2	13	15
8.	Disaster preparedness and management	2	3	5
TOTAL		18	40	58

Detail of Topics

1. Introduction to healthcare and hospitals

- a. Healthcare delivery system in India at primary, secondary and tertiary care
- b. Community participation in healthcare delivery system
- c. Issues in Health Care Delivery System in India
- d. Health scenario of India- past, present and future
- e. Basic medical terminology

2. Introduction to the Phlebotomist program

- a. Role of a Phlebotomist
- b. Do's and Don'ts
- c. Importance of Phlebotomy and need for safety protocols
- d. Steps in Blood collection

- e. Requirement to become a certified Phlebotomist

3. Professionalism and Values

- a. Code of conduct, professional accountability and responsibility, misconduct
- b. Ethics in healthcare – Privacy, confidentiality, consent, medico legal aspects
- c. Understanding scope of work and avoiding scope creep
- d. Handling objections
- e. Gather information from observation, experience and reasoning
- f. Identification of rapidly changing situations and adapt accordingly
- g. Planning and organization of work

4. Communication

- a. Writing skills
 - i. Basic reading and writing skills, sentence formation, grammar and composition, how to enhance vocabulary
 - ii. Business communication like letters, e-mails
- b. Special characteristics of health communication
- c. How to be a good communicator
 - i. Addressing the patient
 - ii. Body language, posture and gestures
- d. Barriers of communication & how to overcome them
- e. Listening and Speaking skills
 - i. How to be a good listener
 - ii. Structure brief and logical messages
 - iii. Speak clearly and slowly in a gentle tone
 - iv. Use the correct combination of verbal and non-verbal communication
 - v. Use language familiar to the listener
 - vi. Give facts and avoid opinions unless asked for
 - vii. Communicating with patient with impaired hearing/ vision/ speech/ memory
- f. Recognizing changes in the patient- behaviour/ abnormal signs and reporting to the Medical Officer/Laboratory Technologist/ Nurse in charge
- g. Dealing with anger or depression of the patient

5. Interpersonal skills and working with others

- a. Goal setting, team building, team work, time management,
- b. Thinking and reasoning, problem solving
- c. Need for customer service and service excellence in medical care
- d. Communication with various stakeholders
 - i. Handling effective communication with patients & family
 - ii. Handling effective communication with peers/colleagues using medical terminology in communication
 - iii. Telephone and email etiquettes
- e. Manage work to meet requirements
 - i. Time management
 - ii. Work management and prioritization

6. Computers and information technology

- a. Use of computers, its input and output devices
- b. Use of basic software such as MS Office, operating systems (Windows) and internet
- c. Use of data –
 - i. Entry, saving and retrieving
 - ii. Scanning and copying medical records/documents
 - iii. Efficient file naming and uploading
 - iv. Printing, as needed
- d. Application of Computers in clinical settings

7. Basics of emergency care and life support skills

- a. Vital signs
- b. Basic emergency care – first aid and triage
- c. Identifying signs and taking measures for
 - i. Choking and Heimlich Maneuver
 - ii. Bleeding including nosebleeds
 - iii. Minor burns
 - iv. Hypothermia
 - v. Asthma attack
 - vi. Bites and stings
 - vii. Fainting
 - viii. Sprain
- d. Ventilations including use of bag-valve-masks (BVMs)
- e. One- and Two-rescuer CPR
- f. Using an AED (Automated external defibrillator).
- g. Managing an emergency including moving a patient – log transfer

8. Disaster preparedness and management

- a. Fundamentals of emergency management
- b. Preparedness and risk reduction
- c. Incident command and institutional mechanisms
- d. Resource management

Equipment required/ teaching strategies for the above content-

1. Charts and demonstration dummies
2. Videos and presentations
3. First Aid kit

Assessment for the above content–

The candidate should be assessed on his abilities to do the following activities:

