

Question Bank (K Scheme)

Name of Course: Maintenance and Repairs of Structures
Semester: Sixth

Subject code: 316309
Programme: Civil

Unit test I

Unit 1 (Basics of Maintenance and Repairs)

2 Marks Questions

1. State any four objectives of building maintenance.
2. Define the terms: retrofitting, restoration
3. State any two differences between maintenance and repairs.
4. State the classification of maintenance.
5. State the objectives of maintenance and repairs.

4 Marks Questions

6. State any four advantages and four limitations of maintenance and repairs.
7. Explain in brief any four factors influencing periodical maintenance.
8. Prepare checklist including eight items for proposed building maintenance and repairs during the period of post monsoon.
9. Explain in brief four stages of repair work in general.
10. Explain the factors affecting maintenance and repairs.

Unit 2 (Causes and Detection Estimation of Damages)

2 Marks Questions

1. Define structural audit. Also state its importance.
2. Define distress survey.
3. State any four sources of damages in buildings.
4. State the purpose of conducting test of chloride and sulphate attack on damaged structures.
5. Enlist any four non-destructive tests performed on damaged structure.

6. State the objectives of inspection.
7. State any two necessities of NDT.

4 Marks Questions

1. Explain stepwise procedure involved in structural auditing.
2. Prepare the format including eight items w.r.t. structural audit for complaint reported by user of building.
3. Write an overview on rules and regulations for structural engineer w.r.t. periodic audit, qualification eligibility and licensing to the structural engineer 1,2,3.
4. Describe in brief any four importance of visual observations for damage.
5. Write step by step procedure of half-cell potentiometer test with neat sketch.
6. Suggest one relevant test of each to be carried out for determination of strength and voids of structure. Also, explain procedural steps of any one of two.
7. Describe the step by step procedure of ultrasonic pulse velocity test to be performed on the surface of RC elements.
8. Write the step by step procedure of rebound hammer test to be performed on the damaged RCC elements.
9. Explain in short four stages to be followed for systematic approach of doing damage detection.
10. Describe the stages of preliminary inspection.
11. Explain scope of detailed inspection.
12. Explain any four damages commonly observed in buildings.

Unit 3 (Materials for Maintenance and Repairs)

2 Marks Questions

1. Name two materials available in market of each case for repairing mortar and concrete surface protection.
2. State any four factors influencing the material selection for repair work.
3. Write any four names of materials used for anticorrosive coating.
4. What are the required properties of anti-corrosive coating materials?
5. Explain any two essential properties of repair materials.

4 Marks Questions

6. Write any two important characteristics of each of the following bonding aids:

a. epoxy resins (ii) poly resins (iii) polyvinyl acetate (iv) vinyl acetate co polymer

7. Suggest an appropriate use of each of the following materials for repair:

a. plastic nipple (ii) zinc rich epoxy (iii) polyester putty (iv) sealant (v) low viscosity

polyester resin (vi) epoxy resin mortar (vii) rebar primer (viii) oleo resinous mastics

8. Explain any four factors influencing the selection of material for repairs.
9. Write any two relevant names of materials used for the repair of joint leakage, slab leakage, corroded steel bars and leakage between WC pan and surrounding concrete.
10. Write any two characteristics of zinc rich epoxy, resin mortar, resin sealant, galvanized steel wire fabrics.
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