

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (Civil Engineering) (Sem.-6)

**REPAIR AND REHABILITATION OF STRUCTURES**

Subject Code : PECE-604C-18

M.Code : 79408

Date of Examination : 09-07-22

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTIONS TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

**SECTION-A**

**1. Write briefly :**

- a) Why fibre reinforced concrete is preferred in blast resistant structures and repair and rehabilitation works?
- b) Under what situations the use of underpinning is warranted?
- c) What are the three main distress symptoms in a structure?
- d) What are new repair systems?
- e) List various distresses in structures due to fire.
- f) What do you understand by Guniting?
- g) What is the use of epoxy bonded replacement concrete?
- h) Discuss seismic strengthening of structures.
- i) In what way carbonation of concrete affects the structure?
- j) *'Effectiveness of concrete made with industrial wastes'*?

## SECTION-B

2. What are the various crack repair techniques? Explain.
3. Describe in detail the damage assessment procedure.
4. Explain seismic retrofitting of concrete structures.
5. Differentiate between high strength concrete and high performance concrete.
6. In what way can the behavior of Fibre reinforced concrete can be used for seismic resistant design?

## SECTION-C

7.
  - a) What are the various distresses in structure due to corrosion?
  - b) Mention various methods of corrosion protection.
8. List the causes for deterioration and distress in structures. Describe each, explaining what type of distress is witnessed due to each cause.
9. Write short notes on the following :
  - a) Preplaced aggregate concrete
  - b) Vacuum concrete
  - c) Reactive powder concrete.

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**