S. No.	Assessment Criteria for the Assessable Outcomes	Marks Allocation		
		Viva/ Theory	Skills Practical	Total
1.	Explain the role of a Phlebotomist in a hospital setting/ community setting	10	0	10
2.	Describe the ethical considerations of his/her job as a Phlebotomist in a hospital	10	0	10
3.	What are the indicators for 'Don'ts for a Phlebotomist'	15	0	15
4.	Describe and demonstrate how to communicate with patient with impaired hearing/ vision/ speech/ memory	5	25	30
5.	Enumerate the changes in the patient with abnormal behaviour	5	0	5
6.	Identify the various contents of First Aid Kit	0	20	20
7.	Demonstrate Heimlich Maneuver	0	10	10
8.	Demonstrate the immediate action to be taken for a patient with nosebleed/ minor burns/ asthma attack/fainting/ sprain/ hypothermia/ bites – bee sting or snake bite	0	30	30
9.	Explain the importance of treating confidential information correctly	5	0	5
10.	Demonstrate the basic use of computers and aspects related to data handling	0	10	10
11.	Demonstrate basic first aid and CPR	0	20	20
12.	Describe institutional mechanisms in the event of a disaster	5	0	5
13.	Demonstrate how to handle conflicts with patients	0	5	5
14.	Describe the functioning of major departments in a hospital.	5	0	5
Total		60	120	180

MODULE – 2: FILL OUT TEST REQUISITION FORM (TRF) ACCURATELY

Learning Outcomes: At the completion of this module, the student should be able to:

1. Understand basic concepts behind various types of tests performed in a laboratory which require drawing of blood
2. Learn the importance of details relating to Test Requisition Forms (TRF)
3. Understand how to fill out and interpret Test Requisition Forms

Content -

S. No.	Topics	Hours		
		Theory	Practical	Total
1.	Basic Principles of tests performed in healthcare setting which require collection of blood samples	5	20	25
2.	Test Requisition Forms and details	5	10	15
TOTAL		10	30	40

Detail of Topics

1. **Basic Principles of tests performed in healthcare settings which require collection of blood samples**
 - a. Anatomical and physiological significance
 - b. Relevance and use according to local area needs and disease profile
2. **Test Requisition Forms (TRF)**
 - a. Types of TRF
 - b. Significance of recording details on Laboratory TRF
 - c. Important aspects of the TRF
 - d. Filling accurate information in the right location in the TRF
 - e. Interpreting the TRF details

Equipment required/ teaching strategies for the above content-

Charts, audio video demonstration, sample TRFs

Assessment for the above content-

The candidate should be assessed on his abilities to do the following activities:

S. No.	Topics	Marks Allocation		
		Viva/ Theory	Skills Practical	Total
1.	Explain the basic principles behind tests performed in laboratory which require drawing of blood	20	20	40
2.	Demonstrate filling out a sample Test Requisition Form	10	70	80
3.	Demonstrate interpreting a filled out sample Test Requisition Form	10	70	80
TOTAL		30	170	200

MODULE – 3: ASSEMBLE AND PREPARE NECESSARY EQUIPMENT AND SUPPLIES

Learning Outcomes: At the completion of this module, the student should be able to:

1. Identify various equipment used for venipuncture
2. Utilize sterilization techniques for equipment
3. Understand and implement inventory management practices for supplies and equipment

Content -

S. No.	Topics	Hours		
		Theory	Practical	Total
1.	Blood Collection system	2	3	5
2.	Equipment used in venipuncture	3	7	10
3.	Inventory management of supplies and equipment	2	8	10
TOTAL		7	18	25

Detail of Topics

1. Blood collection systems –

- a. Open
- b. Closed
 - i. Vacuum extraction systems
- c. Advantages and disadvantages

2. Equipment used in venipuncture

- a. Identification, types and usage of equipment used for venipuncture such as -
 - i. Tourniquet
 - ii. Gloves
 - iii. Antiseptic and disinfectant
 - iv. Needle
 - Needle size
 - Selection of needle based on size, location and volume of blood to be collected
 - v. Syringe or needle holder
 - Size of syringes
 - Selection of syringe based on patient, volume of blood to be collected, strength of vacuum expected
 - vi. Specimen container
 - vii. Gauze – choice of gauge
 - viii. Tape for strapping
 - ix. Sharps disposal container and safety devices
- b. Sterilization and sanitization
- c. Troubleshooting and maintenance

3. Inventory management of supplies

Equipment required/ teaching strategies for the above content- A list of equipment is available at Annex.

