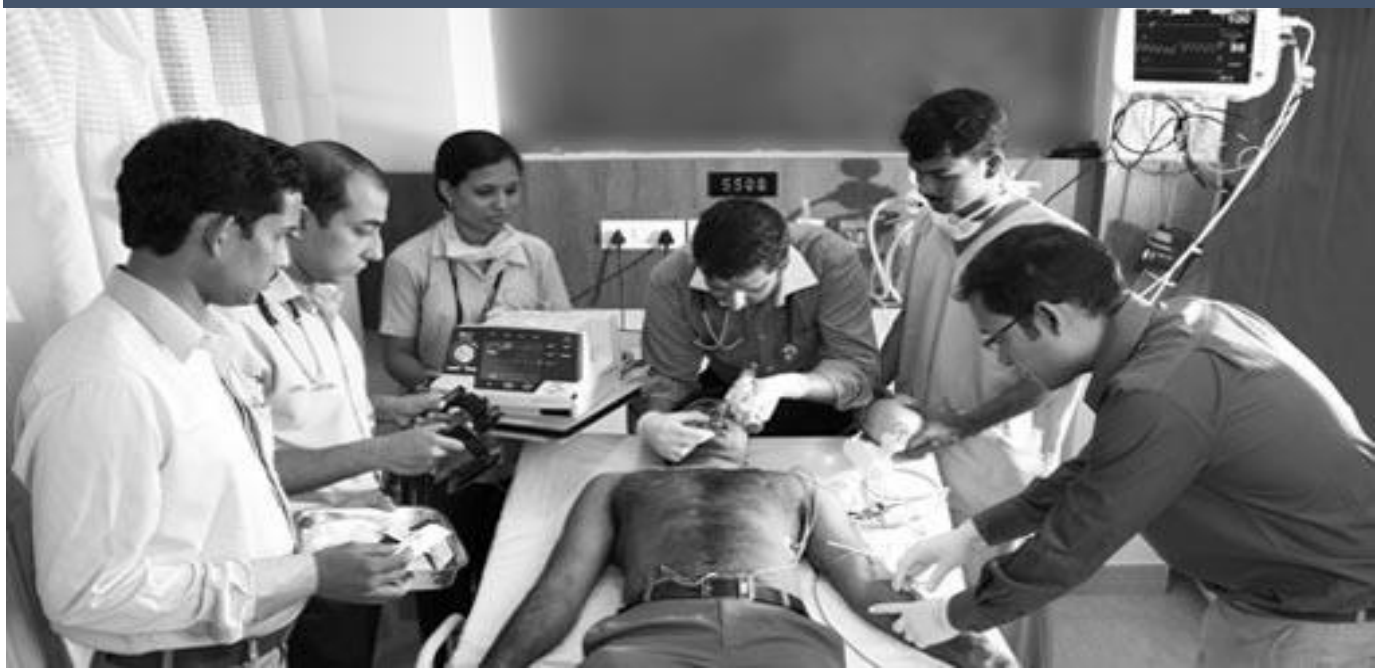
Ministry of Health and Family Welfare

2017

सत्यमेव जयते

Short Term Training Curriculum Handbook

EMERGENCY MEDICAL TECHNICIAN- BASIC



Standards in accordance with
The National Skills Qualifications Framework (NSQF)

Ministry of Skill Development and Entrepreneurship

Ministry of Health and Family Welfare

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Contents

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 an Emergency Medical Technician?

Emergency medical technician-basic is an entry-level emergency medical technician who is trained in basic emergency care skills, such as V cannulation, oxygen therapy, physical examination, assisting emergency child birth and essential newborn care, automated external defibrillation, airway maintenance, CPR, spinal immobilization, bleeding control, and fracture management. An EMT B is trained for administration of medications always under medical direction over radio or phone.

An EMT-B helps a wide variety of people in need of care. Some patients, such as victims of a cardiac episode, depend on emergency medical services to literally save their lives. Others will rely on support and care for what may seem a relatively minor complaint but that has caused them to become a patient in need. In either case, an EMT-B plays a critical role in the healthcare system. An EMT is often be the first medical care provider to see and care for the patient.

An emergency medical services system (EMSS) is the planned configuration of community resources and personnel necessary to provide immediate medical care to patients with sudden or unexpected illness or injury. An EMSS can be statewide.

Scope of practice

The EMT-B's scope of practice is to render basic life support (BLS) to the sick and injured and transport them to a medical facility within stipulated time limits. It also includes adherence to the patient safety. It also includes legal duties to the patient, the medical director, and the public. The EMT-B must provide for the well-being of the patient by rendering necessary interventions outlined in the scope of practice dictated by the laws of the State and the medical director in reference to the national standard curricula. The EMT-B's legal right to function may also depend upon direction over radio or telephonic communication/ protocols.

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

1. Respond to emergency calls
2. Size up the scene at the site
3. Follow evidence based protocol while managing patients
4. Assess patient at the site

5. Patient triage based on the defined clinical criteria of severity of illness
6. Act within the limits of one's competence and authority
7. Work effectively with others
8. Manage work to meet operational parameters
9. Maintain a safe, healthy, and secure working environment
10. Practice code of conduct while performing duties
11. Follow biomedical waste disposal protocols
12. Follow infection control policies and procedures
13. Equipment maintenance
14. Monitor and assure quality
15. Manage allergic reaction
16. Manage poisoning or overdose
17. Manage environmental emergency
18. Manage behavioral emergency
19. Manage diabetes emergency
20. Manage cerebrovascular emergency
21. Manage respiratory emergency
22. Manage cardiovascular emergency
23. Manage bleeding and shock
24. Manage soft tissue injuries and burns
25. Manage musculoskeletal injuries
26. Manage injuries to head and spine
27. Manage abdominal injuries and severe abdominal pain
28. Manage injuries thoracic injuries
29. Manage obstetrics/gynaecology emergencies
30. Manage infants, neonates and children
31. Manage mass casualty incident
32. Select the proper provider institute for transfer
33. Transport patient to the provider institute
34. Manage patient handover to appropriate nearest facility or hospital
35. Collate and communicate health information
36. Follow complete and correct documentation procedures

Minimum Entry requirement

Educational requirement - The candidate must have completed graduation with basic understanding of English, Regional/ Vernacular Language, Biology and Science.

Minimum Course duration

It is recommended that any programme developed from this curriculum should have a minimum duration of minimum 544 hours spread in to 7 to 8 weeks (173 hours of Theory, 211 hours of practical and 160 hrs of internship) to qualify as an entry level professional in the field of EMT-B.

For advanced candidates, such as in case of experienced professionals/recognition of prior learning for existing professionals, the notional hours of training may vary as far as they fulfill the assessment criteria. Such professionals may be directly assessed on the basis of modular assessment and may undertake training only for the desired skills which might be lacking for the purpose of certification of skills.

Teaching faculty

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
- Well-organized and focused
- Eager to learn and keep oneself updated with the latest in the mentioned field.

