

Enrolment No.....



Faculty of Engineering  
End Sem Examination May-2024

FT3CO43 Fire Engineering -II

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. \_\_\_\_\_ type of pump is used in water tender. 1  
 (a) Reciprocating (b) Axial flow  
 (c) Centrifugal (d) Screw
- ii. What is the minimum ground clearance of the fire tender? 1  
 (a) 200 mm (b) 230 mm (c) 400 mm (d) 1 m
- iii. Jockey pump is known as- 1  
 (a) A water maintenance pump  
 (b) A pressure maintenance pump  
 (c) A current maintenance pump  
 (d) A temperature maintenance pump
- iv. The head room clearance for all pump house should be minimum- 1  
 (a) 1.75 m (b) 2.75 m (c) 1.5 m (d) 1 m
- v. Roof ladder is also called as- 1  
 (a) Hook ladder (b) Straight ladder  
 (c) Extension ladder (d) Folding ladder
- vi. The adjustable ladder with two or more section is called as\_\_\_\_\_. 1  
 (a) Straight ladder (b) Extension ladder  
 (c) Folding ladder (d) Hook ladder
- vii. The total volume of oxygen in breathing apparatus is at least\_\_\_\_\_. 1  
 (a) 4 l/min (b) 1.5 l/min (c) 8 l/min (d) 10 l/min
- viii. What are the disadvantages of breathing apparatus? 1  
 (a) Chances to damage the air tube  
 (b) Heavy weight  
 (c) Supply of air is depends upon the person  
 (d) All of these

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- ix. Which of the following is not a subsidiary part of a formal report? **1**  
 (a) Appendix (b) Glossary  
 (c) Table of contents (d) References
- x. Fire department connections (FDC) shall be inspected \_\_\_\_\_. **1**  
 (a) Annually (b) Quarterly  
 (c) Monthly (d) Weekly

Q.2

Attempt any two:

- i. What are the different types of pumps used for fire fighting in industries? **5**
- ii. Explain in brief about hydraulic platform with neat sketch. **5**
- iii. What are the specifications of CFT? **5**

Q.3

Attempt any two:

- i. Explain hydrant system with their parts and also draw the diagram of hydrant. **5**
- ii. Differentiate between the branches and nozzles. **5**
- iii. Write short note on: **5**  
 (a) Radial branches (b) Monitors  
 (c) Collecting heads (d) Hose fittings  
 (e) Adopters and ramps

Q.4

Attempt any two:

- i. Explain different parts of ladder with labelled diagram. **5**
- ii. Explain the following fibre characteristics of rope used in rescue operation. **5**  
 (a) Shock load ability (b) Elongation at break  
 (c) Abrasion resistance (d) Electric conductivity resistance
- iii. Explain following common type of rope construction with suitable diagram. **5**  
 (a) Kernmantle rope (b) Braided rope

Q.5

Attempt any two:

- i. Elaborate the common hazards associated with respiratory protection. **5**
- ii. Elaborate the limitation of wearer associated with respiratory breathing apparatus. **5**
- iii. Enlist the weekly, monthly and annual inspection, maintenance of protective breathing apparatus. **5**

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Q.6

Attempt any two:

- i. What is the safety precaution should be taken before entering in a confined space? **5**
- ii. A fire is occurred in fifth floor of the building and two person trapped on the fifth floor. Develop a rescue operation strategy as rescuer for minimum resource and manpower. **5**
- iii. Write down the case study on “UPHAR TRAGEDY”. **5**

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## Marking Scheme

Hazard Identification & Risk Assessment (T)  
FT3CO45 (T)

Q.1	i)	.....type of pump is used in water tender?	1
		C) Centrifugal	
	ii)	What is the minimum ground clearance of the fire tender?	1
		B) 230 mm	
	iii)	Jockey pump is known as?	1
		B) A pressure maintenance pump	
	iv)	The head room clearance for all pump house should be minimum?	1
		B) 2.75 m	
	v)	Roof ladder is also called as?	1
		A) Hook ladder	
Q.2	vi)	The adjustable ladder with two or more section is called as.....	1
		B) Extension ladder	
	vii)	The total volume of oxygen in breathing apparatus is at least...	1
		A) 4 l/min	
	viii)	What are the disadvantages of breathing apparatus?	1
		D) All of the above	
	ix)	Which of the following is not a subsidiary part of a formal report?	1
		A) Appendix	
	x)	Fire department connections (FDC) shall be inspected.....	1
		B) Quarterly	
Q.2	i)	Type of Pump any two :	(2.5 Marks*2) 5
	ii)	hydraulic platform - sketch	3 Marks 5 2 Marks
	iii)	Specification CE7 -	5 Marks 5
Q.3	i.	Explain hydrant system with their parts and also draw the diagram of hydrant?	5
		Hydrant system with their parts (3 Marks) Diagram of hydrant (2 Marks)	
	ii.	Differentiate between the branches and nozzles?	5
OR	iii.	Write short note on: (1 Mark for each)	5
		a. Radial branches	
		b. Monitors	
		c. Collecting heads,	
		d. Hose fittings	
		e. Adopters and ramps.	

Q.4	i.	Explain different parts of ladder with labelled diagram?	5
		Different parts of ladder .	3 Marks
		Labelled diagram .	2 Marks
	ii.	Explain the following fibre characteristics of rope used in rescue operation?	5
		a. Shock load ability	1 Marks
		b. Elongation at break	1 Marks
		c. Abrasion resistance	1 Marks
		d. Electric conductivity resistance	2 Marks
OR	iii.	Explain following common type of rope construction with suitable diagram?	5
		a. Kernmantle rope	3 Marks
		b. Braided rope	2 Marks
Q.5	i.	Elaborate the common hazards associated with respiratory protection? (1 Mark for each hazard) 5 hazard	5
	ii.	Elaborate the limitation of wearer associated with respiratory breathing apparatus? At last 5 limitation	5
OR	iii.	Enlist the weekly, monthly and annual inspection, maintenance of protective breathing apparatus?	5
Q.6	i.	What is the safety precaution should be taken before entering in a confined space?	5 precautions 5
	ii.	A fire is occurred in fifth floor of the building and two person trapped on the fifth floor. Develop a rescue operation strategy as rescuer for minimum resource and man power?	5
OR	iii.	Write down the case study on “UPHAR TRAGEDY”	5

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