

EMERGENCY MEDICAL TECHNICIAN (EMT) CERTIFICATE COURSE: CURRICULUM

1. Course Title: Emergency Medical Technician (EMT)
2. Category: Certificate
3. Duration --: 1/1/1
Total - 6 months: Divided into 2 terms
 - 2 terms of 3 months each
 - Plus: Any Internship required: 1 month

4. Overall course objectives

This course will be a vocational course, which will involve students getting trained "On the Job Training (OJT)". Therefore, the student is expected to shadow experienced nurses and Emergency Medical Doctors for majority of the day. During the OJT, time, they will:

- Observe topics and activities
- They will assist the staff as part of the learning process
- They will carry out processes under supervision of the mentor
- They will be rated and evaluated by their mentor
- A log book will be maintained
- They will be briefed & debriefed daily

The training program will be structured in 3 parts:

1. **Theory:** Classroom based: didactic
 2. **Practical:** Demo based, either in a classroom or in the clinical area
 3. **Clinical OJT:** as an apprentice, under supervision and mentorship of a senior
- 1st term - 4 weeks (144 hours): Fully Didactic and Demo Based
 - 2nd term - 18 weeks (648 hrs)

The 2nd term will consist of Didactic & Demo along with OJT component included. In the term, students will be attending a 1 hour class daily and the rest 5 hours of the day will be dedicated to OJT.

To encourage the students to join, a basic stipend will be paid to the students, and by supporting the staff in the Emergency areas, the hospital /centre will save at least 30 % FTE cost.

5. Eligibility requirements

- a. Education - Matriculation
- b. Marks - Minimum 50%

- c. Age - 17 - 25
- d. Language – English

6. Teaching medium - English

7. Faculty requirements

- a. Qualifications – Emergency Medical Doctors/ Nurses – 6 years of Exp
- b. Student faculty ratio 6 Students : 1 Faculty
- c. Faculty - 1 full time/ part time (As per the work load)

8. Recommended batch size:

Variable, as per the department size. Preferred is suggested below:

- 100 to 150 bedded hospital – 4 to 6 students
- 150 - 200 bedded hospital – 8 to 12 students

9. Infrastructure requirements:

- a. Classrooms with capacity - Capacity based on student number as indicated above.
- b. Teaching arrangements: AV, Computer, White board
- c. Library : Books and Journals:

- Emergency Medicine, A comprehensive study guide - Judith E. Tintinalli, 6th Edition
- Current Medical Diagnosis and Treatment (CEDT), 5th Edition, 2004
- Emergency Medicine, An approach to clinical problem solving - Hamilton, 2nd Edition
- Accident & Emergency Radiology, A survival guide - Nigel Raby, 2nd Edition
- Emergency medicine - S.Mahadevan
- Rosen's textbooks of emergency medicine
- Basic Life Support Manual
- Advanced Cardiac Life Support Manual
- Basic Trauma Life Support Manual
- Advanced Trauma Life Support Manual
- Emergency medicine by National Medical Series (NMS)
- Current Medical Diagnosis and Treatment (CMDT), 45th Edition, 2006
- Designing Clinical Research - Stephen Hulley, Steven Cummings, 2nd Edition
- Emergency Department Manual by Christian Medical College Hospital (Indian)
- Tarascon Pocket Manual of Emergency Medicine
- Tarascon Pocket Manual of Pediatric Emergency Medicine
- Essential Pediatrics - O.P.Ghai, 6th Edition (Indian)

d. Equipment for demo/lab :

- Sample Collection manikins and simulation equipment for procedures commonly performed in Emergency department.

e. Teaching manual (tbd)

10. Affiliation or availability of practical training facilities in hospital/diagnostic centre etc.

- CPR, Manikins etc

11. Assessment methodology

- Internal: Internal Assessment: 10%
- External: Exams: 90%
- Exam type – Written & Viva (practical)
- Marks:
 - Theory (Consisting of Demo/ Practical also): 50
 - OJT: 130
 - Internal Assessment: 20
 - Total: 200**
- Marks for passing – Minimum aggregated marks of 50% (all combined)

Marks - Term wise - Break up	
Term 1	Term 2
Theory – 10	Theory – 8
Demo/ Practical – 20	Demo/ Practical – 12
	OJT – 130
Internal assessment - 5	Internal assessment - 15