Additionally, the minimum qualification for the teaching faculty should be-

- Medical/ Allied health graduates with additional qualification in Emergency Medicine/Emergency Medical Services and having completed instructor certification in Basic Life Support, Advance Cardiovascular Life Support, Paediatric Advance Life Support and International Trauma Life Support with experience in teaching EMT course.
- Specialist Medical teachers will be permitted to teach special topics. Topics related to Ambulance operations and managements shall be taught by expert faculty from that 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 90% attendance in both theoretical and 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

Training Outcomes:

1. Demonstrate knowledge about the healthcare sector and emergency medical care services
2. 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, precision to call other emergency people, handling different emergency scenarios from clinical emergency to trauma emergency to mass casualty to disaster management, etc.
3. Demonstrate setting of an ambulance for dealing with emergency situations
4. Practice infection control measures
5. Demonstrate safe and efficient transferring and ambulation techniques
6. Demonstrate techniques to maintain the personal hygiene needs of oneself and the patient
7. Demonstrate actions in the event of medical and facility emergencies
8. Demonstrate professional behavior, personal qualities and characteristics of an Emergency Medical technician-Basic
9. Demonstrate good communication, communicate accurately and appropriately in the role of Emergency Medical technician-Basic

MODULE – 1: FOUNDATION MODULE: INTRODUCTION TO THE EMERGENCY MEDICAL TECHNICIAN 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 an EMT-Basic
3. Learn the scope of work for an EMT-Basic
4. Adhere to legislation, organizational systems and requirements , protocols and guidelines relevant to one's role and field of practice
5. Recognize the boundary of one's role and responsibility and seek supervision when situations are beyond one's competence and authority
6. Understand the art of effective communication with various stakeholders like patients, nurses, etc.
7. Discuss the factors that may alter the behavior or emotional status of an ill or injured individual
8. Describe ways of dealing with a behavioural emergency patient if the patient becomes violent
9. Describe the verbal techniques useful in managing the emotionally disturbed patient
10. Communicate with the patient clearly and in a manner and pace that is appropriate to their level of understanding, culture and background and their need for reassurance and support
11. List the risk factors for suicide
12. Understand and describe relevant medico-legal principles for management of emotionally disturbed patients
13. Learn how to identify rapidly changing situations and adapt accordingly
14. Have a basic working knowledge of computers
15. Understand and describe handling and maintenance of equipment
16. Understand the importance of and process for first aid and triage
17. Understand his/her role in disaster preparedness and management

Content -

S. No.	Topics	Hours		
		Theory	Practical	Total
1.	Introduction to healthcare and hospitals	2	0	2
2.	Introduction to Emergency Medical Care and the EMT-Basic program	2	0	2
3.	Professionalism and Values	2	1	3
4.	Communication	2	1	3
5.	Interpersonal skills and working with others	2	1	3
6.	Computers and information technology	2	5	7
7.	Basics of emergency care and life support skills	2	6	8
8.	Disaster preparedness and management	1	1	2
TOTAL		**15**	**15**	**30**

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 Emergency Medical Care and the EMT-Basic program**
    a. Duties and responsibilities of an EMT-Basic
    b. Differences between the role of an EMT-Basic and an EMT-Advanced
3. **Professionalism and Values**
    a. Code of conduct, professional accountability and responsibility, misconduct
    b. Leadership and decision making
    c. Ethics in healthcare – Privacy, confidentiality, consent, medico legal aspects
    d. Understanding scope of work and avoiding scope creep
    e. Handling objections
    f. Gather information from observation, experience and reasoning
    g. Identification of rapidly changing situations and adapt accordingly
    h. 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- behavior/ abnormal signs and reporting to the Medical Officer
    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 and primary assessment
b. Basic emergency care – first aid and triage
c. Drug tray and use of drugs: complications and their management
d. Identifying signs and taking measures for management of
    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
e. Ventilations including use of bag-valve-masks (BVMs)
f. Choking, rescue breathing methods
g. One- and Two-rescuer CPR
h. Using an AED (Automated external defibrillator).
i. Managing an emergency including moving a patient

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. Videos and presentations
2. Discussions and dialogues
3. Dummies and mannequins
4. First aid kit etc.

Assessment for the above content –

Assessment should also be a combination of MCQs short answer with the below mentioned skills related assessment criteria

S. No.	Assessment Criteria for the Assessable Outcomes	Marks Allocation		
		Viva/ Theory	Skills Practical	Total
1.	Explain and demonstrate the role of an EMT-Basic	5	5	10
2.	Describe and demonstrate the ethical considerations of his/her job as an EMT-Basic	5	10	15
3.	Describe the need for customer service and service excellence in Medical service	10	10	20
4.	Describe and demonstrate how to communicate with patient with impaired hearing/ vision/ speech/ memory	5	20	25
5.	Enumerate and demonstrate the changes in the patient with abnormal behavior	5	5	10
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	5	10
10.	Demonstrate basic first aid and CPR	0	30	30
11.	Describe precautions in the event of a disaster	0	5	5
12.	Demonstrate the basic use of computers and aspects related to data handling	0	10	10
13.	List basic medico-legal principles	0	5	5
Total		**35**	**165**	**200**

MODULE – 2: RESPOND TO EMERGENCY CALLS

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

1. Understand the emergency codes used in the emergency response center for emergency situations
2. Follow guidelines taught in the training and received from physicians who oversee their work
3. Reflect professionalism through use of appropriate language while speaking to the dispatch team
4. Respond to the emergency calls from the dispatch center
5. Identify and manage potential and actual risks to the quality and safety of practice
6. Understand how to engage with the medical officer for support in case the situation is beyond one's competence
7. Be able to read written instructions for specific emergency situations, briefs from the dispatch center and other important communiques

Content -

Sl. No.	Topics	Hours		
		Theory	Practical	Total
1.	Emergency Medical Services	2	3	5
2.	Call of Duty, Regulations guiding EMS in the State	2	3	5
3.	Coordination with other emergency professionals- I	2	3	5
TOTAL		**6**	**9**	**15**

Detail of Topics-

1. **Emergency Medical Services**
    a. Definition of Emergency Medical Services (EMS) systems.
    b. Emergency calls from dispatch centre, process of recording details and responding to the calls
    c. Implementation of primary injury prevention activities as an effective way to reduce death, disabilities and health care costs.
    d. General concepts of pathophysiology for the assessment and management of emergency patients.
    e. Codes used in the hospital for all emergency situations
    f. Relevant medical equipment used in different types of emergencies
2. **Call of Duty, Regulations guiding EMS in the State**
    a. Roles and responsibilities of the EMT Basic Professional.
    b. Difference in the roles of EMT-B from other pre-hospital care providers.
    c. Specific statutes and regulations regarding the EMS system.
    d. Various methods used to access the EMS system in the community.
    e. Expected attitude and conduct of the EMT Professional at work and beyond.
    f. Ethics in decision making in the out-of-hospital environment.
    g. Relevant legislation, standards, policies, and procedures followed in the hospital
    h. Preparation of ambulance
        i. Use of equipment and supplies specialized for Emergency Medical Services such as diagnostic kits, disposables, and patient care products

ii. Use of materials, supplies, medications and other items required for Basic Life Support (BLS)

3. **Coordination with other emergency professionals**
    a. History taking, comprehensive physical exam on any patient and communicating the findings.
    b. Integration of pathophysiological principles, assessment and findings to formulate a field impression and implement the treatment plan for the patient.
    c. Documentation of essential elements of patient assessment, care and transport.
    d. Parameters of Quality Improvement and role of the EMT Professional in the process.

Equipment required/ teaching strategies for the above content- Study/reference material, Interactive classroom sessions.