Assessment for the above content-

The candidate should be assessed on his abilities to do the following activities:

S. No.	Topics	Marks Allocation		
		Viva/ Theory	Skills Practical	Total
1.	Enumerate the difference between open and close system of blood collection	5	5	10
2.	Identify and select appropriate equipment including needle, collection system and blood collection tubes for routine tests.	0	30	30
3.	Describe the types of needles, syringes and their criteria for selection	10	40	50
4.	Explain and Demonstrate sterilization and sanitization techniques for equipment	10	10	20
5.	Explain inventory management practices for supplies and equipment	20	20	40
	TOTAL	45	105	150

MODULE – 4: PREPARE AN APPROPRIATE SITE FOR OBTAINING BLOOD SAMPLES

Learning Outcomes: At the completion of this module, the student should be able to:

1. Understand basic concepts behind selection of various sites for drawing blood sample
2. Prepare the patient
3. Identify and select an appropriate site for venipuncture

Content -

S. No.	Topics	Hours		
		Theory	Practical	Total
1.	Basic Anatomy and Physiology: Heart and Blood	5	5	10
2.	Patient preparation	2	13	15
3.	Principles of site selection and process for drawing blood	5	25	30
TOTAL		12	43	55

Detail of Topics

1. Basic Anatomy and Physiology: Heart and Blood

- a. Circulatory system
- b. Lymphatic system
- c. Respiratory system
- d. Urinary system
- e. Muscular and Skeletal system
- f. Composition of blood and blood cells

2. Patient preparation

- a. Proper patient identification procedures and protocols to follow for different age group of patients
- b. Patient interaction and reassurance
- c. Patient preparation
 - i. Handling patient in special conditions
 - ii. Patient positioning
 - iii. Cleaning the venepuncture site
- d. Factors affecting patient preparation
 - i. Therapeutic drug monitoring
 - ii. Effects of exercise
 - iii. Stress
 - iv. Diurnal rhythm
 - v. Posture
 - vi. Age, gender, pregnancy etc.

3. Principles of site selection and process for drawing blood Proper site selection for venepuncture

- a. Proper site selection
 - i. For general patients
 - ii. For hospitalized patients
 - iii. For paediatric patients
- b. Following standard precautions

- c. Site selection
 - i. Attributes of preferred vein
 - ii. Vein selection
 - iii. Palpating the vein
 - iv. Inappropriate sites for venepuncture

Equipment required/ teaching strategies for the above content-

Charts, audio video demonstration, equipment used in phlebotomy (List of equipment at Annex)

Assessment for the above content-

The candidate should be assessed on his abilities to do the following activities:

S. No.	Topics	Marks Allocation		
		Viva/ Theory	Skills Practical	Total
1.	Explain the basic principles of Anatomy and Physiology including various systems in human body	10	10	20
2.	Demonstrate the steps for patient preparation	5	20	25
3.	Explain and demonstrate site selection procedures for venipuncture	10	70	80
	TOTAL	20	80	100

MODULE – 5: DRAW BLOOD SPECIMENS FROM PATIENTS USING CORRECT TECHNIQUES

Learning Outcomes: At the completion of this module, the student should be able to:

1. Accurately angle the insertion and perform a successful insertion of needle
2. Demonstrate correct order of draw necessary for drawing blood using correct technique

Content -

S. No.	Topics	Hours		
		Theory	Practical	Total
1.	Needle insertion technique	5	20	25
2.	Order of draw	5	20	25
3.	Tube filling	5	5	10
4.	Needle removal and sharp disposal	5	5	10
5.	Prophylactic treatment in case of emergencies during drawing blood	2	8	10
TOTAL		22	58	80

Detail of Topics

1. **Needle insertion technique**
 - a. Angle of insertion
 - b. Insertion technique
 - c. Areas of caution
2. **Order of draw**
 - a. Importance of correct filling order of sample tubes (Order of draw)
 - b. First draw
 - c. Second draw
 - d. Third draw
 - e. Last draw
3. **Tube filling**
4. **Needle removal and sharp disposal**
5. **Prophylactic treatment in case of emergencies during drawing blood**
6. **Special cases-**
 - a. Arterial blood sampling
 - b. Paediatric and neonatal blood sampling
 - c. Capillary sampling
7. **Collecting blood in various case situations:**
 - a. Shock
 - b. Haemorrhage
 - c. Road Traffic Accidents
 - d. Neonates
 - e. Infants, etc.

