

Total No. of Questions: 6

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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	
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	
viii.	_____ are quality management and quality assurance standard. (a) ISO 8175 (b) ISO 1731 (c) ISO 9000 (d) ISO 1961	1	1	1	1	
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	
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.2	i. Define construction safety management. Explain its importance in construction projects.	4	2	5	2	2
	ii. Explain different types of hazards that takes place in construction work.	6	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.	4	2	5	2	2
	ii. Explain various safety measures needed in earth cutting operation in detail.	6	2	6	3	2

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OR	iii. Explain various safety procedures taken during demolition work in detail.	6	2	6	3	2
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
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
OR	iii. Define Quality management system. Explain various applications of QMS in detail.	6	2	11	2	2
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

Marking Scheme**CE3EC07 Construction Safety and management**

Q.1	i)	b. Mechanical Hazard	1
	ii)	c. 45 degree	1
	iii)	d. All of these	1
	iv)	b. Shoring	1
	v)	b. Excavating equipment	1
	vi)	b. Execution phase	1
	vii)	d. All of these	1
	viii)	c. ISO 9000	1
	ix)	a. Fabrication error.	1
	x)	b. $F(t) = 1.0 - R(t)$	1
Q.2	i.	Definition – 1mark Importance of construction safety management – 3 marks	4
	ii.	Give 2 marks for correct explanation of each hazard i.e. give 6 marks for proper explanation of any 3 hazards.	6
OR	iii.	On correct explanation give 6 marks.	6
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 Step wise procedure – 4 marks	5
	ii.	Definition – 1 mark	5

Life cycle of construction project – 4 marks

OR	iii.	On correct explanation of excavating equipment – 4 marks Diagram – 1 mark	5
Q.5	i.	Give 4 marks on correct explanation of Accident statistics and analysis.	4
	ii.	Definition – 1 mark Role of Ergonomics – 5 marks	6
OR	iii.	Definition – 1 mark Applications of QMS – 5 marks	6
Q.6	i.	On correct explanation of Failure rate function – 4 marks Graphical Representation – 1 mark	5
	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