Assessment for the above content– Assessment should also be a combination of MCQs short answer with the below mentioned skills related assessment criteria

S. No.	Assessment Criteria for the Assessable Outcomes	Marks Allocation		
		Viva/ Theory	Skills Practical	Total
1.	Demonstrate how to respond to call for emergency medical assistance from the dispatch centre	5	20	25
2.	Demonstrate how to collect information about the type of emergency from the dispatch centre	5	20	25
3.	State basic medical terms and principles to evaluate the patient's condition	5	20	25
4.	State conditions necessary for the EMT-B to have a duty to take action	5	5	10
5.	Demonstrate the use of communication equipment such as mobile phones, radio communication equipment, megaphones and other equipment as required by the EMS provider	0	20	20
6.	Demonstrate principles for ensuring teamwork while preparing for an emergency situation with a fellow EMT and/or a nurse	0	25	25
7.	Demonstrate preparation of the ambulance with the required medical equipment and supplies as per the medical emergency	5	45	50
8.	Demonstrate process for ensuring active listening in interactions with the dispatch team, colleagues and the medical officer	0	10	10
9.	State the response times decided by the EMS provider/ state government in which EMT operates	5	5	10
Total		**30**	**170**	**200**

MODULE – 3: SIZE UP THE SCENE AT THE SITE

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

1. Ensure that all safety precautions are taken at the scene of the emergency
2. Sum up the scene quickly and ensure that it is safe by taking appropriate measures
3. Collaborate with other emergency response agencies, as required
4. Analyze the situation at the scene and map out the best possible course of action while integrating all essential stakeholders, as well as call for backup if required
5. Understand the implications of nuclear, radioactive, biological, chemical and explosive incidents
6. Recognize and react appropriately to persons exhibiting emotional reactions
7. Reassure patient(s) and bystanders by working in a confident, efficient manner
8. Work expeditiously while avoiding mishandling of patient(s) and undue haste
9. Plan and organize activities to be carried out at the scene in order to be rapid and effective without compromising on safety or patient care
10. Understand the importance of being alert to health, safety, and security hazards at the emergency site

Content -

S. No.	Topics	Hours		
		Theory	Practical	Total
1.	Initial Assessment of the scene	3	2	5
2.	Personal safety at the scene	3	5	8
3.	Coordination with other emergency professionals- II	3	5	8
4.	Dealing with reactions from patient(s)/ family	2	2	4
5.	Ensuring scene safety/ prevention of any further damage	2	3	5
TOTAL		**13**	**17**	**30**

Detail of Topics-

1. **Initial Assessment of the scene**
    a. Determine scene safe parking and traffic diversion
    b. Assessing number of patients/ victims at the site
    c. Assessing mechanism of injury/nature of illness
    d. Disinfection/cleaning and all reporting documentation
    e. Resource determination (heavy rescue, hazmat, etc.)
2. **Personal safety at the scene**
    a. Importance of body substance isolation (BSI)
    b. Important steps the EMT-Basic should take for personal protection from airborne and blood borne pathogens
    c. Proper removal and discard of the protective garments after completion of the scenario
    d. Personal Protective Equipment (PPE) necessary for situations like Hazardous materials, Rescue operations, Violent scenes, Crime scenes, and Exposure to airborne/blood borne pathogens
    e. Hand care procedures and techniques including Hand-Washing before and after

f. Use of PPE before any exposure, covering cuts and abrasions with water proof dressing and change as necessary.
g. Importance of health, safety, and security protocols followed by the health care provider at the emergency scene
h. Vaccination of EMTs against hepatitis B, TT, typhoid, influenza

3. **Coordination with other emergency professionals/ departments as per need**
   a. State the conditions that require an EMT-B to notify law enforcement officials.
   b. Effective collaboration with emergency response agencies such as bomb disposal squads, fire departments, chemical, biological and nuclear agencies
   c. Collaboration with law agencies at a crime scene
4. **Dealing with reactions from patient(s)/ family**
   a. Possible emotional reactions that the EMT-Basic may experience when faced with trauma, illness, death and dying
   b. Possible reactions that a family member may exhibit when confronted with death and dying.
   c. Steps in the EMT-Basic's approach to the family confronted with death and dying.
   d. Possible reactions that the family of the EMT Basic may exhibit due to their outside involvement in EMS.
5. **Ensuring scene safety/ prevention of any further damage**
   a. The healthcare provider's emergency procedures and responsibilities in nuclear, radioactive, biological, chemical and explosive incidents
   b. What constitutes a hazard encountered at the scene and how to report the hazard to the competent authority
   c. How to create a safe environment around the patient(s) and others
   d. Common health, safety, and security hazards that affect people working at the emergency site
   e. Importance of warning others about hazards and what to do until the hazard is dealt with

Equipment required/ teaching strategies for the above content-

Study/reference material, Interactive classroom sessions, On-job atmosphere, Internet usage to learn

Assessment for the above content–

Assessment should also be a combination of MCQs short answer with the below mentioned skills related assessment criteria

S. No.	Assessment Criteria for the Assessable Outcomes	Marks Allocation		
		Viva/ Theory	Skills Practical	Total
1.	Describe procedures to ensure scene safety	5	5	10
2.	List information to be obtained for an accurate and complete scene assessment	5	10	15
3.	Demonstrate documentation of scene assessment	5	10	15
4.	Demonstrate steps in crowd management	5	5	10

S. No.	Assessment Criteria for the Assessable Outcomes	Marks Allocation		
		Viva/ Theory	Skills Practical	Total
5.	Demonstrate introducing oneself to patient(s) and asking for their consent to any treatment	5	5	10
6.	Demonstrate communication with those around the patient(s) and give them clear instructions for their safety	5	10	15
7.	Demonstrate effective communication with other emergency response agencies if required	5	5	10
8.	Discuss the scene with colleagues to express views and opinions	5	5	10
9.	Demonstrate preparation for dealing with different types of hazardous materials like nuclear, radioactive, biological, chemical and explosive substances and actions to be taken	5	20	25
10.	Demonstrate preparation for an emergency by practicing Body Substance Isolation (BSI), by putting on:			
	Hospital Gowns	0	10	10
	Medical Gloves	0	10	10
	Shoe Covers	0	10	10
	Surgical Masks	0	10	10
	Safety Glasses	0	10	10
	Helmets	0	10	10
	Reflective Clothing	0	10	10
11.	State the conditions that require an EMT-B to notify law enforcement officials and demonstrate the process for the same	5	5	10
Total		**50**	**150**	**200**

MODULE – 4: FOLLOW EVIDENCE-BASED PROTOCOL WHILE MANAGING PATIENTS

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

1. Implement the best solution for each emergency based on available evidence
2. Assist in finalization of line of action based on DNR and Advance wills
3. Follow prescribed procedures and steps involved in an emergency or triage context
4. Manage cases where the patient refuses treatment
5. Understand the communication protocols for medical situations that require direct voice communication between the EMT and the Medical officer prior to the EMT rendering medical services to the patients outside the hospital
6. Demonstrate professional judgement in determining treatment modalities within the parameters of relevant protocols
7. Understand the universal approach to critical patient care and package-up-patient-algorithm (transport protocol)

Content -

S. No.	Topics	Hours		
		Theory	Practical	Total
1.	Evidence based practice	2	1	3
2.	Development and innovations in EMS	5	0	5
3.	Respecting patient values and expectations	7	5	12
TOTAL		**14**	**6**	**20**

Detail of Topics-

1. **Evidence based practice**
    a. Implementation of evidence based practice
    b. Importance of following evidence based protocols
2. **Development and innovations in EMS**
    a. Changes in legislations and organisational policies with respect to refusal of treatment, diagnosis of patients at the scene and lifting/ shifting/ moving patients at the scene
    b. How to keep abreast of the latest knowledge by reading internal communications
    c. Legal framework changes related to roles and responsibilities
    d. Being updated with new clinical protocols and orders given by medical officer or any other provider institute
3. **Respecting patient values and expectations and taking relevant action**
    a. Importance, necessity, and legality of patient confidentiality
    b. Expressed and implied consent
    c. Consent of minors in providing care
    d. Refusal of transport and implications for the EMT-B
    e. Role of EMS and the EMT-B regarding patients with DNR orders
    f. Rationale for the concept of varying degrees of DNR
    g. Rationale for the needs, benefits, and usage of advance directives
    h. Treatment refusal
        i. Managing cases of treatment refusal

ii. Documentation of cases in which a fully alert patient refuses treatment despite persuasion and consequence sharing

i. Sharing with the patient the options available depending on the severity of the damage and potential risks/ benefits of each

j. Taking consent of the patient, or the family members in case the patient is unconscious, to initiate the appropriate treatment

k. Explaining to the patient the monetary commitments and insurance procedure, if applicable

l. Appropriate completion of paperwork related to PCR, medical history, insurance, transport and transfer

m. Taking consent of the medical officer by sharing a crisp, concise and to the point report

n. Transport of patient to the appropriate hospital based on the kind of care required for the patient

i. Package up patient algorithm

Equipment required/ teaching strategies for the above content- Study/reference material, Interactive classroom sessions, On-job atmosphere, Internet usage to learn

