



Enrollment No.....

Faculty of Engineering

End Sem (Odd) Examination Dec-2019

FT3EL13 Safety in Construction

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. Material handling consists of movement of material from **1**
 (a) One machine to another (b) One shop to another shop
 (c) Stores to shop (d) All of these
- ii. Fork lift truck is used for **1**
 (a) Lifting and lowering (b) Vertical transportation
 (c) Both (a) and (b) (d) None of these
- iii. The following is used to transport materials having flat bottoms **1**
 (a) Belt conveyor (b) Roller conveyor
 (c) Chain conveyor (d) None of these
- iv. The following is (are) are generally provided with limit switch to **1**
 prevent motion beyond preset limit
 (a) Hoists (b) Conveyors
 (c) Machine tables (d) All of these
- v. Which of the following is (are) underground works? **1**
 (a) Excavation (b) Cold permit
 (c) Machinery equipment (d) None of these
- vi. Which of the following comes under above ground works? **1**
 (a) Drilling (b) Blasting (c) Piling (d) Scaffolding
- vii. Which of the following is not an inert material? **1**
 (a) Excavated rocks (b) Bamboo
 (c) Soil materials (d) Petrol
- viii. In fire safety of building which material is used **1**
 (a) Timber (b) Steel (c) Glass (d) All of these
- ix. In which year the central ruler for building and construction **1**
 workers were made
 (a) 1997 (b) 1998 (c) 1996 (d) 1994

P.T.O.

- x. Japanese concept consists of..... 'S' **1**
 (a) 5S (b) 8S (c) 4S (d) 13S
- Q.2 i. Define Frequency Rate and Severity Rate? **2**
 ii. What is Unsafe Act and Unsafe Condition. Explain? **3**
 iii. Name the theories of accident causation and explain any one with **5**
 diagram?
- OR iv. Explain the models for accident prevention? **5**
- Q.3 i. What are the safety precautions you will take while working at **3**
 height?
 ii. What are the general requirements of scaffolding and explain the **7**
 Pole type scaffold with the help of diagram?
- OR iii. Explain the types of safety belts with proper diagram? **7**
- Q.4 i. Enlist the various hazards at construction site? **4**
 ii. Design a safety work permit at construction site or a construction **6**
 safety checklist?
- OR iii. Classify the safety of construction machinery and explain the **6**
 safety process of any two.
- Q.5 i. Explain the safety measures with respect to building materials. **2**
 ii. Explain the precautions to be taken during demolition process. **8**
- OR iii. In a factory the average daily rate of employment per shift is 1500. **8**
 there are 3 shifts of 8 hours. In a year the factory works for 300
 days. If the total reportable accidents in the year was 80 and man
 days lost were 200 find the frequency and severity rates of
 accidents and the Frequency Severity Indicator.
- Q.6 Write short note on any two: **5**
 i. PPE'S **5**
 ii. First aid facilities. **5**
 iii. The building and construction worker act 1996 **5**

Marking Scheme
FT3EL13 Safety in Construction

Q.1	i.	Material handling consists of movement of material from (d) All of these	1
	ii.	Fork lift truck is used for (c) Both (a) and (b)	1
	iii.	The following is used to transport materials having flat bottoms (b) Roller conveyor	1
	iv.	The following is (are) are generally provided with limit switch to prevent motion beyond preset limit (d) All of these	1
	v.	Which of the following is (are) underground works? (a) Excavation	1
	vi.	Which of the following comes under above ground works? (d) Scaffolding	1
	vii.	Which of the following is not an inert material? (b) Bamboo	1
	viii.	In fire safety of building which material is used (d) All of these	1
	ix.	In which year the central ruler for building and construction workers were made (c) 1996	1
	x.	Japanese concept consists of..... 'S' (a) 5S	1
Q.2	i.	Definition of Frequency Rate and Severity Rate	2
	ii.	Unsafe Act and Unsafe Condition	3
	iii.	Name of accident theories	1 mark
		Explanation of any one with diagram	4 marks
OR	iv.	Models for accident prevention	5
		Stepwise marking	
Q.3	i.	Safety precautions for working at height	3
	ii.	Requirements of scaffolding	2 marks
		Pole type scaffold with diagram	5 marks
	iii.	Types of safety belts	2 marks
OR		Working procedure and diagram of safety belts	5 marks

Q.4	i.	Hazards at construction site		4
	ii.	Design of safety work permit		6
OR		Stepwise marking		
	iii.	List of construction machinery	2 marks	6
		Explanation of any two	4 marks	
Q.5	i.	Safety measures for building materials		2
	ii.	Precautions to be taken during demolition process		8
OR		Stepwise marking		
	iii.	Frequency rates = 7.40	3 marks	8
		Severity rates = 18.51	3 marks	
		Frequency Severity Indicator	2 marks	
Q.6		Write short note on any two:		
	i.	PPE'S		5
	ii.	First aid facilities		5
	iii.	The building and construction worker act 1996		5
