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Enrollment No.....



Faculty of Engineering
End Sem Examination Dec-2023

CE3EL04 Building Maintenance & Repairs

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. The major cause of deterioration of concrete having temperature below 0°C is- **1**
(a) Wearing (b) Freezing and thawing
(c) Erosion (d) None of these
- ii. To control corrosion, the concrete should have- **1**
(a) Low permeability (b) Low thermal coefficient
(c) More fine aggregate (d) More coarse aggregate
- iii. A fire detector cannot detect- **1**
(a) Radiation (b) Heat (c) Light (d) Smoke
- iv. The main reason for cracks in masonry joints is- **1**
(a) Moisture (b) Sulphate (c) Magnesium (d) Sodium
- v. Select accelerator for concrete- **1**
(a) Calcium chloride (b) Sugars
(c) Calcium sulphate (d) Cellulose products
- vi. Which of the following cement is used to neutralize the shrinkage effect? **1**
(a) Expansive cement (b) OPC
(c) Hydrphobic cement (d) PPC
- vii. Full form of FRP is- **1**
(a) Fibre Reinforced Polymer
(b) Fibre Reinforced Plaster
(c) Fibre Reinforced Polyster
(d) None of these
- viii. Column can be failed due to- **1**
(a) Deflection (b) Jacketing (c) Bulking (d) Guniting

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- ix. The demolition of structure with the help of explosive is- **1**
(a) Implosion (b) Hammering
(c) Heating (d) Bursting
- x. Which one activity is not a part of demolition process? **1**
(a) Estimation of structure (b) Survey
(c) Structural details (d) List of hazardous materials
- Q.2 i. What is carbonation attack? **2**
ii. Describe corrosion inhibitors in detail. **3**
iii. Describe in detail about design and construction errors. **5**
- OR iv. Explain the effects due to climate and temperature on serviceability and durability. **5**
- Q.3 i. Define repair and rehabilitation in brief. **3**
ii. Explain in detail about assessment procedure for evaluating damaged structure. **7**
- OR iii. Explain the importance and classification of maintenance. **7**
- Q.4 i. What is ferro-cement concrete? Give advantages also. **3**
ii. Explain polymer modified concrete with advantages. **7**
- OR iii. Explain sulphur infiltrated concrete with its usage, advantages and disadvantages. **7**
- Q.5 i. Explain effect of fire in concrete structure. **4**
ii. Explain repair techniques to overcome low member strength. **6**
- OR iii. Describe repair techniques to resolve the problem of deflection. **6**
- Q.6 Attempt any two: **5**
i. Explain in detail the explosive method of demolition. **5**
ii. Describe in detail about engineered demolition techniques. **5**
iii. Describe safety measures in detail taking during demolition and give brief about stability report. **5**

P.T.O.