

B.Tech IV Year I Semester (R13) Supplementary Examinations June 2018
REHABILITATION & RETROFITTING OF STRUCTURES
 (Civil Engineering)

Time: 3 hours

Max. Marks: 70

PART – A
 (Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- List out the factors causing distress.
 - Distinguish between rehabilitation and retrofitting of structures.
 - List out the damage classification in structural members.
 - Define fire rating and desiccation.
 - List out the symptoms of distress on concrete structures.
 - List out the various tests for preliminary assessment of damages.
 - Define Guniting and Shotcreting.
 - What is jacketing? What are the different types of jacketing?
 - How does sensing technology is used in structural health monitoring system?
 - Briefly explain about the building instrumentation.

PART – B
 (Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

- 2 (a) What do you mean by deterioration? What are its various categories?
 (b) Discuss in detail the various factors responsible for deterioration.

OR

- 3 (a) Distinguish between structural and non-structural damage in a multi-storey structure.
 (b) Draw neatly the types of damages in beams.

UNIT – II

- 4 Explain about the causes of corrosion of steel in reinforced concrete structures.

OR

- 5 (a) On what basis the structures are designed to withstand fire.
 (b) Describe methods of protecting buildings against fire.

UNIT – III

- 6 Discuss in detail about the damage assessment procedure in a structure.

OR

- 7 Give short notes on:
 (a) Inspection of structures.
 (b) NDT.

UNIT – IV

- 8 Explain about the strengthening of a structure by Underpinning with neat sketches.

OR

- 9 List out the different methods available for repairs of concrete structures. Explain any one method in detail.

UNIT – V

- 10 Define sensors and explain its uses in monitoring of structures.

OR

- 11 Explain the components of health monitoring of structures.
