









#### **Model Curriculum**

QP Name: Frontline Health Caregiving Associate (Elective: Emergency Care, Sample Collection,

**Medical Equipment Care)** 

QP Code: HSS/Q2306

QP Version: 1.0

**NSQF Level: 4** 

**Model Curriculum Version: 1.0** 

Healthcare Sector Skill Council | | Healthcare Sector Skill Council,520, DLF Tower A, 5th Floor, Jasola District Centre, New Delhi – 110025





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# **Training Parameters**

Sector	Healthcare			
Sub-Sector	Allied Health & Paramedics			
Occupation	Emergency Services, Diagnostic, Non-Direct Care			
Country	India			
NSQF Level	4			
Aligned to NCO/ISCO/ISIC Code	NCO-2015/2240.0501			
Minimum Educational Qualification and Experience	12th Grade Pass or Pursuing 2nd year of the 3-year regular diploma after 10th Or 10th Grade Pass with 2 years relevant experience Or 11th Grade pass with 1 year relevant experience or Previous relevant Qualification of NSQF Level 3.5 and with 1.5 year relevant experience Or Previous relevant qualification of NSQF Level 3 with 3 years of relevant experience			
Pre-Requisite License or Training				
Minimum Job Entry Age	18 Years			
Last Reviewed On	31/01/2024			
Next Review Date	31/01/2027			
NSQC Approval Date	31/01/2024			
QP Version	1.0			





Model Curriculum Creation Date	31/01/2024
Model Curriculum Valid Up to Date	31/01/2027
Model Curriculum Version	1.0
Minimum Duration of the Course including 1 elective	390 Hours
Maximum Duration of the Course including all electives	750 Hours





#### **Program Overview**

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

#### **Training Outcomes**

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

- Demonstrate knowledge about the healthcare sector and emergency medical care services.
- Demonstrate the ability to perform clinical skills essential in providing basic emergency medical care services such as urgent need to respond the emergency calls, assurance of scene safety, skills to call other emergency people, handling different emergency scenarios like clinical emergency, trauma emergency, mass casualty & disaster management.
- Demonstrate setting up of an ambulance for dealing with emergency situations.
- Practice infection control measures.
- Demonstrate safe and efficient transferring and ambulation techniques.
- Demonstrate techniques to maintain the personal hygiene needs of self and the patient.
- Demonstrate actions in the event of medical and facility emergencies.
- Demonstrate pre, during and post sample collection techniques.
- Demonstrate the process of home visit sample collection.
- Maintain a safe, healthy and secure environment.
- Follow Sanitization and Infection Control Guidelines.
- Demonstrate the patient positioning and ambulation including proning inhalation.
- Provide assistance in reading and recording vital parameters such as pulse, SpO2, BP, temperature, etc.
- Recording and maintaining the documentation required for data entry as per guidelines.
- Assist in the use of basic equipment (Oxygen Concentrator, Oxygen Cylinder, Nebulizer, ECG and Pulse oximeter etc).

#### **Compulsory Modules**

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

NOS and Module Details	Theory Duration	Practical Duration	OJT Duration Mandatory	OJT Duration Recommended	Total Duration
Bridge Module	05:00	05:00	05:00	00:00	15:00
Module 1: Basic Structure and Function of Human Body	05:00	05:00	05:00	00:00	15:00
HSS/N5615 Assist in the use of basic equipment	15:00	15:00	15:00	00:00	45:00
Module 2: Working of basic equipment	15:00	15:00	15:00	00:00	45:00
HSS/N9622: Follow Sanitization and Infection Control Guidelines	15:00	15:00	15:00	00:00	45:00





Module 3: Infection control practices and waste management	15:00	15:00	15:00	00:00	00:00
HSS/N9624: Maintain a safe and secure working environment	10:00	2500	10:00	00:00	45:00
Module 4: Safety and emergency response at workplace	10:00	25:00	10:00	00:00	00:00
Module 5: Employability Skills (60Hours) mapped to DGT/VSQ/N0102	60:00	00:00	00:00	00:00	60:00
<u>Total</u>	105:00	60:00	45:00	00:00	210:00

# **Elective Modules**

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

# **Elective 1 Emergency Care**

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
HSS/N3016: Provide first aid as per the emergency, v2.0	15:00	15:00	15:00	00:00	45:00
Module 6: Handling emergency situations	03:00	03:00	00:00	00:00	
Module 7: First aid response for medical emergencies	05:30	05:30	00:00	00:00	
Module 8: First aid response for trauma emergencies HSS/N2332: Respond to	06:30 <b>15:00</b>	06:30 <b>15:00</b>	00:00	00:00	45:00
emergency calls & size up the scene at the site					
Module 9: Introduction to Emergency Medical Care	05:00	05:00	00:00	00:00	
Module 10: Dealing with Emergency Calls	05:00	05:00	00:00	00:00	
Module 11: Patient Assessment (Scene Size up)	05:00	05:00	00:00	00:00	
HSS/N2336: Carry out activities related to patient triage	15:00	15:00	15:00	00:00	45:00

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Module 12: Mass casualty incident	15:00	15:00	00:00	00:00	
HSS/N2337: Manage patient transport & handover to the identified provider institute	15:00	15:00	15:00	00:00	45:00
Module 13: Ambulance Operations	8:00	8.00	00:00	00:00	
Module 14: Patient Transport and Handover to Provider Institute	7:00	7.00	00:00	00:00	
<b>Total Duration</b>	60:00	60:00	60:00	00:00	180:00

# **Elective 2: Sample Collection**

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
HSS/N0513: Perform sample collection activities for Blood, Sputum, Urine, Stool, Nasal and Throat swab	45:00	45:00	45:00	00:00	135:00
Module 20: Pre- procedural activities of sample collection	10:00	10:00	20:00	00:00	30:00
Module 21: Procedural activities of sample collection	20:00	20:00	15:00	00:00	45:00
Module 22: Post Procedural activities of sample collection	15:00	15:00	10:00	00:00	30:00
HSS/N9619: Follow etiquette for site visits	15:00	15:00	15:00	00:00	45:00
Module 23: Etiquette to be followed during site visits for sample collection.	15:00	15:00	15:00	00:00	45:00
<b>Total Duration</b>	60:00	60:00	60:00	00:00	180:00





# **Elective 3: Medical Equipment Care**

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
HSS/N5608: Calibration and maintenance of basic equipment	30:00	30:00	30:00	00:00	90:00
Module 24: Calibration, Testing, and maintenance of equipment	30:00	30:00	30:00	00:00	90:00
HSS/N5607: Understanding the working of basic equipment	30:00	30:00	30:00	00:00	90:00
Module 25: Understanding the working of basic equipment.	30:00	30:00	30:00	00:00	90:00
<b>Total Duration</b>	60:00	60:00	60:00	00:00	180:00





# **Compulsory Module Details**

Module 1: Basic Structure and Function of Human Body

**Mapped to: Bridge Module** 

#### Terminal Outcomes:

Describe basic structure and function of the human body.