12. Teaching framework:

- Total Months : 6 months (1st July to 31st Dec and 1st Jan to 30th Jun)
- Total weeks : 26
 - 22: Academic (2 terms)
 - Hours per week – 36 (6 days per week)
 - Hours per day: 06
 - Total Hours - 36 X 22 = 792 hours
 - 02: leave and holidays
 - 01: Exam preparation
 - 01: Exams

Distribution of hours:

1. **Theory:** 96 hours
2. **Demo/ Practical:** 156 hours
3. **OJT:** 540 hours

Hours - Term wise - Break up	
Term 1	Term 2
Theory – 60 hours	Theory – 36 hours
Demo/ Practical – 84 hours	Demo/ Practical – 72 hours
	OJT – 540 hours

TERM 1 (4 weeks: 144 hours)					
	SUBJECT	Hours (theory)	Marks (theory)	Hours (Demo/practical)	Marks (Demo/practical)
1.	Orientation To Healthcare and Role of Emergency Medical Technician	8	1	10	2
2.	Professionalism, Ethics, Patient Rights	8	1	10	2
3.	Customer Etiquette	8	1	10	2
4.	Quality Systems and Safety	8	1	10	2
5.	Communication skills	8	2	10	4
6.	Medical Terminology	8	2	18	4
7.	Documentation, language and use of computers	10	2	10	4
	Total	58	10	82	20
	Internal Assessment	2	3	2	2

TERM 2 (18 weeks: 648 hrs : 108 theory and 540 OJT)							
	SUBJECT	Hours (Theory didactic)	Marks (Theory)	Hours (Demo)	Marks (Demo)	Hours (Clinical OJT)	Marks (Clinical OJT)
8.	Introduction to Emergency Medical Care & Equipment handling	3	-	2	1	30	10
9.	The Human body	2	1	8	1	-	-
10.	Medical/ Behavioral Emergencies	2	1	9	1	100	25
11.	Dealing with infants and children	3	-	8	1	60	10
12.	Airway & Patient Assessments	3	1	7	1	100	20
13.	Medical, legal and ethical issues	3	1	6	1	20	10
14.	Trauma	3	-	6	1	100	20
15.	Ambulance operations	3	1	8	1	60	10
16.	Infection Control	3	1	4	1	18	5
17.	Universal Precautions	3	-	4	1	16	7
18.	Bio Medical Waste	3	1	4	1	16	7
19.	Patient and Staff Safety	3	1	4	1	16	6
	Total	34	08	70	12	536	130
	Internal Assessment	02	02	02	03	04	10

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SUBJECT 1: Orientation to Healthcare Systems and Role of Emergency Medical Technician

Background:

The student needs to understand at a macro, meso and micro level, how healthcare is organized and delivered. They will be made familiar with the levels, categories and departments. Patient flows, and staff categories will also be covered. The students will visit various areas and keep a record of their visits.

Learning Objectives:

1. Understand the healthcare environment and delivery systems
2. Familiarize with the various departments in the hospital
3. Familiarize with different kinds of staff in a hospital
4. Understand the role of the Emergency Medical Technician in the system
5. Understand healthcare needs of patients and their families

	SUBJECT	Hours (theory)	Marks (theory)	Hours (practical)	Marks (practical)
1.	Overview of Healthcare Industry	1		2	
2.	Types of Hospitals and Healthcare services	1		1	
3.	Departments of a hospital	2		2	1
4.	Types of Staff and their role	1		1	
5.	Role of the Emergency Medical Technician	2	1	2	1
6.	Healthcare needs of Patients and their families	1		2	
	Total	8	1	10	2

SUBJECT 2: Professionalism, Ethics, Patient Rights

Background:

Healthcare deals with a unique relationship between the patients, their families and the staff. It is important to understand the code of expected behavior and the rights of the patients and their families in the sensitive environment.

Learning Objectives:

1. Understand the meaning of professionalism.
2. Thoroughly understand ethical principles and their context in the working environment.
3. Thoroughly understand patient and family rights.

	SUBJECT	Hours (theory)	Marks (theory)	Hours (practical)	Marks (practical)
1.	Professionalism	2		2	1
2.	Respecting and Maintaining dignity of patients	2		2	
3.	Maintaining privacy and confidentiality	1		2	
4.	Medical Ethics	1	1	2	1
5.	Patient and Family Rights	2		2	
	Total	8	1	10	2

SUBJECT 3: Customer Etiquette

Background:

The staff dealing with patients and families needs to behave in a very customer friendly manner-humane and caring, as well as showing courtesy and a helpful attitude. The perception of the 'customer' about quality and their satisfaction with the services is very much based on the impression that the staff gives them. It is critical that staff is 'service oriented' both to the internal and external customer.