Assessment for the above content–Assessment should also be a combination of MCQs short answer with the below mentioned skills related assessment criteria

S. No.	Assessment Criteria for the Assessable Outcomes	Marks Allocation		
		Viva/ Theory	Skills Practical	Total
1.	Enumerate and demonstrate appropriate and permissible medical service procedures which may be rendered by an EMT B to a patient not in a hospital	10	40	50
2.	Demonstrate communication protocols for medical situations that require direct voice communication between the EMT B and the Medical officer prior to the EMT rendering medical services to the patients outside the hospital	5	20	25
3.	Demonstrate the universal approach to critical patient care and package-up-patient-algorithm(transport protocol)	10	30	40
4.	List situations in which CPR needs to be withheld and in which cases it needs to be given	5	10	15
Total		**30**	**100**	**130**

MODULE – 5: ASSESSMENT OF PATIENT ONSITE AND TRIAGE

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

1. Recognize the signs and symptoms of critical incident stress
2. State possible steps that the EMT-Basic may take to help reduce/alleviate the stress
3. Identify the components of the SAMPLE history, OPQRST for chief complaint
4. Use SALT method in day-to-day handling and START in mass casualty handling and disasters
5. Differentiate between a sign and a symptom
6. State the importance of accurately reporting and recording the baseline vital signs
7. Explain the rationale of recording additional sets of vital signs
8. Demonstrate the skills involved in assessment of all vital signs
9. Understand triage scoring/ categorization and colour coding
10. Obtain informed consent of the patient for the assessment process, unless impossible as a consequence of their condition
11. Minimize any unnecessary discomfort and encourage the patient to participate as fully as possible in the process
12. Conduct all observations and measurements systematically and thoroughly in order of priority (including Airway, Breathing, Circulation)
13. Respect the patient's privacy, dignity, wishes and beliefs
14. Recognize promptly any life-threatening or high risk conditions
15. Make full and effective use of any protocols, guidelines and other sources of guidance and advice to inform decision making

Content -

S. No.	Topics	Hours		
		Theory	Practical	Total
1.	Basic human anatomy and related medical terminology	10	5	15
2.	Assessment of vital signs	5	10	15
3.	Assessment of SAMPLE history and detailed history	2	3	5
4.	Introduction to triage and its significance	2	3	5
5.	Methods to assess and manage the five critical resuscitation points	2	6	8
6.	Assessment of level of consciousness	2	5	7
7.	Whole body Physical Examination	5	5	10
TOTAL		**28**	**37**	**65**

Detail of Topics-

1. **Basic human anatomy and related medical terminology**
    a. Human anatomy and functions of specific body parts
    b. Identification and location of the following topographic terms: medial, lateral, proximal, distal, superior, inferior, anterior, posterior, midline, right and left, mid-clavicular, bilateral, and mid-axillary on the body.
    c. Anatomy and functions of the following major body systems: respiratory, circulatory, musculoskeletal, nervous, and endocrine.

2. **Assessment of vital signs**
    a. Need for obtaining and recording an accurate set of vital signs.
    b. Methods to obtain vital signs.
    c. Skills involved in assessment of respiratory rate, pulse rate, blood pressure and body temperature, also blood sugar, oxygen saturation
    d. Attributes that should be obtained when assessing breathing.
    e. Differentiation between shallow, labored and noisy breathing.
    f. Difference between auscultation and palpation for obtaining a blood pressure.
    g. Systolic and diastolic pressure.
    h. Information obtained when assessing a patient's pulse.
    i. Checking of bleeding.

3. **Assessment of sample history and detailed history**
    a. Recognition and response to the feelings that patients experience during assessment.
    b. Skills associated with assessing the skin color, temperature, condition, and capillary refill in infants and children.
    c. Skills associated with assessing the pupils.
    d. Skills required to obtain information from the patient, family, or bystanders at the scene.

4. **Introduction to triage and its significance**
    a. Primary triage at a virtual site of the incidence/ accident.
    b. Color coding of the patient- criticality of case
    c. Filling the Triage tag
    d. Extrication of patient from the ambulance

5. **Methods to assess and manage the five critical resuscitation points**
    a. Skills required to manage all five indicators (A, B, C, D, E) of resuscitation system.
    b. Assessment and management of Airway, Breathing, Circulation, Disability and Exposure

6. **Assessment of level of consciousness**
    a. Assessment of level of consciousness of the patient- AVPU scale (Alert, Verbal Commands, Painful stimuli, Unresponsive)
    b. Appropriate course of action based on the AVPU score.

7. **Complete Physical examination: Observation of patient's**
    a. Position
    b. Bleeding from nose/ears
    c. Pupil dilation/ size of Pupil
    d. Any swelling or bruises
    e. Any damage to the spinal cord, being very careful not to cause further damage

Equipment required/ teaching strategies for the above content- - Mannequin to learn different body parts, equipment for assessing vitals such as BP apparatus, torch, pulse oximeter etc.

Assessment for the above content–

Assessment should also be a combination of MCQs short answer with the below mentioned skills related assessment criteria

S. No.	Assessment Criteria for the Assessable Outcomes	Marks Allocation		
		Viva/ Theory	Skills Practical	Total
1.	Explain clearly:			
	a. An EMT's role and scope, responsibilities and accountability in relation to the assessment of health status and needs	5	10	15
	b. What information need to be obtained and stored in records	10	0	10
	c. With whom the information might be shared	10	0	10
	d. What is involved in the assessment	5	5	10
2.	Demonstrate the procedure to obtain informed consent of the patient for the assessment process	5	10	15
3.	Demonstrate the procedure for observations and measurements in order of priority (including Airway, Breathing, Circulation)	5	20	25
4.	Demonstrate the procedure to check patient condition by observing position, colour of skin, etc.	5	20	25
5.	Define Triage and discuss significance of Triage Tag of the patient	5	10	15
Total		**50**	**75**	**125**

MODULE – 6: MANAGING EMERGENCIES – I

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

1. Identify all signs and symptoms of a cardiovascular disorder
2. Identify the severity of cardiovascular episode and report it accordingly
3. Predict the relationship between the patient experiencing cardiovascular compromise and basic life support
4. Understand a Stroke/ Cerebrovascular attack and be able to identify its signs and symptoms
5. Explain the importance of immediately notifying the Emergency Department of the hospital of the arrival of a potential stroke victim
6. Discuss the thermoregulatory mechanism of body
7. Discuss effects of exposure to extreme temperatures
8. Explain the steps in providing emergency medical care to a patient exposed to heat/ cold
9. Recognize the signs and symptoms of water-related emergencies
10. Discuss the emergency medical care of bites and stings
11. Distinguish between outrageous behavior, altered mental status and behavioral emergency
12. Describe signs and symptoms of chronic depression, delusions
13. Identify techniques for physical assessment in a patient with behavioral problems

Content -

S. No.	Topics	Hours		
		Theory	Practical	Total
1.	Cardiovascular Emergencies	5	10	15
2.	Cerebrovascular Emergencies	5	10	15
3.	Environmental Emergencies	5	10	15
4.	Behavioral Emergencies	5	10	15
TOTAL		**20**	**40**	**60**

Detail of Topics: -

1. **Cardiovascular Emergencies**
    a. Introduction to the heart, cardiac functioning and related diseases
        i. Basic anatomy and physiology of the heart
        ii. Factors which can compromise functioning of the heart
    b. Cardiac Compromise disorders
        i. Signs and symptoms related with various cardiovascular diseases and emergency
    c. Recognition and assessment of Acute Coronary Syndrome or Acute Myocardial Infarction
    d. Basic life support management in cardiac disorders
        i. CPR in adults and children
        ii. Use of automated external defibrillator (AED)
            - Indications and Contraindications of AED
            - Impact of age and weight on defibrillation
    e. History taking of a suspected cardiovascular emergency