Equipment required/ teaching strategies for the above content-

1. Venepuncture equipment
2. Arterial Sampler
3. Lancets and Micro-collection equipment

Assessment for the above content-

The candidate should be assessed on his abilities to do the following activities:

S. No.	Topics	Marks Allocation		
		Viva/ Theory	Skills Practical	Total
1.	Explain and demonstrate the procedure for needle insertion	10	40	50
2.	Explain and demonstrate correct order of draw	10	40	50
	TOTAL	20	80	100

MODULE – 6: PREPARE AND LABEL THE BLOOD SAMPLES FOR TEST, PROCEDURES AND IDENTIFICATION PURPOSES

Learning Outcomes: At the completion of this module, the student should be able to:

1. Prepare blood samples for test, procedures and identification purposes
2. Correctly identify and label samples for test, procedures and identification purposes

Content -

S. No.	Topics	Hours		
		Theory	Practical	Total
1.	Post venepuncture process	2	3	5
2.	Preparation of blood samples	5	15	20
3.	Labeling of blood samples	2	8	10
TOTAL		9	26	35

Detail of Topics

1. **Post venepuncture process**
 - a. Examination of venipuncture site
 - b. Application of adhesive bandage
 - c. Instructions to patient
2. **Preparation of blood samples**
 - a. Coagulation
 - b. Mixing of samples
 - i. Importance of mixing samples
 - ii. Process of mixing samples
3. **Labelling of blood samples**
 - a. Identification of samples
 - b. Precautions for labelling specimen
 - c. Bar code labelling
4. **Types of sampling for various tests:**
 - a. Whole blood
 - b. With coagulant
 - c. Shaking of samples
 - d. Without shaking of samples
5. **Time duration of patient preparation before sampling**
6. **Blood Glucose sampling**
7. **Instructions for FB and PP tests**

Equipment required/ teaching strategies for the above content-

Charts, audio video demonstration, equipment used in phlebotomy (List of equipment at Annex)

Assessment for the above content-

The candidate should be assessed on his abilities to do the following activities:

S. No.	Topics	Marks Allocation		
		Viva/ Theory	Skills Practical	Total
1.	Explain and demonstrate blood sample preparation	10	40	50
2.	Demonstrate correct labelling of blood samples	10	40	50
TOTAL		20	80	100

MODULE – 7: TRANSPORT THE BLOOD SAMPLES TO THE LABORATORY

Learning Outcomes: At the completion of this module, the student should be able to:

1. Pack blood samples correctly for transportation
2. Ensure maintenance of appropriate temperature conditions of transportation of blood samples
3. Ensure transportation of blood samples to laboratory without any damage

Content -

S. No.	Topics	Hours		
		Theory	Practical	Total
1.	Process of transporting sample	2	8	10
2.	Conditions necessary for transportation of samples	2	3	5
3.	Packing of samples	2	3	5
4.	Factors that influence the outcome of laboratory results during collection and transportation	2	3	5
TOTAL		8	17	25

Detail of Topics

1. **Process of transporting sample**
2. **Conditions necessary for transportation of samples**
 - a. Temperature
 - b. Pressure, and other necessary conditions
3. **Packing of samples**
 - a. Ideal conditions of packing of blood samples
4. **Factors that influence the outcome of laboratory results during collection and transportation:**
 - a. Knowledge of staff involved in blood collection
 - b. Use of the correct gauge of hypodermic needle to prevent haemolysis or abnormal results
 - c. The anatomical insertion site for venipuncture
 - d. The use of recommended laboratory collection tubes
 - e. Patient–sample matching (i.e. Labelling)
 - f. Transportation conditions
 - g. Interpretation of results for clinical management

Equipment required/ teaching strategies for the above content-

Charts, audio video demonstration, equipment used in phlebotomy (List of equipment at Annex)

Assessment for the above content-

The candidate should be assessed on his abilities to do the following activities:

S. No.	Topics	Marks Allocation		
		Viva/ Theory	Skills Practical	Total
1.	Explain and demonstrate blood sample packing	20	20	40
2.	Explain conditions necessary for transportation of samples	20	20	40
3.	Explain conditions necessary for transportation of samples	20	20	40
TOTAL		60	60	120

MODULE – 8: ASSIST THE PATIENT DURING AND AFTER COLLECTION OF THE SPECIMEN

Learning Outcomes: At the completion of this module, the student should be able to:

1. Identify the complications during the specimen collection
2. Identify causes of failed venipuncture and take corrective actions
3. Identify potential patient-related complications arising from venipuncture
4. Manage adverse events and administer relevant post-prophylactic treatments

Content -

S. No.	Topics	Hours		
		Theory	Practical	Total
1.	Causes of failed venipuncture	2	8	10
2.	Adverse events and post exposure prophylaxis	2	5	7
TOTAL		4	13	17

