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Enrollment No.....



Faculty of Engineering  
End Sem Examination May-2024

CE3EC03 Construction Equipment & Materials

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.

- Q.1 i. AAC blocks stands for- **1**  
(a) Autoclaved Alkaline Concrete  
(b) Autoclaved Aerated Concrete  
(c) Advanced Annular Concrete  
(d) Advanced Alkaline Concrete
- ii. In Low Carbon Steel, the carbon content is less than- **1**  
(a) 1.5 % (b) 2.1 % (c) 0.6 % (d) 0.3 %
- iii. Accelerators are used in concrete for- **1**  
(a) Reducing the curing time  
(b) Increasing rate of strength gain  
(c) Reducing amount of time before finishing operation  
(d) All of these
- iv. Laminated glass is also known as- **1**  
(a) Shatter proof glass (b) Ordinary glass  
(c) Bullet proof glass (d) None of these
- v. \_\_\_\_\_ type of excavator is used for digging at or below the operating level. **1**  
(a) Skimmer (b) Dragline (c) Power shovel (d) Dredger
- vi. The size of the power shovel is denoted by the- **1**  
(a) Size of boom (b) Size of rack  
(c) Size of bucket (d) All of these
- vii. Hauling equipment are used for- **1**  
(a) Lifting heavy weights  
(b) Excavating earth  
(c) Moving of material from place to another  
(d) None of these

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- viii. Which of the following fuel is used in diesel hammer? **1**  
(a) LPG (b) Gasoline (c) CNG (d) Methane
- ix. The process of repairing mortar joints between bricks or other masonry elements are termed as- **1**  
(a) Plastering (b) Pointing (c) Painting (d) Distempering
- x. Before plastering, the surface has to be: **1**  
(a) Rough (b) Smooth (c) Cemented (d) Watered
- Q.2 i. What do you understand by the term pre-stressed concrete? Write down any one use of tendon. **2**  
ii. Write a short note on ready mix concrete. **3**  
iii. Define alloy steel. Explain its various types in detail. **5**  
OR iv. Explain AAC blocks in detail. **5**
- Q.3 i. Explain any four types of glass in detail. **4**  
ii. Explain various grouting methods in detail. **6**  
OR iii. Explain various types of finishes in detail. **6**
- Q.4 i. Explain any one hoisting equipment with neat sketch diagram. **4**  
ii. What is power shovel? Explain its operations and factors affecting output of power shovel with neat sketch. **6**  
OR iii. Explain any two compaction equipment in detail. **6**
- Q.5 i. Explain any two pile driving equipment in detail. **4**  
ii. Explain various types of trenching machine with neat sketch. **6**  
OR iii. Explain any two pumps & its operation with neat sketch diagram. **6**
- Q.6 Attempt any two: **5**  
i. Explain cast in situ reinforced concrete roof in detail. **5**  
ii. Explain waterproofing techniques over roof. **5**  
iii. Explain various types of flooring in detail. **5**

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## Marking Scheme

### Construction Equipment & Materials (T) - CE3EC03 (T)

Q.1	i)	b. Autoclaved Aerated Concrete	1
	ii)	d. 0.3%	1
	iii)	d. All of the above.	1
	iv)	c. Bullet proof glass	1
	v)	b. Dragline	1
	vi)	c. Size of Bucket	1
	vii)	c. Moving of material from place to another	1
	viii)	b. Gasoline	1
	ix)	b. Pointing	1
	x)	a. Rough	1
Q.2	i.	Definition –	1 Mark
		Use of Tendon –	1 Mark
	ii.	On correct explanation of RMC give	3 Marks
	iii.	Definition - Types- 4 marks	1 Marks
OR	iv.	On correct explanation of AAC blocks give	5 Marks
Q.3	i.	Give one mark for each type i.e. on correct explanation of 4 types give	4 Marks.
	ii.	Give 1.5 marks for each method i.e. on correct explanation of 4 methods give	6 Marks.
OR	iii.	Give 1.5 marks for each type i.e. on correct explanation of 4 types give	6 Marks.
Q.4	i.	On correct explanation of Hoisting equipment give	3 Marks.
		Give for diagram.	1 Marks
	ii.	Definition -	1 Mark
		Operation-	1 Mark
		Factors affecting output –	3 Mark
OR		Diagram –	1 Mark
	iii.	Give 3 marks for each type i.e. on correct explanation of 2 types give	6 Marks.
Q.5	i.	Give 2 marks for each type i.e. on correct explanation of 2 types give	4 Marks.
	ii.	Give 2 mark for each type i.e. on correct explanation of 2 types give	4 Marks.
		Give 1 mark for each type diagram i.e. give 2 marks for 2 diagram.	5 Marks.

OR	iii.	Give 1 mark for each type i.e. on correct explanation of 2 types give 2 marks. Give 1 mark for each type operation i.e. on correct explanation of both operations give 2 marks. Give 1 marks for each diagram i.e. give 2 marks for 2 diagram.
Q.6	i.	On correct explanation of cast in situ reinforced concrete roof give 5 Marks.
	ii.	On correct explanation of waterproofing techniques over roof give 5 Marks
	iii.	Give 1 marks for each type i.e. on correct explanation of 5 types give 5 Marks.

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