2. **Cerebrovascular Emergencies**
    a. Basic Anatomy and Physiology of the Brain
    b. Blood supply of the brain
    c. Stroke
        i. Basic causes
        ii. Different types
        iii. Signs and symptoms of each type of stroke
    d. Proper positioning for cerebrovascular attack patients during transport and Ventilator support
    e. Assessment and History taking of a suspected cerebrovascular emergency
        i. Glasgow Coma Scale and Determination of GCS score of the patient
        ii. Alert, Verbal response, Painful Stimuli, Unconscious (AVPU) scale and determination of score
        iii. Identification of comorbidities and appropriate, timely management of aggravating conditions

3. **Environmental Emergencies**
    a. Different forms of environmental emergencies
        i. Electric shocks
        ii. Hypothermia, heat stroke, altitude illness, diving accident, near-drowning
        iii. Snake bite and stings
    b. Protective mechanism of the body
        i. Various ways that the body loses heat
        ii. Signs and symptoms of exposure to heat/ cold
        iii. Body's compensatory process for maintenance of body temperature
        iv. Common forms of heat and cold disorders
    c. Definition of hazardous material
    d. Roles and responsibilities of the EMT Professional related to personal safety, safety of the crew, the patient, and bystanders
    e. Assessment and emergency medical care of a patient with exposure to cold, heat and near drowning accident.
    f. Patient management plan based on the field impression of the patient affected by an environmental emergency

4. **Behavioral Emergencies**
    a. Introduction to general psychopathology, assessment and management
        i. Psychosocial and socio-cultural causes of altered mental status
    b. Signs and symptoms of basic behavioral/ psychiatric disorders
        i. Signs of overt behavior including general appearance and body language of the patient
    c. Scene size up including identification of signs of violence
    d. Detailed history taking of patient with altered mental status
        i. Assessment of a suspected case with suicidal tendency

ii. Importance of maintaining a patient's modesty and privacy while still being able to obtain necessary information
iii. Documentation of assessment findings
iv. Managing a case with physical/ sexual assault

e. Handling and transfer of a patient in behavioral emergency

Equipment required- Study/reference material, Interactive classroom sessions, On-job atmosphere, Mannequin, Internet usage to learn

Assessment for the above content–Assessment should also be a combination of MCQs short answer with the below mentioned skills related assessment criteria

S. No.	Assessment Criteria for the Assessable Outcomes	Marks Allocation		
		Viva/ Theory	Skills Practical	Total
1.	Identify the symptoms of hypertensive emergency	5	5	10
2.	Identify the indications and contraindications for automated external defibrillation (AED)	10	0	10
3.	Demonstrate CPR	0	30	30
4.	Demonstrate stabilization of the patient and transport to facility	0	20	20
5.	Demonstrate the performance of a standardized pre-hospital stroke scale assessment such as the Cincinnati pre-hospital stroke scale	0	15	15
6.	Explain the physiological effects of electric current, electromagnetic radiation on a person's health	10	0	10
7.	Define the terms hypothermia, heat stroke and altitude illness	10	0	10
8.	Explain the complications of near drowning	10	0	10
9.	Identify the characteristics of an individual's behavior which suggest that the patient is at risk for suicide	10	0	10
10.	Identify special medical/legal considerations for managing behavioral emergencies	5	0	5
11.	Recognize the special considerations for assessing a patient with behavioral problems	10	0	10
Total		**70**	**70**	**140**

MODULE – 7: MANAGING EMERGENCIES – II

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

1. Identify the normal events of pregnancy
2. Understand how to assess an obstetrical emergency patient
3. Differentiate between normal and abnormal delivery
4. Identify pre-delivery emergencies
5. Identify and describe complications associated with pregnancy and delivery
6. Conduct a normal delivery
7. Resuscitate an infant, if required
8. Cut the umbilical cord
9. Understand how to identify a case with gynecological emergency
10. Understand acute and chronic respiratory problems
11. Know the primary objective of airway maintenance
12. Comprehend the significance and ways of airway management
13. Understand the relationship between pulmonary circulation and respiration
14. Understand the difference between hyperglycemia and hypoglycemia
15. Know the common predisposing factors of diabetes mellitus
16. Know the pathophysiology of adult/ juvenile onset diabetes mellitus
17. Understand the auto-regulatory mechanism of the body to maintain blood sugar

Content -

S. No.	Topics	Hours		
		Theory	Practical	Total
1.	Obstetrics/ Gynecology Emergencies	5	10	15
2.	Respiratory Emergencies	5	10	15
3.	Diabetic Emergencies	5	5	10
4.	Infectious Diseases	2	2	4
TOTAL		17	27	44

Detail of Topics-

1. **Obstetrics/ Gynecology Emergencies**
    a. Basic anatomy and physiology of the female reproductive system
    b. Introduction to obstetrics terminology, process of normal delivery
        i. Identification of stages of labour
        ii. Complications which can occur during a normal delivery
    c. General management of an obstetrics emergency
        i. Identification of imminent obstetrical emergency
        ii. General assessment of an obstetric case
        iii. General assessment and history taking of a patient experiencing a gynecological emergency
        iv. Active management of third stage of labour
        v. Steps of the routine care of the neonate and resuscitation of the neonate if required
    d. Importance of maintaining a patient's modesty and privacy while still being able to obtain necessary information

e. Post-Partum Hemorrhage (PPH)

2. Respiratory Emergencies
    a. Basic anatomy of respiratory system
        i. Gag reflex and its significance
        ii. Identifying commonly neglected pre-hospital skills related to airway
        iii. Identifying the anatomy and functions of the upper and lower airway
    b. Airway management and ventilation
        i. Airway obstruction and causes of respiratory distress
        ii. Opening and cleaning of airway using suction devices
        iii. Oxygen therapy
        iv. Utility of maintaining oxygen levels in blood
    c. Distinguishing between acute and chronic respiratory emergency
    d. Emergencies like acute asthmatic attack, COPD and emphysema
    e. Anatomy of airway management
        i. Hierarchy of airway management
        ii. Differences between adult and pediatric airway anatomy
    f. Usage of devices in the ambulance to assist ventilation
        i. Steps for delivering oxygen from a cylinder and regulator
        ii. 1 person and 2 person mechanism for ventilation of adult and paediatric cases
3. Diabetic Emergencies
    a. Glucose levels in blood, Diabetes Mellitus, Types of DM
    b. Effects of decreased or increased levels of insulin on the body
    c. Examination of blood sugar level using a portable/ home-care equipment
    d. Seizures and syncope
    e. Correlation of abnormal findings in assessment with clinical significance
4. Infectious Diseases
    a. Stages in the process of infection
    b. Agents/ carriers of Infectious diseases
    c. Spread of infectious diseases
    d. Host defense mechanism
    e. Common infectious diseases witnessed in the region/ State
    f. Protocol for reporting and documenting an infectious disease incidence/ outbreak
    g. Follow procedures for risk control and containment for specific risks

Equipment required/ teaching strategies for the above content- Study/reference material, Interactive classroom sessions.