Detail of Topics

1. Causes of failed venipuncture

- a. Procedure related such as -
 - i. Improper positioning of tube
 - ii. Rolling of veins
 - iii. Puncture through veins
 - iv. Collapsed vein
 - v. Partially inserted needle
 - vi. Accidental arterial puncture
- b. Patient related
 - i. Excessive bleeding
 - ii. Petechiae
 - iii. Nausea
 - iv. Vomiting
 - v. Fainting
 - vi. Seizures
- c. Corrective measures for failed venipuncture

2. Adverse events and post exposure prophylaxis

- a. First aid
- b. Management and follow up

Equipment required/ teaching strategies for the above content- Charts, audio video demonstration, equipment used in phlebotomy (List of equipment at Annex)

Assessment- The candidate should be assessed on his abilities to do the following activities:

S. No.	Topics	Marks Allocation		
		Viva/ Theory	Skills Practical	Total
1.	Explain and demonstrate preparation of patient before, during and after collection of specimen	20	20	40
2.	Explain factors affection preparation of patient	20	20	40
3.	Explain and demonstrate management of adverse events	20	20	40
TOTAL		60	60	120

MODULE – 9: UPDATE PATIENT RECORDS, COLLATE AND COMMUNICATE HEALTH INFORMATION

Learning Outcomes: At the completion of this module, the student should be able to:

1. Explain the importance of patient record database management and documentation
2. Demonstrate maintenance of patient records with respect to specimen details
3. Explain basic concept of Electronic Health Records (EHR) and Electronic Medical Records (EMR)
4. Collect relevant health information from the patient
5. Communicate effectively to the patient while exchanging health information
6. Put the patient at ease while collecting medical history

Content –

S. No.	Topics	Hours		
		Theory	Practical	Total
1.	Patient record database management and documentation	2	5	7
2.	Electronic Health Records and Electronic Medical Records	2	8	10
3.	Sources and types of health information	2	5	7
TOTAL		6	18	24

Detail of Topics

- 1. Patient record database management and documentation**
 - a. Medical records
 - b. Database
 - c. Documentation and Database Management
- 2. EHR and EMR**
 - a. Electronic Health Records
 - b. Electronic Medical Records
- 3. Sources and types of health information**
 - a. Primary, secondary and tertiary sources of health information
 - b. Evidence based health information sources
 - i. Health literacy
 - ii. Patient values and preferences

Equipment required/ teaching strategies for the above content- Charts, audio video demonstration, equipment used in phlebotomy (List of equipment at Annex)

Assessment -

The candidate should be assessed on his abilities to do the following activities:

S. No.	Topics	Marks Allocation		
		Viva/ Theory	Skills Practical	Total
1.	Explain the importance of documentation of patient records	20	20	40
2.	Explain Electronic Health and Medical Records	20	20	40
3.	Demonstrate maintenance of patient database from dummy data	20	20	40
4.	Explain the importance of collecting relevant health information	20	20	40
5.	Explain sources and types of health information	20	20	40
6.	Explain evidence based health information sources	20	20	40
TOTAL		120	120	240

MODULE – 10: FOLLOW ALL SAFETY AND INFECTION CONTROL PROCEDURES

Learning Outcomes: At the completion of this module, the student should be able to-

1. Understand all procedures required for infection control
2. Follow high level of personal hygiene
3. Follow all standard precautions and infection control procedures
4. Identify deviation from normal health
5. Understand hospital borne infections and practices to curb them
6. Understand different types of spillages and their management

Content -

S. No.	Topics	Hours		
		Theory	Practical	Total
1.	Infection Control practices	5	10	15
2.	Universal/ Standard Precautions	5	10	15
3.	Contact Precautions	5	5	10
4.	Healthcare Associated Infections	5	5	10
5.	Healthcare worker safety, Cleaning and Zoning in Lab	5	5	10
TOTAL		25	35	60

