

Enrollment No.....



Faculty of Engineering
End Sem Examination May-2023

FT3EL08 Rescue Equipments & 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. Assume suitable data if necessary. Notations and symbols have their usual meaning.

- Q.1 i. Which of the following is a type of rescue tools? 1
 (a) Plastic (b) Rubber (c) Fiber (d) Chisel
- ii. Which of the following is an electric powered tool? 1
 (a) Wood (b) Paper (c) Cloth (d) Search light
- iii. The most common method to extinguish fire is- 1
 (a) Fuel removal
 (b) Smothering
 (c) Cooling
 (d) Changing the chemical composition of fuel
- iv. Which type of fire extinguisher do you use to fight an electrical fire if a carbon dioxide extinguisher is unavailable? 1
 (a) Water (b) Wet chemical
 (c) Foam (d) Dry powder
- v. The aim of rescue is to- 1
 (a) Leave the people to die (b) Save the money
 (c) Save the life (d) All of these
- vi. Personal protective equipment is required when- 1
 (a) Employers suffer an injury
 (b) The employees suffer an injury
 (c) An employee asks for it
 (d) Engineering, work practices and administrative controls required
- vii. According to the applicable NFPA standard how often must fire fighters have their SCBA face pieces fit tested? 1
 (a) Monthly (b) Every six months
 (c) Every twelve months (d) Every three years

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- viii. The primary mandatory requirements concerning the use of SCBA is established by which legal authority- **1**
 (a) NFPA (b) OSHA (c) IAFF (d) EDITH
- ix. General symptoms of exposure to respiratory hazards- **1**
 (a) Impaired senses
 (b) Mental confusion
 (c) Maybe without symptoms
 (d) All of these
- x. Side effects of positive pressure breathing are- **1**
 (a) Decrease work requirements to exhale
 (b) Increase work required to inhale
 (c) Breathing under positive pressure causes increased depth of breathing
 (d) Decreases work required to inhale
- Q.2 i. Enlist four safety rules when using pneumatic lifting bags. **3**
 ii. Explain the different type of ropes according to their construction material. **7**
- OR iii. Give a detail note on pushing and pulling tools used in rescue operation. **7**
- Q.3 i. Explain multipurpose fire tender with its fire extinguishment ability. **4**
 ii. Enlist the IS Specification of various types of fire extinguishers. **6**
- OR iii. Write in detail specification, construction and application of emergency rescue tender. **6**
- Q.4 i. Differentiate between Half Hitch and clove Hitch. **4**
 ii. Explain different type of Knots and Hitches and their application in Emergency. **6**
- OR iii. Explain the rescue problem with their remedies from incident in high rise buildings. **6**
- Q.5 i. Explain four basic SCBA component assemblies. **3**
 ii. Enlist the weekly, monthly and annual inspection and maintenance of protective breathing apparatus. **7**
- OR iii. Describe the various type of respiratory and non-respiratory protection system. **7**

- Q.6 i. Explain the various respiratory hazards. **4**
 ii. Enlist different types of gas masks with their working principle and application. **6**
- OR iii. Write the differences between air purifying and air supplying respiratory protection system. **6**

Marking Scheme

FT3EL08 [T] Rescue Equipment's & Techniques

Q.1	i.	Which of the following is a type of rescue tools?	1
		d) Chisel	
	ii	Which of the following is an electric powered tool?	1
		d) Search Light	
	iii	The most common method to extinguish fire is	1
		c) Cooling	
	iv	Which type of fire extinguisher do you use to fight an electrical fire if a carbon dioxide extinguisher is unavailable?	1
		d) Dry Powder	
	v	The aim of rescue is to	1
		d) All of The Above	
	vi	Personal Protective Equipment is required when	1
		d) Engineering, Work Practices and Administrative Controls Required	
	vii	According to the applicable NFPA standard how often must fire fighters have their SCBA face pieces fit tested	1
		c) Every Twelve Months	
	viii	The primary mandatory requirements concerning the use of SCBA is established by which legal authority	1
		b) OSHA	
	ix	General symptoms of exposure to respiratory hazards	1
		d) All of The Above	
	x	Side effects of positive pressure breathing are	1
		c) Breathing Under Positive Pressure Causes Increased Depth Of Breathing	
Q.2	i.	Enlist four safety rules when using pneumatic lifting bags.	3
	ii.	Explain the different type of ropes Their construction material.	4 Marks 3 Marks 7
OR	iii.	Give a detail note on pushing Pulling tools used in rescue operation.	4 Marks 3 Marks 7

Q.3	i.	Explain multipurpose fire tender with its fire extinguishment ability	4
	ii.	Enlist the IS Specification of various types of fire extinguishers.	6
	OR iii.	Write in detail specification, construction application of emergency Rescue Tender.	3 Marks 3 Marks 6
Q.4	i.	Differentiate between Half Hitch and clove Hitch.	4
	ii.	Explain different type of Knots And Hitches and their application in Emergency.	3 Marks 3 Marks 6
	OR iii.	Explain the rescue problem with their remedies from incident in High rise Buildings.	6
Q.5	i.	Explain four basic SCBA component Assemblies.	3
	ii.	Enlist the weekly, monthly and annual inspection and maintenance of protective Breathing apparatus.	3 Marks 4
	OR iii.	Describe the various type of reparatory And non respiratory protection system.	4 Marks 3 Marks
Q.6		Attempt any two:	
	i.	Explain the various Respiratory hazards.	4
	ii.	Enlist different types of gas masks. with their working principle and application.	3 Marks 3 Marks 6
OR	iii.	Difference between Air purifying and Air supplying respiratory protection system.	6