Assessment for the above content–

Assessment should also be a combination of MCQs short answer with the below mentioned skills related assessment criteria

S. No.	Assessment Criteria for the Assessable Outcomes	Marks Allocation		
		Viva/ Theory	Skills Practical	Total
1.	Demonstrate the steps in pre-delivery preparation of the mother	5	10	15
2.	State the steps required for care of the baby as the head appears	5	5	10
3.	Explain how and when to cut the umbilical cord	5	5	10
4.	Explain and demonstrate the characteristics of normal breathing	5	5	10
5.	Describe possible complications during a normal delivery	5	5	10
6.	Demonstrate the measurement of oxygen in the blood	5	5	10
7.	Discuss EMT-B's role in assisting a delivery of a newborn and newborn care	5	0	5
8.	Perform the steps in the emergency medical care of the patient taking diabetic medicine with a history of diabetes	5	5	10
9.	Describe how to identify a patient taking diabetic medications and the implications of a diabetes history	5	5	10
10.	Demonstrate assessment of a patient suspected of, or identified as having an infectious disease	0	5	5
11.	Discuss local protocol for management of a patient with an infectious disease	0	5	5
12.	Discuss precautions necessary while dealing with a case of an infectious disease	0	5	5
Total		**45**	**60**	**105**

MODULE – 8: MANAGING EMERGENCIES – III

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

1. Understand anaphylactic reactions/ shock and possible clinical manifestations
2. Know the mechanism which can start the anaphylactic reaction
3. Demonstrate coordination with medical director, reporting of signs and symptoms and implementation of prescription
4. Understand poisoning and drug/ alcohol overdose and recognize its signs and symptoms
5. Understand the pathophysiology of alcohol overdose and its clinical manifestations
6. Know positioning of patient, and prevention of aspiration
7. Recognize the need for medical direction in caring for the patient with poisoning or overdose
8. Identify the risk factors most predisposing to gastrointestinal emergencies
9. Recognize the symptoms and cause of visceral and parietal pain
10. Understand the pathophysiology of inflammation and its relationship to acute abdominal pain
11. Know signs and symptoms of common gastrointestinal conditions

Content -

S. No.	Topics	Hours		
		Theory	Practical	Total
1.	Allergic Reactions	5	5	10
2.	Poisoning or Overdose	5	2	7
3.	Abdominal Problems/Injuries	5	3	8
TOTAL		**15**	**10**	**25**

Detail of Topics-

1. **Allergic Reactions**
    a. Introduction to the physiology, biological reactions to antigens and mechanism of anaphylaxis
        i. Anaphylactic reaction and body response to allergens
        ii. Basic physiology of the body and allergic/ anaphylactic reactions
    b. Anaphylactic reactions/ shock
        i. Signs and symptoms
        ii. Assessment of a patient in going into anaphylactic shock
        iii. Identification of organ system wise signs and symptoms of an anaphylactic episode
        iv. Coordination with other emergency care workers and medical director in such an event
    c. Assessment and History taking of a suspected case
    d. Intimating the destination facility in advance for them to be prepared for the arriving critical case
2. **Poisoning or Overdose**
    a. Introduction to the physiology, biological reactions to adverse substances including alcohol

i. Common poisonings by ingestion, inhalation, injection and surface absorption.

b. Signs and symptoms of overdose/ poisoning
   i. Definition of the terms substance abuse, dependence, tolerance, addiction and withdrawal.

c. Assessment of a suspected case of drug/ poison/ alcohol intake in subconscious/ unconscious state
   i. Factors affecting the decision to induce vomiting in a patient with ingested poison.

d. Managing a drugged patient
   i. Managing a violent patient with care and patience.
   ii. Integration of pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for patients.

3. Abdominal Problems/Injuries

a. Basic anatomy and physiology of gastrointestinal system including the four quadrants of the stomach.
   i. Differentiation between local, peritoneal and general inflammation related to acute abdominal pain.
   ii. Recognise the symptoms and possible causes of referred pain

b. Pathophysiology of common/ prevalent abdominal problems.
   i. Definition of problems like gastrointestinal bleeding, acute gastroenteritis, colitis, appendicitis, bowel obstruction, peptic ulcer disease, hemorrhoids, acute hepatitis.
   ii. Integration of pathophysiological principles and assessment findings to formulate a field impression.

c. Focused history taking of a patient with abdominal pain.
   i. General physical examination of a patient complaining of abdominal pain.

Equipment required/ teaching strategies for the above content- Study/reference material, Interactive classroom sessions.

Assessment for the above content–Assessment should also be a combination of MCQs short answer with the below mentioned skills related assessment criteria

S. No.	Assessment Criteria for the Assessable Outcomes	Marks Allocation		
		Viva/ Theory	Skills Practical	Total
1.	State the generic and trade names, medication forms, dose, administration, action, and contraindications for the epinephrine auto-injector	10	10	20
2.	Differentiate between the general category of those patients having an allergic reaction and a severe allergic reaction, requiring immediate medical care including immediate use of epinephrine auto-injector	10	10	20
3.	Demonstrate effective history taking of the patient to avoid inducing an allergic reaction during emergency care	10	10	20

S. No.	Assessment Criteria for the Assessable Outcomes	Marks Allocation		
		Viva/ Theory	Skills Practical	Total
4.	List signs/symptoms associated with types of poisoning	10	10	20
5.	List the symptoms and possible causes of referred pain	10	10	20
Total		**50**	**50**	**100**

MODULE – 9: MANAGING TRAUMA

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

1. Discuss the emergency medical care for external bleeding
2. Identify signs/ symptoms of internal bleeding
3. Understand the rationale for body substance isolation when dealing with bleeding or soft tissue injuries
4. Know the incidence, morbidity, and mortality of musculoskeletal injuries
5. Know the anatomy and physiology of the musculoskeletal system
6. Understand the types of musculoskeletal injuries and predict type/ extent of injuries based on the mechanism of accident, initial assessment
7. Predict spinal injuries based on mechanism of accident
8. Understand the patho-physiology of spinal injuries

Content -

S. No.	Topics	Hours		
		Theory	Practical	Total
1.	Bleeding and Shock	5	5	10
2.	Soft tissue injury and Burns	5	10	15
3.	Musculoskeletal Injuries	5	5	10
4.	Injuries to Head and Spine	5	10	15
TOTAL		**20**	**30**	**50**

Detail of Topics-

1. **Bleeding and Shock**
    a. Basic Anatomy and physiology of the circulatory system
    b. General management of bleeding from trauma injury
        i. Differentiate between external and internal bleeding
        ii. Identification of the type of external bleeding by general appearance of the wound/ injury
        iii. Signs and symptoms of internal bleeding
        iv. Steps in the emergency medical care of the patient with internal bleeding
        v. Ways of stopping/ controlling bleeding
    c. Dressing and Bandaging
    d. General management of a patient slipping into shock
        i. Signs and symptoms of hypovolemic shock
2. **Soft tissue injury and Burns**
    a. Basic anatomy of the skin
    b. Pathophysiology of soft tissue injury and wound healing
        i. Different soft tissue injuries
        ii. Different types of open and closed soft tissue injuries
        iii. Differentiation between signs and symptoms of crush injury and blast injury
        iv. Special attention required in emergency care of soft tissue injury/ burn patients
    c. Sprains

i. Differentiation between sprain and strain
ii. Degree of sprains and appropriate management

d. Burns
i. Differentiation between different causes of burns
ii. Emergency medical care for burns
iii. Steps to stop the burning process initially with water or saline
iv. Removal of clothing and accessories from burnt tissues

e. General principles of dressing of a wound and bandaging: initial management of burns and soft tissue injuries
i. Complications of an improperly applied dressing, bandage, or tourniquet

f. Prevention of contamination
i. Necessary caution to prevent contamination of wound/ burn

3. Musculoskeletal Injuries

a. Basic anatomy of human musculoskeletal system
i. Age associated changes in bones
ii. Morphological changes seen in bones associated with age

b. Types of fractures
i. Path physiology of open and closed fractures

c. Initial assessment of musculoskeletal trauma
i. Six "P"s of musculoskeletal injury assessment
ii. Vessels which are more vulnerable to injuries in musculoskeletal emergency

d. Management of injuries
i. Usage and benefits of splints
ii. Standard protocol for splinting/ immobilization
iii. Need for assessment of pulses, motor and sensation before and after splinting
iv. Complications associated with musculoskeletal injuries
v. Benefits of cold and heat application for musculoskeletal injury.