Learning Objectives:

1. Understand the meaning of internal and external 'customer' and their mindset and expectations.
2. Telephone etiquette, grooming, hygiene, manners.
3. Problem solving, complaint handling.

	SUBJECT	Hours (theory)	Marks (theory)	Hours (practical)	Marks (practical)
1.	Internal and external customer	1	1	1	
2.	Telephone etiquette	1		1	1
3.	Grooming	1		2	1
4.	Personal hygiene	1		2	
5.	Empathy	2		2	
6.	Problem solving, complaint handling	2	1	2	
	Total	8	1	10	2

SUBJECT 4: Quality Systems and Safety

Background:

In today's environment, quality of services has become relevant to each and every staff member. The OT technician will need to understand the concept of quality, management systems and have clarity on patient and occupational safety.

Learning Objectives:

1. Quality in healthcare
2. Accreditation and systems
3. Patient and occupational safety

	SUBJECT	Hours (theory)	Marks (theory)	Hours (practical)	Marks (practical)
1.	Quality in healthcare	1		2	
2.	Accreditations: ISO & NABH	2		2	1
3.	Licenses and Certifications	2	1	2	1
4.	Introduction to Emergency Department Management	2		2	
5.	Patient and Occupational Safety	1		2	
	Total	8	1	10	2

SUBJECT 5: Communication skills

Background:

Because of the people interface and multiple handovers, good interpersonal communication, team work, and managing conflict are important.

Learning Objectives:

1. Understand the skills of a good communicator
2. Establishing rapport and team work
3. Expressing concern and managing conflict

	SUBJECT	Hours (theory)	Marks (theory)	Hours (practical)	Marks (practical)
1.	Communication skills : verbal and non verbal	2		2	1
2.	Establishing rapport.	1		2	1
3.	Team work	1	1	2	1
4.	Expressing concern	2	1	2	1
5.	Managing conflict	2		2	
	Total	8	2	10	4

SUBJECT 6: Medical Terminology

Background:

In healthcare, several terms are used that are from the original "Greek" language. The technician has to be familiar with the commonly used terms and abbreviations.

Learning Objectives:

1. Understand the medical terminology used in healthcare

	SUBJECT	Hours (theory)	Marks (theory)	Hours (practical)	Marks (practical)
1.	Medical terminology meanings of words	2	1	5	1
2.	Medical Vocabulary	2		4	1
3.	Pronunciations	2		4	1
4.	Typing and editing of Medical record	2	1	5	1
	Total	8	2	18	4

SUBJECT 7: Documentation, language and use of computers

Background:

Because of the people interface and multiple handovers, good interpersonal communication, team work, and transfer of information through documentation and computers, is very important.

Learning Objectives:

1. The medical record
2. English speaking
3. English writing
4. Electronic health record and IT

	SUBJECT	Hours (theory)	Marks (theory)	Hours (practical)	Marks (practical)
1.	The medical record	2		2	1
2.	English speaking	2		2	1
3.	English writing	2		2	
4.	Use of Computer in hospital	2	1	2	1
5.	Electronic health record and IT	2	1	2	1
	Total	10	2	10	4

Term 2

TERM 2 (18 weeks: 648 hrs : 108 theory and 540 OJT)							
	SUBJECT	Hours (Theory didactic)	Marks (Theory)	Hours (Demo)	Marks (Demo)	Hours (Clinical OJT)	Marks (Clinical OJT)
8.	Introduction to Emergency Medical Care & Equipment handling	3	-	2	1	30	10
9.	The Human body	2	1	8	1	-	-
10.	Medical/ Behavioral Emergencies	2	1	9	1	100	25
11.	Dealing with infants and children	3	-	8	1	60	10
12.	Airway & Patient Assessments	3	1	7	1	100	20
13.	Medical, legal and ethical issues	3	1	6	1	20	10
14.	Trauma	3	-	6	1	100	20
15.	Ambulance operations	3	1	8	1	60	10
16.	Infection Control	3	1	4	1	18	5
17.	Universal Precautions	3	-	4	1	16	7
18.	Bio Medical Waste	3	1	4	1	16	7
19.	Patient and Staff Safety	3	1	4	1	16	6
	Total	34	08	70	12	536	130
	Internal Assessment	02	02	02	03	04	10

SUBJECT 8: Introduction to Emergency Medical Care and Equipment handling

Back ground:-

- In this topic students will be familiarized with the introductory aspects of emergency medical care.
- He will also be made familiar with the equipment and their use present in the emergency department.