Detail of Topics

- 1. Infection Control practices**
 - a. Definition
 - b. Basic principles of infection control practices
 - c. Medical Asepsis - Practices to promote medical asepsis
- 2. Universal/ Standard Precautions**
 - a. Hand hygiene
 - b. Use of personal protective equipment (e.g., gloves, gowns, masks)
 - c. Safe injection practices
 - d. Safe handling of potentially contaminated equipment or surfaces in the patient environment
 - e. Respiratory hygiene/cough etiquette
- 3. Contact precautions**
- 4. Healthcare Associated Infections**
 - a. Nosocomial Infection
 - b. Infection Prevention
 - c. Needle stick injuries and their prevention and management
 - d. Catheter-related infections
 - e. Urinary Tract Infections
 - f. Surgical site infections
- 5. Healthcare worker safety**
 - a. Appropriate use of PPE and safe work practices
 - b. Sharp safety practices
 - c. Occupational hazards

Equipment required/ teaching strategies for the above content-

Charts, audio video demonstration, Patient daily care articles, crash cart, emergency codes, fire extinguisher etc.

Assessment for the above content-

The candidate should be assessed on his abilities to do the following activities:

S. No.	Assessment Criteria for the Assessable Outcomes	Marks Allocation		
		Viva/ Theory	Skills practical	Total
1.	Describe all procedures required for infection control	30	0	30
2.	Demonstrate the standard precautions	0	20	20
3.	Describe the rules to dispose of biomedical waste and sharps	5	15	20
4.	Demonstrate and describe the process of medical asepsis	5	5	10
5.	Describe hospital borne infections and practices to curb them	5	5	10
6.	Describe different types of spillages and demonstrate their management	5	5	10
7.	Describe use of PPE and safe work practices	5	20	25
8.	Demonstrate sharp safety practices	5	20	25
Total		60	90	150

MODULE – 11: ENSURE AVAILABILITY OF MEDICAL AND DIAGNOSTIC SUPPLIES

Learning Outcomes: At the completion of this module, the student should be able to:

1. Practice inventory management practices judiciously
2. Undertake stock-taking exercises of supplies
3. Identify shortage and over-stocking of supplies
4. Anticipate demand based on consumption

Content -

S. No.	Topics	Hours		
		Theory	Practical	Total
1.	Inventory Management practices	3	7	10
2.	Shortage and Over-stocking, Indent based on consumption	2	5	7
3.	Stock-taking exercises & FIFO process	2	5	7
TOTAL		7	17	24

Detail of Topics

1. **Inventory management practices**
 - a. Provisioning of medical and diagnostic supplies
 - b. Expiry date management
2. **Shortage and Over-stocking**
 - a. Detecting and managing shortage and over-stocking
 - b. Documentation of medical and diagnostic supplies
3. **Stock-taking exercises**
 - a. End-of-day stock taking
 - b. Planning and provisioning of supplies based on demand and consumption

Equipment required/ teaching strategies for the above content-

Charts, audio video demonstration, equipment used in phlebotomy (List of equipment at Annex)

Assessment for the above content-

The candidate should be assessed on his abilities to do the following activities:

S. No.	Topics	Marks Allocation		
		Viva/ Theory	Skills Practical	Total
1.	Explain the importance of collecting relevant health information	20	20	40
2.	Explain sources and types of health information	20	20	40
3.	Explain evidence based health information sources	20	20	40
TOTAL		60	60	120

MODULE – 12: FOLLOW BIOMEDICAL WASTE DISPOSAL PROTOCOLS

Learning Outcomes: At the completion of this module, the student should be able to-

1. Follow the appropriate procedures, policies and protocols for the method of collection and containment level according to the waste type.
2. 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.
3. Segregate the waste material from work areas in line with current legislation and organizational requirements, at source with proper containment, by using different color coded bins for different categories of waste.
4. Check the accuracy of the labelling that identifies the type and content of waste.
5. Confirm suitability of containers for any required course of action appropriate to the type of waste disposal.
6. Check the waste has undergone the required processes to make it safe for transport and disposal.
7. Transport the waste to the disposal site, taking into consideration its associated risks.
8. Report and deal with spillages and contamination in accordance with current legislation and procedures.
9. Maintain full, accurate and legible records of information and store in correct location in line with current legislation, guidelines, local policies and protocols.