4. Injuries to Head and Spine

a. Basic anatomy of head and spinal system
i. Anatomy and physiology of structures related to spinal injuries
ii. Assessment of head/ spinal injuries

b. Complications of head or spinal injuries.
i. Signs and symptoms of intracranial bleeding
ii. Neural complications which may be associated with head or spinal injuries
iii. Signs/ symptoms of neurological deficit
iv. Signs/ symptoms of increasing intracranial pressure
v. Early signs and symptoms of alterations in level of consciousness
vi. Signs of brain irritation - change in personality, irritability, lethargy, confusion, repeating words or phrases, changes in consciousness, paralysis of one side of the body, seizures

c. Spinal stabilization/ immobilization
i. Lifting and log-roll for patients with suspected/ frank head or spinal injury

ii. Stabilization, initial management and transfer of patients with suspected/ frank head or spinal injury

d. Injury to the face
   i. Basic anatomy of face and its associated organs

Equipment required/ teaching strategies for the above content- Study/reference material, Interactive classroom sessions.

Assessment for the above content–Assessment should also be a combination of MCQs short answer with the below mentioned skills related assessment criteria

S. No.	Assessment Criteria for the Assessable Outcomes	Marks Allocation		
		Viva/ Theory	Skills Practical	Total
1.	Differentiate between arterial, venous, and capillary bleeding	10	10	20
2.	Define shock and different kinds of shock	10	10	20
3.	Discuss the types of open soft tissue injuries	10	10	20
4.	Discuss the emergency medical care for an impaled object	10	10	20
5.	Define burn and describe the degrees of burns	10	10	20
6.	Discuss basic anatomy of head, face and spinal column	10	10	20
Total		**60**	**60**	**120**

MODULE – 10: MANAGING INFANTS, NEONATES AND CHILDREN

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

1. Understand the differences between neonates and infants
2. Distinguish between primary and secondary apnea
3. Understand appropriate transport guidelines for a newborn/ infant/ child
4. Know expected behavior with children
5. Recognize the methods of determining end organ perfusion in the infant and child patient

Content -

S. No.	Topics	Hours		
		Theory	Practical	Total
1.	Dealing with parents/ guardians of a neonate/ infant/ child	1	2	3
2.	Intra-partum complications	2	0	2
3.	General care and management of common problems in neonates	3	5	8
4.	Child abuse	2	0	2
TOTAL		**8**	**7**	**15**

Detail of Topics-

1. **Dealing with parents/ guardians of a neonate/ infant/ child**
    a. Appreciation of physical and emotional difficulties associated with separation of the parent/ guardian and a newborn/ neonate
    b. Listening to the concerns expressed by parents/ guardians
    c. Attending to the need for reassurance, empathy and compassion for the parent/ guardian
2. **Intra-partum complications**
3. **General care and management of common problems in neonates**
    a. Preparation of a newborn resuscitation area
    b. Pulmonary perfusion and asphyxia
    c. Primary signs utilized for evaluating a newborn during resuscitation
    d. APGAR score and its appropriate use in caring for a newborn
    e. General management of Apnea, Hypothermia, Respiratory distress/ cyanosis, Diarrhoea
    f. General Principles of Pediatric Examination
    g. Signs and symptoms of airway/ circulatory distress in infants and children
4. **Child abuse**
    a. Signs of misbehavior with a child/ child abuse

Equipment required/ teaching strategies for the above content- Study/reference material, Interactive classroom sessions.

Assessment for the above content–Assessment should also be a combination of MCQs short answer with the below mentioned skills related assessment criteria

S. No.	Assessment Criteria for the Assessable Outcomes	Marks Allocation		
		Viva/ Theory	Skills Practical	Total
1.	List developmental considerations for the age groups of infants, toddlers, pre-school, school age and adolescent	5	10	15
2.	List differences in anatomy and physiology of the infant, child and adult patient	5	10	15
3.	Demonstrate the difference in response of the ill or injured infant or child (age specific) from that of an adult	5	10	15
4.	Demonstrate steps in the management of foreign body airway obstruction	5	10	15
5.	Demonstrate emergency medical care strategies for respiratory distress and respiratory failure	5	10	15
6.	Demonstrate the management of seizures in the infant and child patient	5	10	15
7.	List differences between the injury patterns in adults, infants, and children	5	10	15
Total		**35**	**70**	**105**

MODULE – 11: MANAGING MASS CASUALTY INCIDENTS (MCI)

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

1. Understand the key steps an EMT B would need to take in a MCI scene
2. Rationally identify the patients in most immediate need of care based on general assessment of scene
3. Discuss the safety precautions under high impact MCIs
4. Tag severity/ criticality of patient using colour coded tags
5. Monitor patients with minor injuries for changes in their condition

Content -

S. No.	Topics	Hours		
		Theory	Practical	Total
1.	Declaring a Mass Casualty	3	2	5
2.	Managing bystanders	1	1	2
3.	Coordination with other stakeholders	1	2	3
TOTAL		**5**	**5**	**10**

Detail of Topics-

1. **Declaring a Mass Casualty**
    a. Change in procedures which entail when an incident is declared MCI
    b. Cautions necessary to be considered before calling a MCI
    c. Differentiation between a low-impact and high-impact MCI
2. **Managing bystanders**
3. **Coordination with other stakeholders**
    a. Coordination with other emergency workers in a MCI
    b. Chain of command and standard protocol for coordination among agencies.

Equipment required/ teaching strategies for the above content- Study/reference material, Interactive classroom sessions.

Assessment for the above content–Assessment should also be a combination of MCQs short answer with the below mentioned skills related assessment criteria

S. No.	Assessment Criteria for the Assessable Outcomes	Marks Allocation		
		Viva/ Theory	Skills Practical	Total
1.	Describe to procedure to establish an Incident Management Structure on arrival at the scene	5	10	15
2.	Define a mass casualty incident	5	10	15
3.	Demonstrate tagging of patients	5	10	15
Total		**15**	**30**	**45**

MODULE – 12: MANAGING PATIENT TRANSFERS

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

1. Identify exact health needs of the patient(s) they are carrying
2. Respect the patient's choice of hospital
3. Know the policy of state for transportation of patients to appropriate provider
4. Identify the health needs of the patient(s)
5. Understand safety measures for patient transportation
6. Replace used supplies and check or clean equipment after use
7. Discuss coordination with provider facility at arrival
8. Discuss briefing on patient's condition and any medication administered during transfer

Content -

S. No.	Topics	Hours		
		Theory	Practical	Total
1.	Selection of proper provider institute for transfer	1	1	2
2.	Transport of patient	2	3	5
3.	Managing patient handover to provider institute	1	2	3
TOTAL		**4**	**6**	**10**

Detail of Topics-

1. **Selection of proper provider institute for transfer**
    a. Coordination with provider in advance for them to be prepared for the arriving critical case
    b. Medical approval for selection of service provider
    c. Hospital diversion
2. **Transport of patient**
    a. General precautions before moving a patient
        i. Understand patient's condition and estimate if additional help is required
        ii. Transport the patient without causing further trauma or injury
    b. Movement of the human body and Positioning of patients
        i. Kinetics of joints and movements
        ii. Mechanisms that affect movement
        iii. General principles of movements
    c. Positioning of the patient
        i. Basic principles of manual lifting and moving a patient
        ii. Positioning of the patient based on initial assessment
        iii. Initial assessment of the patient's condition and assist in determining a course of action
    d. Transfer of patients
        i. Various kinds of means available for transferring patients
        ii. Use of proper body mechanics for transferring the patient
        iii. Process and precaution to be taken care of while transferring the patient
        iv. Usage of wheel chair and stretcher
    e. Fall prevention

i. Standards for prevention of patient's fall
ii. Correct use of equipment for transferring the patients to avoid falls or injuries
iii. Care to be taken to avoid fall in high risk patients
iv. Actions in event of a fall incident

f. Safety techniques during transport
   i. Actions to be taken by an EMT-B in the preservation of a crime scene
g. Use of equipment in the ambulance
   i. Use of backboards and restraints used for patient safety in an ambulance during transport
   ii. Use of basic equipment in the ambulance, including stretcher, wheel chair, pulse oximeter, suction apparatus, BP apparatus, and syringe destroyer

