Total No. of Questions: 6 *Total No. of Printed Pages:3*

Enrollment No.....

Faculty of Engineering
End Sem Examination Dec-2023
FT3EL13 Safety in Constructions

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 the primary goal of construction safety? **1**
(a) Maximizing profits
(b) Meeting project deadlines
(c) Preventing accidents and injuries
(d) Completing the project within budget

ii. What is the purpose of a Job Safety Analysis (JSA)? **1**
(a) Identifying potential hazards in construction projects
(b) Monitoring employee attendance
(c) Analyzing project profitability
(d) Conducting equipment inspections

iii. Which of the following is an example of a fall protection system in construction? **1**
(a) Safety glasses (b) Hard hats
(c) Guardrails (d) Earplugs

iv. What is the recommended height for fall protection to be provided in construction? **1**
(a) 6 feet (b) 8 feet (c) 10 feet (d) 12 feet

v. What does the term “excavation” refer to in construction safety? **1**
(a) The process of removing debris from a construction site
(b) The installation of electrical systems
(c) The digging of trenches or foundation pits
(d) The transportation of construction materials

vi. Which of the following is a common hazard associated with working in confined spaces? **1**
(a) Falls from heights (b) Electrical shock
(c) Inhalation of toxic gases (d) Eye injuries

vii. What is the purpose of lockout/tag out procedures in construction? **1**
(a) Securing equipment during transportation
(b) Preventing unauthorized access to construction sites
(c) Controlling hazardous energy sources during maintenance or repairs
(d) Ensuring compliance with environmental regulations

viii. Which of the following is an example of personal protective equipment (PPE) in construction? **1**
(a) Power tools (b) Scaffolding
(c) First aid kits (d) Safety harnesses

ix. What is the purpose of a safety data sheet (SDS) in construction? **1**
(a) Providing instructions for construction project management
(b) Outlining project specifications and requirements
(c) Identifying and communicating hazards of materials used on the site
(d) Ensuring compliance with local zoning regulations

x. Which of the following is a common cause of electrical hazards in construction? **1**
(a) Poor weather conditions (b) Improper use of hand tools
(c) Failure to wear proper PPE (d) Overloaded electrical circuits

Q.2 Attempt any two:

i. Explain the various human factors affected the safety management in construction site. **5**

ii. Define the ergonomics. Also explain relevance of ergonomics in construction safety. **5**

iii. Explain the roles of various groups in ensuring safety in construction industry. **5**

Q.3 Attempt any two:

i. Explain confined Space with its type in present construction. **5**

ii. As a safety officer what safety precautions you should take on time of Excavation, where gas pipeline is already present? **5**

iii. Elaborate some important points according to NBC part IV related to safety on construction site. **5**

Q.4 Attempt any two:

i. Elaborate any occupational diseases those are present on construction site at the time on storage of construction material. **5**

ii. Write short notes on: **5**
(a) Cranes (b) Tower Cranes (c) Lifting gears
(d) Hoists & Lifts (e) Pneumatic tools

iii. Write short notes on: **5**
(a) Wire Ropes (b) Pulley blocks (c) Mixers
(d) Conveyors (e) Hydraulic tools

Q.5 Attempt any two:

i. Explain section 21 “Application for a license” according to the Contract Labour (R&A) Act Central Rules. **5**

ii. Explain Section 40 “Welfare and Health of Contract Labour” according to the Contract Labour (R&A) Act Central Rules. **5**

iii. Explain Section 80 “Registers and Records” according to the Contract Labour (R&A) Act Central Rules. **5**

Q.6 Attempt any two:

i. Elaborate “Duties and responsibilities of workers” according Building & Other Construction Workers (RE & CS) Act, 1996 and Central Rules, 1998: **5**

ii. Explain “PART III SAFETY AND HEALTH CHAPTER IV GENERAL PROVISIONS” according to Building & Other Construction Workers (RE & CS) Act, 1996 and Central Rules, 1998 on following points: **5**
(a) Excessive noise, vibration
(b) Fire protection

iii. Explain “PART III SAFETY AND HEALTH CHAPTER IV GENERAL PROVISIONS” according to Building & Other Construction Workers (RE & CS) Act, 1996 and Central Rules, 1998 on following points: **5**
(a) Emergency action plans (b) Health and safety policy

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Scheme Marking
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Q.1	i)	c) Preventing accidents and injuries *	**1**
	ii)	a) Identifying potential hazards in construction projects *	**1**
	iii)	c) Guardrails *	**1**
	iv)	a) 6 feet *	**1**
	v)	c) The digging of trenches or foundation pits *	**1**
	vi)	c) Inhalation of toxic gases *	**1**
	vii)	c) Controlling hazardous energy sources during maintenance or repairs *	**1**
	viii)	d) Safety harnesses *	**1**
	ix)	c) Identifying and communicating hazards of materials used on the site *	**1**
	x)	d) Overloaded electrical circuits *	**1**

Q.2	i.	Factors affected the safety ….. site	(1 Mark *5)	**5**
	ii.	Ergonomics	2 Marks	**5**
		Relevance of …… safety.	3 Marks	
OR	iii.	Roles of …… industry	(As per explanation)	**5**

Q.3	i.	Confined Space	2 Marks	**5**
		Its type	(1 Mark *5)	
	ii.	As a safety officer ……. ….. present	(1 Mark*5)	**5**
OR	iii.	Some important …. …. site	(1 Mark *5)	**5**

Q.4	i.	Occupational …… construction site	3 Marks	**5**
		The time on storage of construction material	2 Marks	
	ii.	a) Cranes	1 Mark	**5**
		b) Tower Cranes	1 Mark	
		c) Lifting gears	1 Mark	
		d) Hoists & Lifts	1 Mark	
		e) Pneumatic tools	1 Mark	
OR	iii.	a) Wire Ropes	1 Mark	**5**
		b) Pulley blocks	1 Mark	
		c) Mixers	1 Mark	
		d) Conveyors	1 Mark	
		e) Hydraulic tools	1 Mark	

Q.5	i.	Section 21: Application ….. Rule 26.	(1 Mark*5)	
	ii.	Section 40: Welfare and Health of Contract Labour		
		(1) The facilities ….. therein.	3 Marks	
		(2) If any of the facilities . in the said sub-rule.	2 Marks	
OR	iii.	Section 80: Registers and Records		
		(1) All …….., … XX, XXI and XXII respectively.	(1 Mark*5)	

Q.6		Attempt any two:		
	i.	Duties and responsibilities of workers:-		**5**
		(1) It shall be the duty …….. …hygienic condition.	(1 Mark*5)	
	ii.	34. Excessive .		**5**
		Lifting appliance…….. appliance.	(1 Mark*5)	
	iii.	Emergency ….., …….. General.	3 Marks	**5**
		Health and …… (a), effective;	2 Marks	

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