Learning Objectives

- Emergency medical services system
- Roles and responsibilities
- Equipment and its use

	SUBJECT	Hours (theory)	Marks (theory)	Hours (practical)	Marks (practical)	Hours OJT	Marks OJT
1	Emergency medical services system	1		1		7	2
2	Roles and responsibilities					6	2
3	Equipment used in Emergency	1		1	1	10	3
4	Inventory management principles	1					7
	Total	3	-	2	1	30	10

SUBJECT 9: The Human Body

Back ground:-

The students will be given a brief overview of body systems, anatomy and physiology.

Learning Objectives

1. Understand the basics of various systems of the human body.
2. Understand some basics of Physiological mechanism of the body.

	SUBJECT	Hours (theory)	Marks (theory)	Hours (practical)	Marks (practical)
1	Introduction to Circulation System	1	1	2	1
2	Introduction to Nervous System			1	
3	Muscular System			1	
4	Introduction to Digestive Systems	1		1	
5	Introduction to Urinary System			1	
6	Introduction to Reproductive System			2	
Total		2	1	8	1

SUBJECT 10: Medical/ Behavioral emergencies

Background:-

Students will be taught to deal with Medical and Behavioral emergencies.

Learning objectives:-

Understand the aspects of emergency care and stress management in various medical and behavioral situations

Understand the treatment options

	SUBJECT	Hours (theory)	Marks (theory)	Hours (practical)	Marks (practical)	Hours OJT	Marks OJT
1	Common first aid problems	1	1	3	1	20	5
2	Respiratory Emergencies			1		10	4
3	Cardiovascular Emergencies			1		15	4
4	Environmental Emergencies	1		2		15	4
5	Diabetes			1		20	4
6	Altered mental status			1		20	4
Total		2	1	9	1	100	25

SUBJECT 11: Dealing with Infants and Children

Background:-

The students need to understand the developmental and anatomical differences between adults and infants and children in common medical and trauma situations. Dealing with an ill or injured infant and child patient has always been a challenge for emergency technicians.

Learning objectives

1. To understand and familiar with the protocols / process
2. To understand and familiar with vital signs (B.P, Pulse, Temperature etc)

	SUBJECT	Hours (theory)	Marks (theory)	Hours (practical)	Marks (practical)	Hours OJT	Marks OJT
1	Dealing with an ill infant or child	1		2		15	2
2	History collection and date entry	1		2		15	3
3	Practical skills – infants & children	1		2	1	15	3
4	Evaluation – infants & children			2		15	2
Total		3	-	8	1	60	10

SUBJECT 12: Airway & Patient Assessments

Background:-

- In this topic the student will be taught on concepts of maintaining an open airway in patients.
- To provide basic knowledge and skills of patient assessment necessary to continue with the management of patients with medical complaints and traumatic injuries.

Learning objectives

1. To understand how the responsiveness, assessment of the airway, breathing and circulation.
2. To understand the importance of pulmonary resuscitation
3. To understand the airway module
4. Learn to take proper history and physical examination

	SUBJECT	Hours (theory)	Marks (theory)	Hours (practical)	Marks (practical)	Hours OJT	Marks OJT
1	Pulmonary resuscitation	1		1		10	1
2	Variations for infants & children					5	1
3	Use of suction equipment					10	2
4	Use of oxygen equipment	1		1		10	2
5	Dealing with patients with laryngectomies.					10	2

6	Scene size up					5	1
7	Initial assessment					5	2
8	Focused history – Medical patients	1	1	1	1	10	2
9	Detailed Physical examination – Medical patients			1		10	2
10	Focused history – Trauma patients	1	1	1		10	2
11	Detailed Physical examination – Trauma patients			1		10	2
12	Ongoing assessment						5
Total		3	1	7	1	100	20

SUBJECT 13: Medical, Legal and Ethical issues

Background:-

To explore the scope of medical, legal and ethical issues vital to emergency services

Learning objectives

1. To understand the medical & legal terminology
2. To understand the basic principles of medical & legal terminology

	SUBJECT	Hours (theory)	Marks (theory)	Hours (practical)	Marks (practical)	Hours OJT	Marks OJT
1	Scope of medical, legal & ethical responsibilities.	1		1		2	1
2	Consents		1	1	1	4	2
3	Negligence	1		1		4	2
4	Confidentiality		1	1	4	2	
5	Special situations such as organ donations	1		1		3	1
6	Directives		1	1	3	2	
Total		3	1	6	1	20	10

Subject 14: Trauma

Background:-

In this topic the student will be familiarized with the methods of care given to patients with signs and symptoms of trauma.