<b>Duration</b> : <i>05:00</i>	<b>Duration:</b> <i>05:00</i>
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul> <li>Identify and locate on the body the following topographic terms: medial, lateral, proximal, distal, superior, inferior, anterior, posterior, midline, right and left, mid-clavicular, bilateral, and mid-axillary.</li> <li>Describe anatomy and functions of the major body systems: respiratory, circulatory, musculoskeletal, nervous, and endocrine.</li> </ul>	<ul> <li>Identify various body parts/organs using3D models of human organ system.</li> <li>Design various working models depicting functioning of each human body system.</li> </ul>
Classroom Aids:	
Charts, Models, Video presentation, Flip Chart, Wl for Understanding Human Body Structure and Function	
Tools, Equipment and Other Requirements	
3D models of human body and accessory organs, r	model human skeletal system, organ specimen.





Module 2: Working of basic medical equipment. Mapped to: HSS/N5615

#### **Terminal Outcomes:**

• Explain the use of basic equipment (Oxygen Concentrator, Oxygen Cylinder, Nebulizer, ECG and Pulse oximeter, Steam Inhalation, Suction Apparatus)

<b>Duration: 1</b> 5:00	<b>Duration</b> : <i>15:00</i>				
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes				
<ul> <li>Explain the use and importance of oxygen concentrator, oxygen cylinder, nebulizer, ECG machine, pulse oximeter, steam inhaler, and suction Apparatus effectively.</li> <li>Discuss about the fire safety protocols before, during and after handling of equipment.</li> </ul>	<ul> <li>Demonstrate the method of operating oxygen concentrator, oxygen cylinder, nebulizer machine, ECG machine, pulse oximeter, steam inhaler, and suction apparatus.</li> </ul>				
Classroom Aids:					
Charts, Models, Video presentation, Flip Chart, V	Vhite-Board/Smart Board, Marker, Duster.				
Tools, Equipment and Other Requirements					
Oxygen cylinder, Concentrator, pulse oximeter, s nebulizer etc	pirometer, steam inhaler, suction apparatus,				





# Module 3: Infection control practices and waste management *Mapped to: HSS/N9622*

#### **Terminal Outcomes:**

- Apply self-hygiene and social distancing practices and follow infection control guidelines.
- Demonstrate correct waste disposal methods as per guidelines and regulations.

#### **Duration**: 15:00 **Duration**: 15:00 **Theory – Key Learning Outcomes Practical – Key Learning Outcomes** Explain the significance of following Show how to sanitize and disinfect prescribed rules and guidelines during one's work area regularly. an epidemic or a pandemic. Demonstrate the correct way of Differentiate between self-quarantine washing hands using soap and water, and self-isolation and their significance. and alcohol-based hand rubs. Discuss the significance of social Display the correct way of donning, distancing and alternate ways of doffing and discarding PPE such as carrying out everyday tasks (use of eface masks, hand gloves, face shields, payment gateways/online PPE suits, etc. learning/virtual meetings, etc.) during a Demonstrate appropriate social and pandemic. behavioural etiquette (greeting and Discuss the significance of conforming to meeting people, basic personal and workplace hygiene spitting/coughing/sneezing, etc.). practices such as washing hands, using Prepare a list of relevant alcohol-based hand sanitizers, hotline/emergency numbers. examining office supplies/deliveries and Select different types of waste and their sanitization, etc. various types of colour coded List various surfaces that may serve as bins/containers used for disposal of potential fomites at workplace. waste. Identify PPE to be used at workplace and the process of donning, doffing, and discarding them. Discuss the importance and process of identifying and reporting symptoms to the concerned authorities. Discuss organizational hygiene and sanitation guidelines and ways of following them and reporting breaches/gaps if any. Explain the importance and mechanism of proper and safe disposal, transportation, and treatment of waste. Discuss the ways of dealing with stress and anxiety during a disease outbreak.

#### **Classroom Aids:**

Computer with internet, Video presentation

#### **Tools, Equipment and Other Requirements**

E-modules depicting sanitization, infection control and waste disposal practices





# Module 4: Safety and emergency response at workplace

Mapped to: HSS/N9624

#### **Terminal Outcomes:**

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

Duration: 10:00	Duration: 25:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul> <li>Explain the basics of first aid.</li> <li>List the precautions to be taken for personal safety.</li> <li>Discuss how to perform Basic Life Support (BLS).</li> <li>Explain the use of protective devices such as restraints and safety devices.</li> <li>Identify precautions to be taken for selfsafety.</li> <li>List the hospital emergency codes and their significance.</li> <li>Explain about disaster management techniques to deal with institutional emergencies.</li> <li>Discuss about the escalation matrix for referral and management of common emergencies.</li> </ul>	<ul> <li>Demonstrate usage of hospital emergency codes and basic first aid in a mock drill depicting an institutional emergency.</li> <li>Create a chart depicting different types of protective devices such as restraints and safety devices.</li> <li>Create a flow chart depicting common emergency situations and its referral mechanism.</li> </ul>
Classroom Aids:	

Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster.

# **Tools, Equipment and Other Requirements**

Crash cart trolley, first aid box, CPR nursing manikin, Ambu bag with mask adult, torch, physical restraints,

fire extinguisher





# Module 5: Employability Skills Mapped to DGT/VSQ/N0102: Employability Skills (60 Hours)

Man	datory Duration: 60:00		
Loca	tion: On-Site		
S.N o.	Module Name	Key Learning Outcomes	Duration (hours)
1.	Introduction to Employability Skills	<ul> <li>Discuss the Employability Skills required for jobs in various industries.</li> <li>List different learning and employability related GOI and private portals and their usage.</li> </ul>	1.5
2.	Constitutional values - Citizenship	<ul> <li>Explain the constitutional values, including civic rights and duties, citizenship, responsibility towards society and personal values and ethics such as honesty, integrity, caring and respecting others that are required to become a responsible citizen.</li> <li>Show how to practice different environmentally sustainable practices.</li> </ul>	1.5
3.	Becoming a Professional in the 21st Century	<ul> <li>Discuss importance of relevant 21st century skills.</li> <li>Exhibit 21st century skills like Self-Awareness, Behavior Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn etc. in personal or professional life.</li> <li>Describe the benefits of continuous learning.</li> </ul>	2.5
4.	Basic English Skills	<ul> <li>Show how to use basic English sentences for every day. conversation in different contexts, in person and over the telephone.</li> <li>Read and interpret text written in basic English</li> <li>Write a short note/paragraph / letter/e -mail using basic English.</li> </ul>	10
5.	Career Development & Goal Setting	<ul> <li>Create a career development plan with well-defined short- and long-term goals.</li> </ul>	2
6.	Communication Skills	<ul> <li>Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette.</li> <li>Explain the importance of active listening for effective communication.</li> <li>Discuss the significance of working collaboratively with others in a team.</li> </ul>	5
7.	Diversity & Inclusion	<ul> <li>Demonstrate how to behave, communicate, and conduct oneself appropriately with all genders and PwD.</li> <li>Discuss the significance of escalating sexual harassment issues as per POSH act.</li> </ul>	2.5
8.	Financial and Legal Literacy	<ul> <li>Outline the importance of selecting the right financial institution, product, and service.</li> <li>Demonstrate how to carry out offline and online financial transactions, safely and securely.</li> <li>List the common components of salary and compute</li> </ul>	5





