



Enrollment No.....

Faculty of Engineering
End Sem (Even) Examination May-2019
FT3EL08 Rescue Equipments and Techniques
 Programme: B.Tech. Branch/Specialisation: FT

Duration: 3 Hrs.**Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

- Q.1 i. In process of breathing, a person inhale: **1**
 (a) Oxygen (b) Nascent O₂
 (c) Air (d) Pure Oxygen
- ii. To cut live electrical wire which tool is used by fire fighter: **1**
 (a) Expander (b) Cutter
 (c) Fireman Axe (d) Electrical Saw
- iii. For forcible entry which type of tools is/are used: **1**
 (a) Pneumatic (b) Electric (c) Hydraulic (d) All of these
- iv. Earthquake is type of: **1**
 (a) Incident (b) Accident (c) Disaster (d) None of these
- v. Halyard is a part of which equipment: **1**
 (a) Hydraulic platform (b) Expander
 (c) Compressor (d) Ladder
- vi. Difference between A, B & X type Water tender is: **1**
 (a) Pump Capacity (b) Tank Capacity
 (c) Both (a) and (b) (d) Overall Dimension
- vii. The term Rescue means: **1**
 (a) Fire Fighting (b) Salvage Operation
 (c) To Save (d) First-Aid
- viii. BA set is suitable in case of **1**
 (a) O₂ deficient environment (b) Confined Space
 (c) Hydraulic Environment (d) All of these
- ix. Concentration of any gas is measured in which unit: **1**
 (a) SPM (b) PPM (c) RSPM (d) None of these

P.T.O.

[2]

- x. Air lifting bags are used for: **1**
 (a) Salvage Operation (b) Fire Fighting Operation
 (c) For lift & stabilize objects (c) None of these
- Q.2 i. Name the Small Gears used in fire services and Explain any two in detail? **2**
 ii. What are air lifting bags? Explain its working principle along with its care. **3**
 iii. Explain constructional details of ladder. Also explain different types of ladders used in fire & rescue operation? **5**
- OR iv. Explain different types of Ropes along with their method of application used in fire and rescue operation? **5**
- Q.3 i. What do you mean by rescue by Ordinary Means? **3**
 ii. Explain in detail along with neat sketch of Multipurpose Tender? **7**
- OR iii. Write short note on – **7**
 (a) Hydraulic platform with neat sketch.
 (b) Turntable ladder with neat sketch.
- Q.4 i. Explain different types of Carries & Drags. **5**
 ii. Explain the detailed procedure of Rescue from High rise building and also explain problems associated with rescue operation and their remedies. **5**
- OR iii. Explain various types of knots with their uses. **5**
- Q.5 i. Explain the process of CO₂ exchange in Human body? **3**
 ii. Explain in detail the working & construction of BA set? **7**
- OR iii. “Air is essential for Breathing” Justify the statement and also calculate the capacity & duration of BA set? **7**
- Q.6 i. What is Chemical Gas Mask? **2**
 ii. Explain the types of Gas mask in detail with neat sketch diagram? **8**
- OR iii. Explain the working principle and application for Chemical Gas Mask? **8**

Marking Scheme

FT3EL08 Rescue Equipments and Techniques

Q.1	i.	In process of breathing, a person inhale: (a) Oxygen	1
	ii.	To cut live electrical wire which tool is used by fire fighter: (c) Fireman Axe	1
	iii.	For forcible entry which type of tools is/are used: (c) Hydraulic	1
	iv.	Earthquake is type of: (c) Disaster	1
	v.	Halyard is a part of which equipment: (d) Ladder	1
	vi.	Difference between A, B & X type Water tender is: (c) Both (a) and (b)	1
	vii.	The term Rescue means: (c) To Save	1
	viii.	BA set is suitable in case of (d) All of these	1
	ix.	Concentration of any gas is measured in which unit: (b) PPM	1
	x.	Air lifting bags are used for: (c) For lift & stabilize objects	1

Q.2	i.	Name the Small Gears Explanation of any two	1 mark 1 mark	2
	ii.	Air lifting bags definition Its working principle	1 mark 2 marks	3
	iii.	Diagram of ladder Constructional details of it	2 marks 3 marks	5
OR	iv.	Types of Ropes Method of manufacturing Method of application used in fire	1 mark 2 marks 2 marks	5

Q.3	i.	At least six rescue by Ordinary Means		3
	ii.	Multipurpose Tender diagram	2 marks	7
		IS code	1 mark	
		Explanation of tender at least 8 points	4 marks	
OR	iii.	Write short note on –		7

(a) Hydraulic platform with neat sketch.	
Explanation	1.5 marks
Diagram	1 mark
Uses	1 mark

(b) Turntable ladder with neat sketch.	
Explanation	1.5 marks
Diagram	1 mark
Uses	1 mark

Q.4	i.	Types of Carries & Drags. Explanation of any two	2 marks 3 marks	5
	ii.	Procedure of Rescue from High rise building Problems associated with rescue operation and their remedies.	3 marks 2 marks	5

OR	iii.	Types of knots and their uses Explain any two with diagram	2 marks 3 marks	5
----	------	---	--------------------	---

Q.5	i.	Process of CO ₂ exchange in Human body At least six points		3
	ii.	working & construction of BA set Diagram Construction Working	1 marks 3 marks 3 marks	7

OR	iii.	“Air is essential for Breathing” Justification of statement Capacity of BA set Duration of BA set	3 marks 2 marks 2 marks	7
----	------	--	-------------------------------	---

Q.6	i.	Chemical Gas Mask definition		2
	ii.	Types of Gas mask Diagram Explanation	2 marks 2 marks 4 marks	8
OR	iii.	Chemical Gas Mask Working principle Diagram Application	4 marks 2 marks 2 marks	8
