

Total No. of Questions: 6

Total No. of Printed Pages:3

Enrollment No.....



Faculty of Engineering
End Sem (Odd) Examination Dec-2022
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.

- Q.1
- i. Which one option among the following does not indicate hazards of manual material handling? 1
(a) Carrying excessive load
(b) Struck by falling body or striking against object
(c) Unsafe gripping or placing
(d) None of these
 - ii. The permissible maximum lifting load for an adult male as per factories rules is- 1
(a) 40 Kgs
(b) 50 Kgs
(c) 60 Kgs
(d) 70 Kgs
 - iii. Choose the correct section of the factories act regarding hoists and lifts- 1
(a) Section 28 and 29
(b) Section 38 and 39
(c) Section 18 and 99
(d) Section 48 and 49
 - iv. Section 36 of the factories act, 1948 provides precautions regarding _____ - 1
(a) Confined space
(b) Means of access
(c) Scaffolding requirement
(d) None of these
 - v. If the scaffolding platform is used as a footing only _____ minimum width is recommended as a general rule- 1
(a) 0.7 m
(b) 1.1 m
(c) 2.1 m
(d) 3.1 m

P.T.O.

[2]

- vi. Kindly select the option which is not a type of scaffold among the following- **1**
 (a) Pole type scaffolds
 (b) Rolling scaffolds or mobile towers
 (c) Swinging (hanging) scaffolds
 (d) Outriggers scaffolds
- vii. All workers working at height of more than _____ (window cleaners, construction workers etc.) must wear safety harnesses i.e. safety belts connected with ropes- **1**
 (a) 1 Meter (b) 1.5 Meters
 (c) 2 Meters (d) 2.5 Meters
- viii. Which one among the following hazard does not belong to confined space- **1**
 (a) Poor lighting and ventilation
 (b) Oxygen deficiency
 (c) Contamination of toxic and/or flammable gases
 (d) None of these
- ix. _____ of the Factories Act gives provision of at least one first aid box or cupboard equipped with the prescribed contents for every 150 workers employed at any one time- **1**
 (a) Section 45 (b) Section 46
 (c) Section 47 (d) Section 48
- x. Choose the option for closed injuries at work place- **1**
 (a) Cuts
 (b) Punctures,
 (c) Abrasions/ scratches/ splinters
 (d) None of these
- Q.2 i. Explain the concept of unit load. **2**
 ii. What are the advantages and disadvantages of unit load? Describe the basic ways of moving a unit load. **3**
 iii. Describe the five categories of Material Handling (MH) equipments at work place. **5**
- OR iv. Give a systematic flow chart for reportable accident within the factory. **5**

[3]

- Q.3 i. Give a brief note on fall protection **2**
 ii. What are the major causes of fall at work place? Explain the control measures against each category of fall. **8**
- OR iii. Highlight the hazards and safety measures associated with scaffolding. **8**
- Q.4 i. Explain bucket conveyor major components with suitable diagram. **3**
 ii. Enlist the hazards associated with drilling, loading and blasting. Explain the prevention strategies against each operation. **7**
- OR iii. Discuss the rescue and emergency procedures above ground work accident category. **7**
- Q.5 i. Enlist the safety precautions before and during the demolition work by taking suitable example. **4**
 ii. Explain the steps involve in demolition work from safety point of view. **6**
- OR iii. Discuss on public safety in large scale demolition operations as a safety officer. **6**
- Q.6 Attempt any two:
 i. Write the categories of non respiratory personnel protective equipment with their general requirement. **5**
 ii. Explain the breathing apparatus with suitable diagram and its application. **5**
 iii. Explain the statutory equipment of occupational health centre under factory act and state rules. **5**

Marking Scheme
FT3EL13 Safety in Constructions

Q.1	i.	Which one option among the following does not indicate hazards of manual material handling? (c) Unsafe gripping or placing	1
	ii.	The permissible maximum lifting load for an adult male as per factories rules is- (a) 40 Kgs	1
	iii.	Choose the correct section of the factories act regarding hoists and lifts- (a) Section 28 and 29	1
	iv.	Section 36 of the factories act, 1948 provides precautions regarding_____- (a) Confined space	1
	v.	If the scaffolding platform is used as a footing only _____ minimum width is recommended as a general rule- (a) 0.7 m	1
	vi.	Kindly select the option which is not a type of scaffold among the following- (d) Outriggers scaffolds	1
	vii.	All workers working at height of more than _____ (window cleaners, construction workers etc.) must wear safety harnesses i.e. safety belts connected with ropes- (b) 1.5 Meters	1
	viii.	Which one among the following hazard does not belong to confined space- (d) None of these	1
	ix.	_____of the Factories Act gives provision of at least one first aid box or cupboard equipped with the prescribed contents for every 150 workers employed at any one time- (a) Section 45	1
	x.	Choose the option for closed injuries at work place- (d) None of these	1
Q.2	i.	Concept of unit load.	2
	ii.	Advantages and disadvantages of unit load and ways of moving a unit load.	3

OR	iii.	Five categories of Material Handling (MH) equipments at work place. Each carry 1 mark	5
	iv.	Systematic flow chart for reportable accident within the factory.	5
Q.3	i.	Give a brief note on fall protection	2
	ii.	Major causes of fall at work place Control measures against each category of fall	4 marks 4 marks
OR	iii.	Scaffolding Hazards Safety measures	2 marks 2 marks 4 marks
	Q.4 i.	Bucket conveyor major components Diagram	2 marks 1 mark
	ii.	Hazards associated with drilling, loading and blasting Prevention strategies against each operation	3 marks 4 marks
OR	iii.	Rescue procedures Emergency procedures	5 marks 2 marks
	Q.5 i.	Safety precautions before demolition work Safety precautions during the demolition work	2 marks 2 marks
OR	ii.	Six steps involve in demolition work from safety point of view. 1 mark for each	6
	iii.	Public safety in large scale demolition operations as a safety officer. On site Offside Role of safety officer	6 2 marks 2 marks 2 marks
	Q.6	Attempt any two:	
	i.	Non respiratory personnel protective equipment General requirement.	3 marks 2 marks
	ii.	Segments of breathing apparatus Diagram	3 marks 2 marks
	iii.	Factory act State rules	3 marks 2 marks
