

CBCS SCHEME

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15CT562

Fifth Semester B.E. Degree Examination, Feb./Mar. 2022 Special Concrete

Time: 3 hrs.

Max. Marks: 80

- Note:** 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. Use of Light weight concrete design charts is permitted.

Module-1

- 1 a. Explain briefly Special Concrete. (05 Marks)
b. What are the different types of Special Concrete? (05 Marks)
c. What are the applications of Special Concrete? (06 Marks)

OR

- 2 a. Briefly explain the application of Fibre reinforced concrete. (10 Marks)
b. What are the different types of Fibers used in concrete? (06 Marks)

Module-2

- 3 a. Describe the methods of placing High Density Concrete, with their merits and demerits. (10 Marks)
b. What is High Density Concrete? Discuss the need of using high density concrete for radiation shielding. (06 Marks)

OR

- 4 a. Mention the need for self compacting concrete. (06 Marks)
b. What are the tests conducted in fresh self compacting concrete and why? (10 Marks)

Module-3

- 5 a. What is Light-Weight Concrete? List out atleast seven applications of Light Weight Concrete. (08 Marks)
b. Explain the process of production of Polymer impregnated concrete with flowchart. (08 Marks)

OR

- 6 a. Design the most economical light weight concrete mix for a minimum 28 days strength 300kg/cm^2 required for a structural work. Available aggregates are foamed slag, Aglite, Lytag and Leca. Control factor is 0.75, relative density not to exceed 1.75, required workability is medium to high. Setout dry batch weight and mix proportions, if the fine and coarse aggregates contains 5 and 3% of moisture by weight respectively. (11 Marks)
b. List and explain applications of polymer impregnated concrete. (05 Marks)

Module-4

- 7 a. Explain briefly the methods of making High Strength Concrete. (08 Marks)
b. What are the applications of High Strength Concrete? (08 Marks)

OR

- 8 a. Explain briefly the methods of Making Ultra High Strength Concrete. (08 Marks)
b. Describe any one method of Mix proportioning for High Strength Concrete. (08 Marks)

Module-5

- 9 a. What are the properties of High Performance Concrete in fresh state and hardened state? (10 Marks)
- b. What are the applications of High Performance Concrete? (06 Marks)
- OR**
- 10 a. What is "High Performance Concrete"? How is it proportioned? Illustrate your answers with typical mix proportions of High Performance Concrete. (08 Marks)
- b. List different mineral admixtures and their characteristics on High Performance Concrete. (08 Marks)

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