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Total No. of Printed Pages: 1

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B. Tech Civil Engg. (Semester – 5th)
MAINTENANCE OF BUILDING STRUCTURES
Subject Code: BCIED1552
Paper ID: 19110721

Time: 03 Hours

Maximum Marks: 60

Instruction for candidates:

1. Section A is compulsory. It consists of 10 parts of two marks each.
2. Section B consist of 5 questions of 5 marks each. The student has to attempt any 4 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

Section – A

(2 marks each)

Q1. Attempt the following:

- (a) State any two objectives of building maintenance.
- (b) Define 'Distress' in structures.
- (c) How deterioration occurs due to corrosion?
- (d) Suggest any two materials necessary to repair dampness of RCC roof slab.
- (e) Write any two characteristics of Vacuum concrete.
- (f) What is efflorescence?
- (g) Define Active cracks.
- (h) 'Structural audit is necessary in most of the buildings'. State any two main points in support of your answer.
- (i) 'Polymer concrete' has many applications in the present times. Write any two applications.
- (j) What do you understand by compression failure?

Section – B

(5 marks each)

- Q2. Show how bonding can be ensured between two layers of concrete over an existing old concrete.
- Q3. List out circumstances where grouting technique is warranted.
- Q4. What is the role of FRP material in repair?
- Q5. What do you understand by durability? Compared to other considerations, how much importance should be given to durability in the design and construction of concrete structures.
- Q6. Analyze a RCC building which is under distress due to rebar corrosion. Column beams and slabs are under cracks. Age of the building is 25 years. Give flowchart for Diagnosis and suitable repair scheme.

Section – C

(10 marks each)

- Q7. Evaluate a 'Dam structure' which is having cracks due to FSL and suggest remedial measures to rectify.
- Q8. What are the causes of distress in structures?
- Q9. Discuss the Preliminary and Detailed Inspections of concrete structures.