Learning objectives

1. To provide knowledge on assessment and management of patients with trauma
2. To learn cognitive, psychomotor and affective objectives

	SUBJECT	Hours (theory)	Marks (theory)	Hours (practical)	Marks (practical)	Hours OJT	Marks OJT
1	Bleeding and shock	1		1	1	10	4
2	Soft tissue injury			1		10	4
3	Musculoskeletal care	1		1		20	2
4	Injuries to head & spine			1		20	2
5	Practical skills - Trauma	1		1		20	4
6	Evaluation – Trauma module			1		20	4
Total		3		6	1	100	20

Subject 15: Ambulance Operations

Background:-

The student will be made familiar with day to day ambulance operation /maintenance and activities associated with patient care

Learning objectives

1. Familiarize with ambulance operation methods

	SUBJECT	Hours (theory)	Marks (theory)	Hours (practical)	Marks (practical)	Hours OJT	Marks OJT
1	Responding to a call	1		2		10	2
2	Emergency vehicle operation	1		2		15	2
3	Transferring patients			1		15	2
4	Equipments present in an ambulance	1	1	1	1	10	2
5	Medications present in an ambulance			2		10	2
Total		3	1	8	1	60	10

SUBJECT 16: Infection Control

Background:

- This topic will cover the overview of infection control principles.

Learning Objectives:

- Awareness of importance of infection control in healthcare setting.

	SUBJECT	Hours (theory)	Marks (theory)	Hours (practical)	Marks (practical)	Hours OJT	Marks OJT
1.	The risks of infection in healthcare setting	1		1		2	1
2.	Hospital Acquired infections						2

3.	Modes of spread	1	1	1	1	3	
4.	Entry and exit routes			1		3	1
5.	Common types of infections in healthcare settings					2	1
6.	Cleaning, disinfection and sterilization principles	1		1		3	1
7.	Prevention of infections					3	
Total		3	1	4	1	18	5

SUBJECT 17: Universal Precautions

Background:

- This topic will reinforce in detail the universal precautions that are to be practiced by the Emergency technician.

Learning Objectives:

- Practical implementation of universal precautions.

	SUBJECT	Hours (theory)	Marks (theory)	Hours (practical)	Marks (practical)	Hours OJT	Marks OJT
1.	Universal precautions	1		1		2	1
2.	Personal protective equipment					2	1
3.	Proper gloving	1		1	1	2	1
4.	Hand hygiene					2	1
5.	Isolation			1		2	1
6.	Aseptic technique	1				2	
7.	Spillage of body fluids			1		2	1
8.	Risk Management/ assessment					2	1
Total		3		4	1	16	7

SUBJECT 18: Bio Medical Waste

Background:

- The technician will learn about the regulations and procedures of Bio Medical waste.

Learning Objectives:

- Familiarize with BMW rules and regulations and practically implement in day to day use.

	SUBJECT	Hours (theory)	Marks (theory)	Hours (practical)	Marks (practical)	Hours OJT	Marks OJT
1	Introduction	1		1		2	1
2	Management issues					-	

3	Rules & Regulations	1		1		4	2
4	Color Coding		1	1	1	4	2
5	Sharp Disposal	1		1		4	1
6	Spill cleaning					2	1
Total		3	1	4	1	16	7

SUBJECT 19: Patient and Staff Safety and Quality Control

Background:

The technician will learn about the patient and staff safety and quality control.

Learning Objectives:

1. Practice patient safety in the Emergency technician role
2. Occupational hazards and their prevention
3. Errors in sampling and their implications

	SUBJECT	Hours (theory)	Marks (theory)	Hours (practical)	Marks (practical)	Hours OJT	Marks OJT
1	Patient Safety issues	1		1		3	1
2	Staff hazards esp needle stick injuries			1		3	1
3	Fire safety	1		1		4	1
4	Reporting adverse events		1	1	1	3	2
5	Practicing occupational safety	1				3	1
Total		3	1	4	1	16	6