Content -

S. No.	Topics	Hours		
		Theory	Practical	Total
1.	Introduction of Bio-medical waste (BMW)	5	10	15
2.	Need for safety treatment and disposal of BMW	5	20	25
3.	Different treatment option for different categories of BMW	5	5	10
4.	Treatment and disposal methods of biomedical waste	5	5	10
TOTAL		20	40	60

Detail of Topics

- 1. Introduction of Bio-medical waste (BMW)**
 - a. What are Bio- medical waste generated during patient care
 - b. Classification of Bio-medical waste
 - c. Sources of Biomedical waste
 - d. Importance of Bio- medical waste management during home health aide (care)
- 2. Need for safety treatment and disposal of BMW**
 - a. Identifying the risk of Bio-medical waste
- 3. Different treatment option for different categories of BMW**
 - a. Color coding
 - b. Types of container
 - c. Waste category
 - d. Treatment option
- 4. Treatment and disposal methods of biomedical waste**
 - a. Incineration
 - b. Autoclaving
 - c. Shredding

d. Disposal option

Equipment required/ teaching strategies for the above content-

Charts, audio video demonstration etc.

Assessment for the above content-

The candidate should be assessed on his abilities to do the following activities:

S. No.	Assessment Criteria for the Assessable Outcomes	Marks Allocation		
		Viva/ Theory	Skills practical	Total
1.	Demonstrate and describe appropriate procedures, policies and protocols for the method of collection and containment level according to the waste type	5	5	10
2.	Demonstrate and describe how to maintain appropriate health and safety measures	0	10	10
3.	Identify and demonstrate methods of segregating the waste material in colored bins	0	30	30
4.	Explain how is the accuracy of the labelling that identifies the type and content of waste is checked.	5	0	5
5.	Explain how will you check the waste has undergone the required processes to make it safe for transport and disposal	5	0	5
6.	Demonstrate how will you report and deal with spillages and contamination in accordance with current legislation and procedures	0	10	10
Total		15	55	70

EQUIPMENT LIST

1. Syringes & Needles
2. Butterfly needle(as required)
3. Sprit & cotton / Spirit swabs
4. Betadine / Povidone iodine solution
5. All types of vacutainers - SST, Red top, Lavender Top, Grey top, Green Top, Light blue, Yellow top, including Blood culture bottle.
6. Vacutainer Needles
7. Gloves
8. Tourniquet
9. Hand sanitizer
10. Highlighter & Marker
11. White stickers
12. Test tube racks
13. Stool & Urine Routine & Culture Containers / 24 hour urine containers
14. Aluminium Foil
15. Manual Receipt Book
16. Pen
17. Blank TRF
18. Glucose powder
19. Needle Cutter
20. Spillage handling kit(red bag, culture vial carrying 1% hypochlorite, paper towelette)
21. Bio hazard bags for Waste Disposal / Blue sharps container for waste disposal
22. First Aid Box - Thrombophob, Tongue Depressor
23. Swab sticks
24. Tuberculin syringe
25. Tuberculin vial - 1 TU
26. Blotting Paper for BT
27. Capillary tube for CT
28. Stop watch
29. Simple Weighing balance
30. Height chart
31. Weighing scale for weight of patients
32. Plastic Measuring cylinder - 1 L
33. Tissue paper
34. Registers for documentation

LIST OF ABBREVIATIONS

AED	Automated external defibrillator
BMW	Bio-medical waste
BT	Bleeding Time
BVMs	Bag-valve-masks
CPR	Cardio Pulmonary Resuscitation
CT	Clotting Time
EHR	Electronic Health Records
EMR	Electronic Medical Records
MS	Microsoft
SST	Serum Separation Tubes
TRF	Test Requisition Form
TU	Tuberculin Units

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REFERENCES:

1. Phlebotomy-The Internet Pathology Laboratory for Medical Education
<http://library.med.utah.edu/WebPath/TUTORIAL/PHLEB/PHLEB.html>
2. WHO Guidelines on Drawing Blood: Best Practices in Phlebotomy :
http://www.who.int/injection_safety/phleb_final_screen_ready.pdf
3. Skills for Care & Skills for Health, Code of Conduct for Healthcare Support Workers and Adult Social Care Workers in England.
<http://www.skillsforcare.org.uk/document-library/standards/national-minimum-training-standard-and-code/codeofconduct.pdf>
4. Skills for Health UK. Details on Act within the limits of your competence and authority
<https://tools.skillsforhealth.org.uk/competence/show/html/id/85/>
5. National AIDS & STDs STI Control Programme (NAS COP), Ministry of Health Kenya. 2013. Safe Phlebotomy Training for Health Care Workers in Kenya: Participant's Manual.
<http://www.health.go.ke/wp-content/uploads/2015/09/Safe-Phlebotomy-Participant%E2%80%99s-Manual.pdf>