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		<ul> <li>income, expenditure, taxes, investments etc.</li> </ul>	
		Discuss the legal rights, laws, and aids.	
	Essential Digital	<ul> <li>Describe the role of digital technology in today's life.</li> </ul>	10
	Skills	Demonstrate how to operate digital devices and use the	
		associated applications and features, safely and securely.	
		<ul> <li>Discuss the significance of displaying responsible online</li> </ul>	
9.		behavior while browsing, using various social media	
		platforms, e-mails, etc., safely and securely.	
		<ul> <li>Create sample word documents, excel sheets and</li> </ul>	
		presentations using basic features.	
<u> </u>		Utilize virtual collaboration tools to work effectively.	
	Entrepreneurship	<ul> <li>Explain the types of entrepreneurship and enterprises.</li> </ul>	7
		Discuss how to identify opportunities for potential	
		business, sources of funding and associated financial and	
<i>10.</i>		legal risks with its mitigation plan.	
		<ul> <li>Describe the 4Ps of Marketing-Product, Price, Place and</li> </ul>	
		Promotion and apply them as per requirement.	
		<ul> <li>Create a sample business plan, for the selected business</li> </ul>	
		opportunity.	
	Customer Service	<ul> <li>Describe the significance of analyzing different types and</li> </ul>	5
		needs of customers.	
11		<ul> <li>Explain the significance of identifying customer needs and</li> </ul>	
		responding to them in a professional manner.	
		<ul> <li>Discuss the significance of maintaining hygiene and dressing</li> </ul>	
		appropriately.	
	Getting Ready for	<ul> <li>Create a professional Curriculum Vitae (CV).</li> </ul>	
	Apprenticeship &	<ul> <li>Use various offline and online job search sources such as</li> </ul>	
	Jobs	employment exchanges, recruitment agencies, and job	
		portals respectively.	
12		<ul> <li>Discuss the significance of maintaining hygiene and</li> </ul>	8
		confidence during an interview.	
		Perform a mock interview.	
		<ul> <li>List the steps for searching and registering for</li> </ul>	
		apprenticeship opportunities.	

# LIST OF TOOLS & EQUIPMENT FOR EMPLOYABILITY SKILLS

SKIELS		
S No.	Name of the Equipment	Quantity
1.	Computer (PC) with latest configurations – and Internet connectionwith standard operating system and standard word processor and worksheet software (Licensed)	As required
2.	(all software should either be latest version or one/two version below) UPS	As required
3.	Scanner cum Printer	As required
4.	Computer Tables	As required
5.	Computer Chairs	As required
6.	LCD Projector	As required
7.	White Board 1200mm x 900mm	As required
Vote: Ab	ove Tools & Equipment not required, if Computer LAB is available in the ins	titute.

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#### **Elective 1: Emergency Care**

**Module 6: Handling emergency situations.** 

Mapped to: HSS/N3016, V2.0

# **Terminal Outcomes:**

- Deal with accidents and casualties promptly, calmly and correctly.
- Evaluate the scene and victim as per standard guidelines.
- Perform Cardio-Pulmonary Resuscitation (CPR) and AED as per standard procedure.

Ouration: 01:30	Duration: 01:30	
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes	
<ul> <li>Discuss about the good Samaritan Law and its general principles.</li> <li>Describe the importance of maintaining local emergency numbers as prevalent in region.</li> <li>Recognize potential hazards found at the emergency scene.</li> <li>Discuss immediate safety responses such as switching off the ignition of the motor vehicle in case of a motor vehicle accident, cutting off main electrical switch before approaching a victim of suspected electrocution, etc.</li> <li>Discuss triage and its modalities.</li> <li>Discuss the guidelines and safety precautions that need to be followed when lifting a victim.</li> <li>Discuss the importance of putting victim in recovery position.</li> <li>Describe the guidelines and safety precautions that need to be followed when moving the victims such as special carrying procedures on stairs; pushing and pulling the victim, etc</li> <li>Determine the need for additional help or assistance such as trained lifeguards or trained swimmers to extricate the drowning person.</li> <li>Discuss the protocols for assessing consciousness, responsiveness, any limb deformity, swelling, coughing, bleeding, pulse, or breathing difficulties of the victim.</li> <li>Describe the standard procedure of Cardiopulmonary Resuscitation (CPR).</li> <li>Explain the steps of using AED as per standard protocols.</li> <li>Discuss how to clear and secure an open airway.</li> </ul>	<ul> <li>Prepare a list of local emergency response agencies such as Emergency Medical Service (EMS) team, ambulance, bomb disposal squads, fire and police departments, etc. along with their contact details.</li> <li>Demonstrate one-handed carrying techniques of the victim.</li> <li>Demonstrate correct technique of providing CPR on manikin using both singlinescuer and two rescuer methods.</li> <li>Demonstrate the use of AED.</li> <li>Demonstrate the technique of airway management using airway adjuncts, airway maneuver, removal of foreign body and preventing aspiration.</li> </ul>	





 Identify precautions to be taken for selfsafety.

#### Classroom Aids:

Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster

# Tools, Equipment and Other Requirements

Crash cart trolley, CPR Nursing Manikin, Mannequin, Ambu Bag with Mask Adult, Torch, Wheelchair, Stretcher, cot, scoop





# Module 7: First aid response for medical emergencies Mapped to: HSS/N3016, V2.0

# **Terminal Outcomes:**

- Discuss the role of a first emergency responder in assessing medical emergencies as an immediate first response.
- Apply the standard protocols of providing first response in medical emergencies.

Duration: 02:30	Duration: 02:30
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul> <li>Identify signs and symptoms of common medical emergencies which require first aid response such as Asthma/chest pain/discomfort, suffocation by smoke, strangulation or hanging, giddiness/fainting, choking, stroke/paralysis attack, fits/convulsions, nosebleed/ epistaxis, Heat stroke, hypothermia, Hypo/Hyperglycemia, fever, diarrhea.</li> <li>Explain the need for assessing and recording breathing difficulty/patterns, abnormal facial expressions, deficit in speech, any weakness, warning signs of convulsions, cyanosis, the pattern, and duration of fits.</li> <li>Discuss standard protocols while providing first aid care to victim for various medical emergencies.</li> <li>List the various do's and don'ts to be followed while providing first aid care during medical emergencies.</li> <li>Explain the importance of using Personal Protective Equipment while handling emergency.</li> </ul>	<ul> <li>Demonstrate the correct way of assessment of various signs and symptoms and appropriate techniques of providing first aid care for following conditions:         <ul> <li>chest pain/discomfort as immediate response.</li> <li>choking.</li> <li>giddiness and fainting.</li> <li>stroke/paralysis attack.</li> <li>fits or convulsions.</li> <li>epistaxis.</li> <li>Asthma</li> <li>Heat stroke</li> <li>Hypothermia</li> </ul> </li> <li>Demonstrate the correct technique of chest thrust/abdominal thrust in case of choking.</li> <li>Demonstrate the correct technique of using inhale puff in case of Asthma.</li> <li>Demonstrate how to approach in a medical emergency if victim is in hypo/hyperglycemic state.</li> <li>Demonstrate the method of taking temperature and performing cold sponging in case of hyperthermia.</li> <li>Demonstrate the method of preparing ORS solution or salt and sugar solution.</li> <li>Demonstrate donning and doffing of PPE.</li> </ul>

#### Classroom Aids:

Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster

#### **Tools, Equipment and Other Requirements**

Crash cart trolley, CPR Nursing Manikin, Mannequin, cloth/tissue papers, Ambu Bag with Mask Adult, Torch, Wheelchair, Stretcher, cot, scoop





# Module 8: First aid response for trauma emergencies

Mapped to: HSS/N3016, V2.0

# **Terminal Outcomes:**

Apply the standard protocols of providing first response in trauma emergencies.