3. Managing patient handover to provider institute

a. Helping transfer of a patient from ambulance to the emergency department
b. Reporting observations from the field assessment
c. Assisting in creating patient care report, documenting the medical care administered

Equipment required- Study/reference material, Interactive classroom sessions, On-job atmosphere, Internet usage to learn

Assessment for the above content–Assessment should also be a combination of MCQs short answer with the below mentioned skills related assessment criteria

S. No.	Assessment Criteria for the Assessable Outcomes	Marks Allocation		
		Viva/ Theory	Skills Practical	Total
1.	Define triage	5	5	10
2.	Demonstrate allocation of patient to the nearest provider institute	0	10	10
3.	List basis of allocation on the kind of care required namely primary, secondary or tertiary care centres	5	5	10
4.	Demonstrate the consolidation of complete medical history of the patient with the severity of the damage and impending risk in terms of time and the kind of treatment required	5	10	15
5.	Provide pre-arrival information to the receiving hospital	5	5	10
Total		**20**	**35**	**55**

MODULE – 13: 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)	2	0	2
2.	Need for safety treatment and disposal of BMW	2	0	2
3.	Different treatment option for different categories of BMW	2	0	2
4.	Treatment and disposal methods of biomedical waste	2	2	4
TOTAL		**8**	**2**	**10**

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
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- Study/reference material, Interactive classroom sessions.

Assessment for the above content–Assessment should also be a combination of MCQs short answer with the below mentioned skills related assessment criteria

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. BP apparatus (Manual) (5)
2. BP apparatus (Automatic) (5)
3. Pulsoximeter (5)
4. Thermometer (5)
5. Stethoscope (5)
6. Torch (5)
7. Glucometer (2)
8. Spine Board with Straps (4)
9. Head Motion Immobilizer (HMR) (4)
10. Cervical Collar Large (4)
11. Cervical Collar Medium (4)
12. Cervical Collar Small (4)
13. Stair Chair
14. Wheel Chair
15. Scoop Streture (2)
16. Helmet (2)
17. CPR Manikin Adult (10)
18. CPR Manikin Infant (10)
19. Pocket Mask Adult (10)
20. Adult Ambu Bag with Mask (10)
21. Infant Ambu Bag with Mask (10)
22. Automated External Defibrillator (AED) (2)
23. AHA BLS DVD
24. Adult Airway manikin
25. Oropharyngeal Airways 00,0,1,2,3,4 (2 Sets)
26. Nasopharyngeal airways (2 Sets)
27. Nasal Cannula (Adult) (2)
28. Nasal Cannula (Paed) (2)
29. Simple face mask (Adult) (2)
30. Simple face mask(Paed) (2)
31. Non-rebreather Face Mask (2)
32. Partial rebreather face Mask (2)
33. Reservoir bag (2)
34. Nebulization Mask (Adult) (2)
35. Laryngeal Mask Airway (4)
36. Oxygen Cylinder B Type
37. Oxygen Cylinder D Type
38. Flow meter (2)
39. Humidifier (2)
40. Regulator
41. Nebulizer
42. Suction machine (Automatic)
43. Suction pump (Manual)
44. Suction Catheter hard tip (2)
45. Suction Catheter soft tip All Size (2)
46. Laryngoscope with Blades* (2)
47. Endotracheal Tube* All Size (2)
48. IV Cannula 16,18,20,22,24 (2 each)
49. Macrodrip IV set (2)
50. Microdrip IV Set (2)
51. IV Fluid NS,RL,D25%, (2 each)
52. Syringes 5ml,10ml,50ml (2 each)
53. Malleable Splints (2 Sets)
54. Bandages 6cm,10cm,15cm. (2 Sets)
55. Crepe Bandages 6cm,10cm,15cm (2 Sets)
56. Inhalers (2)
57. Collapsible Trolley Stretcher
58. Fully Equipped Ambulance

LIST OF ABBREVIATIONS

AED	Automated external defibrillator
BSI	Body Substance Isolation
BVM	Bag-Valve-Mask
BLS	Basic Life Support
BMW	Bio Medical Waste
CPR	Cardio Pulmonary Resuscitation
DNR	Do Not Resuscitate
EMT	Emergency Medical Technician
EMT- B	Emergency Medical Technician- Basic
EMSS	Emergency Medical Services System
GCS	Glasgow Coma Scale
MCI	Mass Casualty Incidents
PCR	Patient Care Record
PPE	Personal Protective Equipment
SALT	Sort, Assess, Life-saving intervention, Treatment
OPQRST	Onset of event, Provocation, Quality of pain, Region/ Radiation, Severity, Time
SAMPLE	Signs/ Symptoms, Allergies, Medications, Past medical history, Last meal, Events leading to present illness
START	Simple Triage And Rapid Treatment

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REFERENCES:

1. Medical Dictionary, The Free Dictionary. Available at: http://medical-dictionary.thefreedictionary.com/EMT-B. Last visited on Dec 23, 2016
2. Introduction to Emergency Medical Care, Jones and Bartlett Learning, JB Publication. Available at: http://samples.jbpub.com/9781284040548/085335_CH01_Henry.pdf. Last visited on Dec 23, 2016
3. Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2012-13 Edition, EMTs and Paramedics. Available at: http://www.bls.gov/ooh/healthcare/emts-and-paramedics.htm. Last visited on Dec 23, 2016.
4. EMS World, Beyond the basics: Scene size up. Available at: http://www.emsworld.com/article/10321423/beyond-the-basics-scene-size-up#. Last visited on Dec 23, 2016.
5. http://emsneeds.com/CourseMaterial/04-bleeding.htm. Last visited on Dec 23, 2016.
6. US Department of Transportation, National Highway Traffic Safety Administration, EMT Paramedic: National Standard Curriculum, USA 1996.
7. EMS World, Prehospital Care of the Intoxicated Individual. Available at: http://www.emsworld.com/article/10324347/prehospital-care-of-the-intoxicated-individual. Last visited on Dec 23, 2016.
8. EMS World, Anaphylactic and Anaphylactoid Reactions. http://www.emsworld.com/article/10324669/anaphylactic-and-anaphylactoid-reactions. Last visited on Dec 23, 2016.
9. New York State Department of Health, Emergency Medical Technician - Basic Refresher Curriculum, Chapter 8, Obstetrics, Infants and Children. Available at: http://www.health.ny.gov/professionals/ems/pdf/refmod8.pdf. Last visited on Dec 23, 2016.
10. Patient, Trusted medical information and support, Trauma, Triage and Scoring. Available at: http://patient.info/in/doctor/trauma-triage-and-scoring. Last visited on Dec 23, 2016.
11. Hopper Institute, Cardiac Emergencies. Available at: http://www.hopperinstitute.com/cardiac-emergenc-emt/. Last visited on Dec 23, 2016.
12. EMS World, Prehospital Assessment and Care f the Stroke Patient. Available at: http://www.emsworld.com/article/10323034/prehospital-assessment-and-care-of-the-stroke-patient. Last visited on Dec 23, 2016.
13. Medscape, Ischemic Stroke Treatment and Management. Available at: http://emedicine.medscape.com/article/1916852-treatment#d10. Last visited on Dec 23, 2016.
14. New York State, Department of Health, Emergency Patient Destinations and Hospital Diversions. Available at: http://www.health.ny.gov/professionals/ems/policy/06-01.htm. Last visited on Dec 23, 2016.
15. EMS World, Mass Casualty Incident Management: Part 2. Available at: http://www.emsworld.com/article/10613084/mass-casualty-incident-management. Last visited on Dec 23, 2016.