

Total No. of Questions: 6

Total No. of Printed Pages: 3

Enrollment No.....



Faculty of Engineering
End Sem Examination Dec 2024
CE3EC07 Construction Safety & Management
Programme: B.Tech. Branch/Specialisation: CE

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.

	Marks	BL	PO	CO	PSO
Q.1 i. Accidents caused by lifting equipment fall under-	1	1	1	1	
(a) Electrical hazard					
(b) Mechanical hazard					
(c) Chemical hazard					
(d) None of these					
ii. Shear cracks are usually inclined at-	1	1	1	1	
(a) 30 degree	(b) 40 degree				
(c) 45 degree	(d) 60 degree				
iii. Concreting operation involves-	1	1	1	1	
(a) Fixing formwork					
(b) Placing reinforcement					
(c) Concrete pouring					
(d) All of these					
iv. Which of the following operation is done in order to counteract side collapse?	1	1	2	1	
(a) Grouting	(b) Shoring				
(c) Compaction	(d) All of these				
v. Back Hoe fall under –	1	1	2	1	
(a) Hoisting equipment					
(b) Excavating equipment					
(c) Hauling equipment					
(d) All of these					

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vi.	Which of the following is the third phase of construction project? (a) Planning phase (b) Execution phase (c) Initiation phase (d) Closing phase	1 1 1 1	OR iii. Explain various safety procedures taken during demolition work in detail. 6 2 6 3 2
vii.	Which of the following factor is needed for the success of Zero Accident Vision? (a) Management commitment (b) Worker's participation (c) Workers Training (d) All of these	1 1 11 1	Q.4 Attempt any two: i. What do you understand by the term capital budgeting? Explain its step wise procedure in detail. 5 3 11 2 2 ii. What do you understand by the term construction project management? Describe the life cycle of construction project in detail. 5 3 11 2 2 iii. Explain any one excavating equipment in detail with neat sketch diagram. 5 2 5 2 2
viii.	_____ are quality management and quality assurance standard. (a) ISO 8175 (b) ISO 1731 (c) ISO 9000 (d) ISO 1961	1 1 1 1	Q.5 i. Write short note on accident statistics and analysis. 4 2 9 3 2 ii. Define ergonomics. Explain the role of ergonomics in occupational health. 6 2 6 2 2
ix.	Which of the following is the cause of Burn-in-period? (a) Fabrication error (b) Corrosion (c) Accidental failures (d) All of these	1 1 1 1	OR iii. Define Quality management system. Explain various applications of QMS in detail. 6 2 11 2 2
x.	The relation b/w probability of failure and reliability is given by- (a) $F(t) = R(t) - 1.0$ (b) $F(t) = 1.0 - R(t)$ (c) $F(t) = R(t)+1.0$ (d) None of these	1 1 6 1	Q.6 Attempt any two: i. Explain failure rate function in detail with the help of graphical representation. 5 3 5 2 2 ii. Explain various safety rules for handling and operating lifting machinery. 5 3 5 3 2 iii. Explain various steps taken in controlling safety of structure in detail. 5 3 5 2 2
Q.2	i. Define construction safety management. Explain its importance in construction projects. ii. Explain different types of hazards that takes place in construction work.	4 2 5 2 2	*****
OR	iii. Explain design strategy for cracks control and local damages in the building structure.	6 2 2 3 2	
Q.3	i. Explain various safety consideration under taken during use of equipment. ii. Explain various safety measures needed in earth cutting operation in detail.	4 2 5 2 2	
		6 2 6 3 2	

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Marking Scheme

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Q.1	i) b. Mechanical Hazard	1	Life cycle of construction project – 4 marks	
	ii) c. 45 degree	1	OR iii. On correct explanation of excavating equipment – 4 marks	5
	iii) d. All of these	1	Diagram – 1 mark	
	iv) b. Shoring	1		
	v) b. Excavating equipment	1		
	vi) b. Execution phase	1		
	vii) d. All of these	1	Q.5 i. Give 4 marks on correct explanation of Accident statistics and analysis.	4
	viii) c. ISO 9000	1	ii. Definition – 1 mark	6
	ix) a. Fabrication error.	1	Role of Ergonomics – 5 marks	
	x) b. $F(t) = 1.0 - R(t)$	1	OR iii. Definition – 1 mark	6
			Applications of QMS – 5 marks	
Q.2	i. Definition – 1mark	4		
	Importance of construction safety management – 3 marks			
	ii. Give 2 marks for correct explanation of each hazard i.e. give 6 marks for proper explanation of any 3 hazards.	6	Q.6 i. On correct explanation of Failure rate function – 4 marks	5
			Graphical Representation – 1 mark	
OR	iii. On correct explanation give 6 marks.	6	ii. Give 5 marks on correct explanation of safety rules for handling and operating lifting machinery	5
			iii. Give 5 marks on correct explanation of steps taken in controlling safety of structure.	5

Q.3	i. Give 4 marks for correct explanation of any 4 safety consideration during use of equipment.	4		
	ii. Give 6 marks for correct explanation of safety measures needed in earth cutting operation.	6		
OR	iii. Give 6 marks for correct explanation of safety procedures taken during demolition work in detail.	6		
Q.4	i. Definition of capital budgeting – 1 mark	5		
	Step wise procedure – 4 marks			
	ii. Definition – 1 mark	5		