Duration: 03:30	uration: 03:30
Theory – Key Learning Outcomes Pra	actical – Key Learning Outcomes
<ul> <li>Explain the basic components of first aid kit.</li> <li>Discuss about standard protocols while providing first aid care to victims for various trauma emergencies such as road traffic accidents, injuries and fractures, bleeding, shock, burns, snake/dog bite, poisoning, eye injuries and drowning.</li> <li>List the various do's and don'ts to be followed while providing first aid care during trauma emergencies.</li> <li>List the various types of information to be collected from the site such as information about the snake, etc.</li> <li>Explain the packing procedure of amputated part for keeping it viable for reimplantation, in case of amputation.</li> <li>Discuss about first aid care in low resource settings using culture sensitive examples.</li> </ul>	<ul> <li>Design a dummy portable and segregable first aid kit as per requirements.</li> <li>Demonstrate correct way of assessment of condition and appropriate techniques of providing first aid care during following conditions:         <ul> <li>road traffic accidents.</li> <li>wound care and bleeding.</li> <li>burns.</li> <li>snake/dog bite.</li> <li>eye injuries.</li> <li>drowning.</li> <li>Injuries</li> <li>Fracture</li> <li>Shock</li> <li>Poisoning</li> </ul> </li> <li>Demonstrate the method of putting direct pressure or compressive bandage or tourniquet to stop bleeding.</li> <li>Demonstrate the techniques of dealing with wounds where objects are stuck in wound.</li> <li>Demonstrate the method of using splints to immobilize the fractured area.</li> <li>Demonstrate use of dressing, and bandages in cuts and injuries, sprain and strain.</li> </ul>

Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster

# **Tools, Equipment and Other Requirements**

Crash cart trolley, CPR Nursing Manikin, Mannequin, cloth/tissue papers, Ambu Bag with Mask Adult, Torch, Wheelchair, Stretcher, cot, scoop, tourniquet, splint,





# Module 9: Introduction to Emergency Medical Care Mapped to: HSS/N2332

#### **Terminal Outcomes:**

- Describe the basic structure and function of Emergency Medical Services (EMS) systems.
- ☑ Identify the roles and responsibilities of EMS-Professional in Emergency Medical Services(EMS) systems.
- Describe medical and ethical issues related to Emergency Medical Services (EMS) systems.

Duration: 05:00	Duration: 05:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul> <li>Define Emergency Medical Services (EMS)systems.</li> <li>Differentiate the roles and responsibilities of the EMS-Professional from other pre-hospital care providers.</li> <li>Describe the roles and responsibilities related to personal safety.</li> <li>Discuss the roles and responsibilities of the EMS-Professional towards the safety of the crew, the patient, and bystanders.</li> <li>Define quality improvement and discuss the EMS-Professional's role in the process.</li> <li>Define medical direction and discuss the EMS-Professional's role in the process.</li> <li>State the specific statutes and regulations in your state regarding the EMS system.</li> <li>Discuss the importance of DNR orders (advance directives) and local and state provisions regarding EMS application.</li> <li>Define consent and discuss the methods of obtaining consent.</li> <li>Differentiate between expressed and invalid acceptance.</li> </ul>	Assess areas of personal attitude and conduct of the EMS-Professional.     Characterize the various methods used to access the EMS system in your community.
<ul> <li>implied consent.</li> <li>Explain the role of consent of minors in providing care.</li> <li>Discuss the implications for the EMS team in patient refusal of transport.</li> </ul>	
<ul> <li>Discuss the issues of abandonment, negligence, and battery and their implications for the EMS team.</li> </ul>	





- State conditions necessary for the EMS team to have a duty to act.
- Explain the importance, necessity, and legality of patient confidentiality.
- Differentiate the actions that an EMS team should take in the preservation of a crime scene.
- State the conditions that require an EMS team to notify law enforcement officials.
- Explain the role of EMS and the EMS team regarding patients with DNR orders.
- Explain the rationale for the needs, benefits, and usage of advance directives.
- Explain the rationale for the concept of varying degrees of DNR.

#### **Classroom Aids:**

Computer with internet, Video presentation

**Tools, Equipment and Other Requirements** 

NA





# **Module 10: Dealing with Emergency Calls**

Mapped to: HSS/N2332

#### **Terminal Outcomes:**

- Describe the first response to an emergency call appropriately
- Prepare to move to the emergency site
- Determine the response upon arrival at the emergency site

Duration: 05:00	<b>Duration</b> : <i>05:00</i>
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul> <li>List the codes used in the hospital for all emergency situations.</li> <li>Describe uses of communication equipment such as mobile phones, radio communication equipment, megaphones and other equipment as required by the (Emergency Medical Services) EMS provider.</li> <li>List the proper methods of initiating and terminating a radio call.</li> <li>State the proper sequence for delivery of patient information.</li> <li>Explain the importance of effective communication of patient information in the verbal report.</li> <li>Identify the essential components of the verbal report.</li> <li>Describe the attributes for increasing effectiveness and efficiency of verbal communications.</li> <li>State legal aspects to consider in verbal communication.</li> <li>Discuss the communication skills that should be used to interact with the patient.</li> <li>Discuss the communication skills that should be used to interact with the family, bystanders, individuals from other agencies while providing patient care and the difference between skills used to interact with the patient</li> <li>List the correct radio procedures in the following phases of a typical call: To &amp; at the scene, To &amp; at the facility, To &amp; at the station.</li> <li>Explain the rationale for providing efficient and effective radio</li> </ul>	<ul> <li>Demonstrate use of communication equipment such as mobile phones, radio communication equipment, megaphones and other equipment as required by the (Emergency Medical Services) EMS provider.</li> <li>Prepare a role play on handling various emergency calls.</li> <li>Perform a simulated, organized, concise radio transmission.</li> <li>Prepare an organized, concise patient report that would be given to the staff at a receiving facility.</li> </ul>





C	ommunications and patient reports.	काशल भारत - कुशल भारत
• E v v • E f f c c c c c c c c c c c c c c c c c	ist possible emotional reactions that the EMS team may experience when faced with trauma, illness, death and dying. Discuss the possible reactions that a samily member may exhibit when confronted with death and dying. State the steps in the EMS team's approach to the family confronted with death and dying. Recognize the signs and symptoms of critical incident stress. State possible steps that the EMS team may take to help reduce/alleviate stress.	
	ilay take to help reduce/alleviate stress.	

# **Classroom Aids:**

Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster, AV Aids for

Understanding Human Body Structure and Function

# **Tools, Equipment and Other Requirements**

Mobile phones, radio communication equipment, megaphones





# Module 11: Patient Assessment (Scene Size up)

Mapped to: HSS/N2332

# Terminal Outcomes:

Ouration: 05:00	Duration: 05:00	
heory – Key Learning Outcomes	Practical – Key Learning Outcomes	
<ul> <li>Explain the need to determine scene safety.</li> <li>Discuss the importance of body substance isolation (BSI).</li> <li>Describe the steps to be taken for personal protection from airborne and blood borne pathogens.</li> <li>Describe common hazards found at the scene of a trauma and a medical patient.</li> <li>Discuss common mechanisms of injury/nature of illness.</li> <li>Discuss the reason for identifying the total number of patients at the scene.</li> <li>Explain the reason for identifying the need for additional help or assistance.</li> <li>Explain the rationale for crew members to evaluate scene safety prior to entering.</li> <li>Discuss about the good Samaritan Law and its general principles.</li> <li>Describe the importance of maintaining local emergency numbers as prevalent in region.</li> <li>Discuss about immediate safety responses such as switching off the ignition of the motor vehicle in case of a motor vehicle accident, cutting off main electrical switch before approaching a victim of suspected electrocution, etc.</li> <li>Discuss about triage and its modalities.</li> <li>Discuss about triage and safety of EMS team that need to be followed when lifting a victim.</li> <li>Describe the guidelines and safety of EMS team that need to be followed when moving the victims such as special carrying procedures on stairs; pushing and pulling the victim, etc</li> </ul>	<ul> <li>Prepare a chart of the personal protective equipment necessary for each of the following situations: hazardous materials, rescue operations, violent scenes, crime scenes, exposure to airborne/blood borne pathogens.</li> <li>Perform handwashing before and after exposure</li> <li>Demonstrate donning and doffing off/on PPE before and after any exposure</li> <li>Demonstrate covering of cuts and abrasions with waterproof dressing and change as necessary before any exposure.</li> <li>Observe various scenarios and identify potential hazards in each scenario.</li> <li>Prepare a list of local emergency response agencies such as Emergency Medical Service (EMS) team, ambulance, bomb disposal squads, fire and police departments etc. along with their contact details</li> </ul>	





Determine the need for additional help or assistance such as trained lifeguards or trained swimmers to extricate the	कीशल भारत-कुशल भारत
drowning person.  • Discuss importance of maintaining contact details of emergency medical agencies which includes bomb disposal squads, fire departments, chemical, biological and nuclear agencies.	

# **Classroom Aids:**

Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster, AV Aids for

Understanding Human Body Structure and Function

# **Tools, Equipment and Other Requirements**

Personal Protective Equipment, Emergency kit.





# Module 12: Mass casualty incident

# Mapped to: HSS/N2336

# **Terminal Outcomes:**

- Identify injured or sick patients who require immediate treatment.
- Perform initial triage, patient extraction and secondary triage in case of mass casualty incident.

Duration: 15:00	Duration: 15:00	
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes	
<ul> <li>Explain the EMS TEAM's role during a call involving hazardous materials.</li> <li>Describe the actions that an EMS TEAM should take to ensure bystander safety.</li> <li>State the role the EMS TEAM should perform until appropriately trained personnel arrive at the scene of a hazardous materials situation.</li> <li>List the steps to approach a hazardous situation.</li> <li>Discuss the various environmental hazards that affect EMS.</li> <li>Describe the criteria for a multiple-casualty situation.</li> <li>Discuss the components of Sort, Assess, Lifesaving interventions, Treat and Transport (SALT) and Simple Triage and Rapid Treatment (START) triage model.</li> <li>Define the role of the EMS TEAM in a disaster operation and an incident management structure on arrival at the scene including as incident commander, designating triage team(s), treatment team(s), and a transport officer</li> <li>Describe basic concepts of incident management.</li> <li>Explain the methods for preventing contamination of self, equipment and facilities along with methods to use the equipment.</li> <li>Discuss role of EMS TEAM in extracting patients from the casualty area based on initial triage to designated triage and treatment areas and then re-triage patients.</li> <li>Discuss transportation of patients to healthcare provider facilities in advance of a mass casualty incident and possible</li> </ul>	<ul> <li>Review the local mass casualty incident plans and make diagrams showing SALT and START triage model as well as how to set up separate areas for treatment, triage and transport.</li> <li>Perform role play of setting up triage area for victims with minor injuries and monitoring such victims for changes in their condition.</li> <li>Demonstrate the use of equipment like cots and litters for extraction where required.</li> <li>Demonstrate coordination skills with healthcare team and bystanders for performing initial triage, patient extraction and secondary triage in case of mass casualty incident.</li> </ul>	





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arrival of multiple patients	कौशल भारत - कुशल भारत		
<ul> <li>Discuss about hazards and risks associated with handling medical samples and reporting in case of emergency.</li> </ul>			
Classroom Aids:			
Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster, AV Aids for Understanding Human Body Structure and Function			
Tools, Equipment and Other Requirements			
PPE, colour coded tags, cots and litters			





# **Module 13: Ambulance Operations**

Mapped to: HSS/N2337

# Terminal Outcomes:

Prepare, manage and maintain ambulance for handling emergency as per the specified standards.

Duration: 08:00	Duration: 08:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul> <li>Discuss the medical and non-medical equipment needed to respond to a call.</li> <li>Describe the basic structure and function of the ambulance.</li> <li>List different types of medical equipment required in ambulance such as basic supplies, patient transfer equipment, airways, suction equipment, artificial ventilation devices, oxygen inhalation equipment, cardiac compression equipment, medications.</li> <li>List different types of non-medical equipment required in ambulance such as personal safety equipment and preplanned routes or comprehensive street maps.</li> <li>List the phases of an ambulance call.</li> <li>Describe the general provisions of state laws relating to the operation of the ambulance and privileges in the categories such as speed, warning lights, siren, right of way, parking, turning.</li> <li>List contributing factors to unsafe driving conditions.</li> <li>Describe the considerations that should be given to request for escorts, following an escort vehicle and intersections.</li> <li>Discuss "Due Regard For Safety of All Others" while operating an emergency vehicle.</li> <li>Summarize the importance of preparing the unit for the next response.</li> <li>Distinguish among the terms cleaning, disinfection, high-level disinfection, and sterilization.</li> <li>Describe how to clean or disinfect items, medical equipment and ambulance following patient care.</li> <li>Describe how to discard the used equipment and consumables.</li> </ul>	<ul> <li>Prepare a mock ambulance equipped with all necessary medical and non-medical equipment and supplies.</li> <li>Show how to prepare ambulance upon receiving emergency call and disinfect ambulance after patient care.</li> <li>Prepare a chart of traffic rules and regulations as per state/country norms relating to the operation of the ambulance and privileges.</li> </ul>





- Explain the rationale for having the unit prepared to respond.
- Discuss ways to manage and maintain medical and non-medical equipment of the ambulance unit
- Discuss about inventory management, its need, principles and procedures

#### **Classroom Aids:**

Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster, AV Aids for Understanding Human Body Structure and Function

#### **Tools, Equipment and Other Requirements**

Ambulance with basic supplies, patient transfer equipment, airways, suction equipment, artificial ventilation devices, oxygen inhalation equipment, cardiac compression equipment, medications, personal safety equipment and pre-planned routes or comprehensive street maps





# Module 14: Patient Transport and Handover to Provider Institute

# Mapped to: HSS/N2337

# **Terminal Outcomes:**

- Carry out transport of the patient by an appropriate means based on the contextual considerations (emergency, weather conditions, patient's history and economic status).
- Perform handing over the patient to the medical staff.

Perform handing over the patient to the medical	
Duration: 07:00	Duration: 07:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul> <li>Discuss use of the SBAR (Situation, Background, Assessment, and Recommendation) technique during patient handover and communication</li> <li>Discuss the procedure of hospital allocation starting from assessment of the patient's medical condition, consolidation of the complete information related to hospitals, directions from the medical officer and then arrangement of transport to the allocated medical facility.</li> <li>Describe the risks involved in the process of allocating a hospital to the patient and steps to mitigate risks</li> <li>Estimate appropriate means for patient transport considering weather conditions.</li> <li>Explain the components of the written report and list the information that should be included on the written report.</li> <li>Identify the various sections of the written report.</li> <li>Describe what information is required in each section of the pre-hospital care report and how it should be entered.</li> <li>Define the special considerations concerning patient refusal.</li> <li>Describe the legal implications associated with the written report.</li> <li>Discuss all state and/or local record and reporting requirements.</li> <li>Explain the rationale for patient care documentation.</li> <li>Explain the rationale for using medical terminology correctly.</li> <li>Explain the rationale of using an accurate and synchronous clock so that information can be used in trending.</li> </ul>	<ul> <li>Allocate a healthcare provider facility for a mock case based on using SBAR (Situation, Background, Assessment, and Recommendation) technique.</li> <li>Complete a mock pre-hospital care report.</li> </ul>





#### **Classroom Aids:**

Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster, AV Aids for

Understanding Human Body Structure and Function

# **Tools, Equipment and Other Requirements**

Sample PCR formats and consent forms





# **Elective 2: Sample Collection**

# Module 15: Pre-procedural activities of sample collection

# **Mapped to: HSS/N0513 Terminal Outcomes:**

• Organize pre-procedural requirements of sample collection such as necessary equipment and supplies etc.

<b>Duration</b> : 05:00	<b>Duration</b> : 05:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul> <li>Identify the different types of samples to be taken in the medical laboratory for testing.</li> <li>Explain the correct process of sample handling.</li> <li>Identify different types of useful equipment for sample collection of Blood, Sputum, Urine, Stool and Nasal and Throat Swab.</li> <li>Explain the process of interpretation of the test request forms correctly.</li> <li>Describe the correct method of preparing a site for obtaining blood samples.</li> <li>Describe the correct method of assisting the patient before, during and after collection of the blood specimen.</li> <li>Explain the process of sampling sputum.</li> <li>Identify different types of equipment required for sample collection.</li> <li>Discuss about the importance of assembling all equipment before patient enters the room.</li> <li>Explain the process of interpretation of the Test Request Forms (TRF) correctly.</li> <li>Describe the correct method of assisting the patient before specimen collection.</li> <li>Discuss about usage of disposable tourniquets to prevent disease spread.</li> <li>Explain about Laboratory safety and standard precautions.</li> <li>Classroom Aids:</li> </ul>	<ul> <li>Demonstrate sample collection process from different sites.</li> <li>Demonstrate in a role play about the patient preparation for specimen/sample collection.</li> <li>Demonstrate the usage of disposable tourniquets to prevent disease spread.</li> </ul>





Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster, e content

# **Tools, Equipment and Other Requirements**

blood holder tray and rack, sample specimens, disposable tourniquets, specimen collection bottles/tubes, Test Request forms (sample), Sanitizer, Screen for patient privacy, nasal swab, Handwashing area with water source, QR codes, scanner, Rapid Antigen Testing Kits, Syringe, Needle, Tissue Paper, PPE Kit, Computer with internet connection





# Module 16: Procedural activities of sample collection

# Mapped to: HSS/N0513

# **Terminal Outcomes:**

- Perform sample collection following best practices.
- Demonstrate the correct method of sample collection.

	Duration: 15:00		
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes		
<ul> <li>Enumerate common pre-analytical errors and complication of sample collection.</li> <li>Describe the usage of various types of sample collection devices and other equipment required such as syringe, evacuated tubes, different gauged needle, sample collection bottles, swabs, culture bottle etc.</li> <li>Describe the usage of tourniquet and its duration of application.</li> <li>Enumerate different types of needle gauges with their colour codes.</li> <li>Explain the cause of haemolysis and the process of preventing the same.</li> <li>Explain the order of draw (for the tube types).</li> <li>Explain the correct method of preparing an appropriate site for obtaining blood samples.</li> <li>Explain the correct method of drawing blood specimens from patients.</li> <li>Explain the correct method of collecting samples of Naso and Oro pharyngeal swab.</li> <li>Explain the importance of providing correct information (like timing, midstream urine, quantity, etc) to the patient regarding sample collection of urine, stool and sputum.</li> <li>Explain the correct method of preparing and labelling the sample for test, procedures and identification purposes.</li> <li>Explain the correct method of assisting the patient before, during and after collection of the sample.</li> <li>Classroom Aids:</li> </ul>	<ul> <li>Identify sample collection devices and other equipment required such as syringe, evacuated tubes, different gauged needles, sample collection bottles, swabs, culture bottle etc.</li> <li>Demonstrate the usage of tourniquet and its duration of application.</li> <li>Demonstrate the correct method of preparing an appropriate site for obtaining blood samples.</li> <li>Demonstrate the order of draw (for the tube types).</li> <li>Demonstrate the correct method of collecting samples other than blood samples like nasal and oropharyngeal swab.</li> <li>Demonstrate the correct method of preparing and labelling the sample for test, procedures, and identification purposes.</li> <li>Demonstrate the correct method of assisting the patient during the collection of the sample like urine, stool, and sputum.</li> </ul>		





Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster, e content

# **Tools, Equipment and Other Requirements**

blood holder tray and rack, sample specimens, disposable tourniquets, specimen collection bottles/tubes, Test Request forms (sample), Sanitizer, Handwashing area with water source, QR codes, scanner, Rapid Antigen Testing Kits, Syringe, Needle, Tissue Paper, PPE Kit, Computer with internet connection.





#### **Module 17: Post Procedural activities of sample collection**

# Mapped to: HSS/N0513

#### **Terminal Outcomes:**

- Carry out sample transfer and storage.
- Understand the significance of critical alert values in laboratory reports.
- Explain about Laboratory Information System.

Duration: 10:00	Duration: 10:00				
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes				
<ul> <li>Explain various standard operating procedures for sample storage and transportation as per sample type.</li> <li>Describe the significance of critical alert values in laboratory reports.</li> <li>Explain the correct procedure of sample transportation as per sample type.</li> <li>Discuss the process of organizing stocks of sample collection as per organizational practices.</li> <li>Discuss the importance of Laboratory Information System.</li> <li>Explain about the process of managing inventory through checklists and inventory registers.</li> <li>Demonstrate the correct method of assisting the patient after collection of the sample.</li> <li>Discuss the importance of maintaining records and documentation.</li> <li>Explain the importance of sanitizing equipment after each use and decontamination of a sample collection area/room.</li> <li>Explain the importance of avoiding splash, agitation, or leakage of samples.</li> </ul>	<ul> <li>Demonstrate sample storage and transportation Process as per protocols.</li> <li>Demonstrate the sanitization, decontamination, disinfecting process of sample collection equipment and room.</li> <li>Demonstrate working on Laboratory Information System.</li> <li>Demonstrate the correct waste disposal as per guidelines.</li> </ul>				

#### **Classroom Aids:**

Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster, e content

#### **Tools, Equipment and Other Requirements**

blood holder tray and rack, sample specimens, specimen collection bottles/tubes, Test Request forms (sample), Sanitizer, Handwashing area with water source, QR codes, scanner, PPE Kit, Computer with internet connection, Refrigerator, cold chain system





#### Module 18: Etiquette to be followed during site visits for sample collection.

# Mapped to: HSS/N9619

#### **Terminal Outcomes:**

- Prepare for site visits while following visit etiquettes.
- Maintain professional behaviour with co-workers, patients, and their families.

Duration: 15:00	Duration: 15:00			
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes			
<ul> <li>State the importance of being on time.</li> <li>Explain about phone etiquettes to be followed while organizing a site visit.</li> <li>State the importance of arranging the necessary equipment/consumables as per checklist before a site visit.</li> <li>State the importance of establishing the patient's needs and expectation to ensure good quality service at the site.</li> <li>Discuss the importance of maintaining privacy of the patient.</li> <li>Describe the importance of introducing oneself to the patient on arrival.</li> <li>Explain about billing procedures.</li> <li>Discuss the process of addressing delays, accidents, or errors to ensure patient satisfaction.</li> </ul>	<ul> <li>Demonstrate phone etiquettes in a roleplay.</li> <li>Prepare a sample checklist for a site visit.</li> <li>Demonstrate in a role play about the process to maintain patient privacy in a home set up.</li> <li>Demonstrate the billing process in a skill lab using digital mode of payment, swipe machine etc.</li> <li>Demonstrate in a role play about performing the waste disposal procedures at a client site.</li> </ul>			

#### **Classroom Aids:**

Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster, e content

#### **Tools, Equipment and Other Requirements**

blood holder tray and rack, sample specimens, disposable tourniquets, specimen collection bottles/tubes, Test Request forms (sample), Sanitizer, Swipe machine, QR codes, scanner, Rapid Antigen Testing Kits, Syringe, Needle, Tissue Paper, PPE Kit, Bill Book.





#### **Elective 3: Medical Equipment Care**

Module 19: Calibration, Testing, and maintenance of equipment

Mapped to: HSS/N5608

#### **Terminal Outcomes:**

- Develop troubleshooting skills by learning systematic fault-finding techniques, troubleshooting procedures and component replacement procedures.
- Ascertain common problems, operating conditions, precautions & installation procedures of medical equipment and patient safety
- Perform optimum performance tests and routine maintenance of operating modes, front & rear panel controls of different medical equipment.

#### **Duration**: 30:00 **Duration**: 30:00 **Theory – Key Learning Outcomes Practical – Key Learning Outcomes** Discuss about the applications of various Measure physical quantities of instruments. various materials used during testing and maintenance of equipment Describe methods of proper handling of instruments accurately. Describe the safety aspects to be Demonstrate applications and ways followed while testing and maintenance of proper handling of various instruments. of equipment and its components: Ventilator, BIPAP and CPAP, Oxygen Demonstrate on call assistance by Equipment (Concentrator & Cylinder), giving assistance to hospital staff regarding the fault Digital Thermometer (IR), Flowmeter, Humidifier, Pulse Oximeter, Multipara Check graphs/ waveforms for Monitor, Nebulizer, BP Instrument, ECG accuracy and correctness. machine, Spirometer, Suction Apparatus Read and interpret the graph. its pipelines and Steam Inhaler Interpret the results from Describe various type of documents observations and calculations. required during installation, calibration Carry out operational checks, testing, and maintenance as per protocols. Preventive Maintenance and Troubleshooting of equipment and its components: Ventilator, BIPAP and CPAP, Oxygen Equipment (Concentrator & Cylinder), Digital Thermometer (IR), Flowmeter, Humidifier, Pulse Oximeter, Multipara Monitor, Nebulizer, BP Instrument, ECG machine, Spirometer, Suction Apparatus its pipelines and Steam Inhaler. Demonstrate documentation procedure of installation, calibration and maintenance with data entry as per protocols.

# **Classroom Aids:**

Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster, AV Aids for





# Understanding Human Body Structure and Function

#### **Tools, Equipment and Other Requirements**

Conductor, Semiconductor, Insulator, Microprocessor, Inductors, Motor, Drilling Machine, Suction apparatus and its pipelines, Connectors, ECG Machine, Humidifiers, Nebulizers, Handheld Digital Thermometer, Temperature sensors, Ventilators, Heart Monitor/Cardiac monitor, Blood pressure monitor, Pulse oximeter, Hand Tools Kit with Multimeter, O2 meter, Watt Meter, Pressure Meters, BIPAP, CPAP, Oxygen Equipment (Concentrator & Cylinder), Flowmeter, Multipara Monitor, Computers/ Laptops





Module 20: Understanding the working of basic equipment.

Mapped to: HSS/N5607

#### **Terminal Outcomes:**

- Identify the components of the basic equipment.
- Familiarize with the working of basic equipment.

Duration: 30:00	Duration: 30:00			
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes			
<ul> <li>Identify types of cables and connectors.</li> <li>Identification of surface mounted devices</li> <li>Identify types of PCB.</li> <li>Discuss the working knowledge of circuits and spectrum.</li> <li>Discuss about the working of Regulated DC power supply.</li> <li>Describe the basic circuits of rectifier, filter, regulator and amplifiers.</li> <li>Discuss about the standard test procedures to be followed while working with medical equipment and its parts.</li> <li>Describe the usage and working of equipment and its components: Ventilator, BIPAP and CPAP, Oxygen Equipment (Concentrator &amp; Cylinder), Digital Thermometer (IR), Flowmeter, Humidifier, Pulse Oximeter, Multipara Monitor, Nebulizer, BP Instrument, ECG machine, Spirometer, Suction Apparatus its pipelines and Steam Inhaler.</li> </ul>	<ul> <li>Demonstrate testing of diode and transistors.</li> <li>Demonstrate testing of the components using multi-meter.</li> <li>Prepare a mini project on troubleshooting of the circuit.</li> <li>Draw the basic circuits of rectifier, filter, regulator and amplifiers.</li> <li>Read the data sheets of diode and transistors.</li> <li>Demonstrate soldering of surface mounted devices.</li> <li>Demonstrate working of equipment and its components: Ventilator, BIPAP and CPAP, Oxygen Equipment (Concentrator &amp; Cylinder), Digital Thermometer (IR), Flowmeter, Humidifier, Pulse Oximeter, Multipara Monitor, Nebulizer, BP Instrument, ECG machine, Spirometer, Suction Apparatus its pipelines and Steam Inhaler.</li> </ul>			

#### **Classroom Aids:**

Charts, Models, Video presentation, Flip Chart, White-Board/Smart Board, Marker, Duster, AV Aids for

Understanding Human Body Structure and Function

#### **Tools, Equipment and Other Requirements**

Conductor, Semiconductor, Insulator, Microprocessor, Inductors, Motor, Drilling Machine, Suction apparatus and its pipelines, Connectors, ECG Machine, Humidifiers, Nebulizers, Handheld Digital Thermometer, Temperature sensors, Ventilators, Heart Monitor/Cardiac monitor, Blood pressure monitor, Pulse oximeter, Hand Tools Kit with Multimeter, O2 meter, Watt Meter, Pressure Meters, BIPAP, CPAP, Oxygen Equipment (Concentrator & Cylinder), Flowmeter, Multipara Monitor, Computers/ Laptops





#### Compulsory Module

Mandatory Duration: 45:00 Recommended Duration: 00:00

**Module Name: On-the-Job Training** 

Location: On Site
Terminal Outcomes

- Follow appropriate behaviour (frequent handwashing and sanitization).
- Demonstrate documentation and recording of equipment to hospital staff with data entry as per protocols including reading of instrument/equipment, recording and record maintenance.
- Perform the use of face mask, nasal cannula and nasal prongs and Nebulizer mask, operating oxygen concentrator, adjust oxygen flow rate in concentrator, method of cleaning of equipment and their attachments, use of finger pulse oximeter and ECG recording.
- Demonstrate handling of biomedical waste from its segregation in different coloured dustbin as per the protocol.
- Demonstrate spillage management with 1% hypochlorite solution.
- Demonstrate donning and doffing off PPE.
- Recognize different types of oxygen cylinder.
- Learn to operate oxygen cylinder.
- Basic function of flow meter and humidifier
- Identify the leak in the cylinder.
- Demonstrate the method of oxygen control flow rate from the cylinder.
- Demonstrate the use of face mask, nasal cannula and nasal prongs and Nebulizer mask.
- Demonstrate the method of operating oxygen concentrator.
- Demonstrate the method to adjust oxygen flow rate in concentrator.
- Safety precautions under oxygen delivery area
- Demonstrate the proper use of nebulizer.
- Demonstrate the method of cleaning of equipment and their attachments.
- Demonstrate the use of finger pulse oximeter.

#### **Elective 1: Emergency Care**

Mandatory Duration: 60:00 Recommended Duration: 00:00

**Module Name: On-the-Job Training** 

Location: On Site

#### **Terminal Outcomes**

- Prepare the ambulance compartment for emergency readiness.
- Install list of documents required at the time of emergency.
- Practice patient shifting from ambulance to the hospital.
- Demonstrate the way of connecting to the nearest hospitals during emergency.
- Demonstrate the use of stretcher, spine board, wheelchair for shifting the patient.
- Practice record management post patient shifting to the medical facility

#### **Elective 2: Sample Collection**

Mandatory Duration: 60:00 Recommended Duration: 00:00

Module Name: On-the-Job Training

Frontline Health Caregiving Associate





#### **Location: On Site**

#### **Terminal Outcomes**

- Follow appropriate behaviour like frequent handwashing, sanitization, social distancing.
- Understand about specific care facilities, portals, and resources for latest updates about protocols as per requirement of the job role.
- Perform Pre procedural requirements of sample collections
- Perform Procedural requirements of sample collections, including Rapid Antigen Test (RAT), nasal swab etc.
- Perform Post Procedural requirements of sample collection.
- Perform sample collection procedure at patient site/home care set up.
- Perform billing procedure as per organizational policies and procedures.
- Demonstrate documentation and reporting procedure.
- Perform data entry as required in a job role.

#### **Elective 3: Medical Equipment Care**

**Recommended Duration: 00:00 Mandatory Duration: 60:00** 

**Module Name: On-the-Job Training** 

**Location: On Site** 

#### **Terminal Outcomes**

- Follow appropriate behaviour (frequent handwashing and sanitization).
- Orientation to different departments in Hospital
- Identify different types of medical instruments and equipment and its components, circuit, cables, connectors, PCB, etc. and the tool kit to be used for its repair and maintenance
- Orientation to Cold chain management of COVID vaccine
- Clinical use and principle of operation of different types and models: Ventilator, BIPAP and CPAP, Oxygen Equipment (Concentrator & Cylinder), Digital Thermometer (IR), Flowmeter, Humidifier, Pulse Oximeter, Multipara Monitor, Nebulizer, BP Instrument, ECG machine, Spirometer, Suction Apparatus its pipelines and Steam Inhaler
- Hands-on experience in installation, set-up, operation, routine maintenance, internal components and functional verification testing, and demonstration of Cleaning and safety measures, Features and Setup of equipment's and its routine use to hospital staff: Ventilator, BIPAP and CPAP, Oxygen Equipment (Concentrator & Cylinder), Digital Thermometer (IR), Flowmeter, Humidifier, Pulse Oximeter, Multipara Monitor, Nebulizer, BP Instrument, ECG machine, Spirometer, Suction Apparatus its pipelines and Steam Inhaler
- Information to hospital staff about risk factor associated with the use of equipment, complexity involved, manufacturer's instruction and specification and effective use of
- Demonstration of documentation and recording of equipment to hospital staff with data entry as per protocols including reading of instrument/equipment, recording and record maintenance





#### **Annexure**

# **Trainer Requirements**

Trainer Prerequisites						
Minimum Specialization Educational	Relevan	Relevant Industry Experience		Training Experience		
Qualification		Years	Specialization	Years	Specializ ation	
Medical Graduate	MBBS, BAMS, BHMS	1		0		1 Year of clinical experience in patient care is mandatory
Ph.D.	Nursing	1		0		
M.Sc	Nursing	1		0		
B.Sc. or Post Basic B.Sc.	Nursing	1		0		
Diploma	GNM (General Nursing Midwifery)	2		0		

Trainer Certification			
Domain Certification	Platform Certification		
Certified for Job Role: Frontline Health Associate" mapped to QP: HSS/Q2306 v1.0" with minimum score of 80%.	Recommended that the Trainer is certified for the Job Role: "Trainer (VET and Skills)", mapped to the Qualification Pack: "MEP/Q2601, v2.0" with minimum score of 80%.		





# **Assessor Requirements**

Assessor Prerequisites						
Minimum Educational Specialization Qualification	Relevant Industry Experience		Training/Assessment Experience		Remarks	
		Years	Specialization	Years	Specialization	
Medical Graduate	MBBS, BAMS, BHMS	3		0		
Ph.D.	Nursing	3		0		
M. Sc	Nursing	3		0		
B.Sc. or Post Basic B.Sc.	Nursing	3		0		
Diploma	GNM (General Nursing Midwifery)	5		0		

Assessor Certification			
Domain Certification	Platform Certification		
Certified for Job Role: "Frontline Health Associate" mapped to QP: "HSS/Q2306 v1.0" with minimum score of 80%.	Recommended that the Assessor is certified for the Job Role: "Assessor (VET and Skills)", mapped to the Qualification Pack: "MEP/Q2701, v2.0" with minimum score of 80%.		





#### **Assessment Strategy**

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

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

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

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

The following tools would be used for final assessment:

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

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

- **2. Viva/Structured Interview:** This tool is used to assess the conceptual understanding and the behavioral aspects with regard to the job role and the specific task at hand. It also includes questions on safety, quality, environment and equipment etc.
- **3. Written Test:** Question paper consisting of 100 MCQs (Hard:40, Medium:30 and Easy: 30) with questions from each element of each NOS. The written assessment paper is comprised of following types of questions:
  - i. True / False Statements
  - ii. Multiple Choice Questions
  - iii. Matching Type Questions.
  - iv. Fill in the blanks
  - v. Scenario based Questions
  - vi. Identification Questions

#### **QA Regarding Assessors:**

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





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

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





# **Glossary**

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





# **Acronyms and Abbreviations**

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