

CBCS SCHEME

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15CT562

Fifth Semester B.E. Degree Examination, June/July 2018 Special Concrete

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Discuss the recent developments in the field of concrete to mitigate environmental challenges. (08 Marks)
- b. Describe some of the unique features of the concrete micro structure as three phase material. (08 Marks)

OR

- 2 a. Explain the factors affecting the properties of fibre reinforced concrete. (08 Marks)
- b. What is aspect ratio? How does it influence the strength and toughness of FRC? (08 Marks)

Module-2

- 3 a. Explain in brief high density concrete with respect to properties, method of production had its application. (08 Marks)
- b. Explain the mechanism of radiation shielding in high density nuclear concrete. (08 Marks)

OR

- 4 a. Explain with neat sketches workability requirements for SCC with reference to filling ability and passing ability (08 Marks)
- b. Explain in brief guidelines for production and mix proportion of SCC. (08 Marks)

Module-3

- 5 a. Discuss the properties of light weight concrete with reference to fresh and hardened state. (08 Marks)
- b. Write a note on merits and demerits of structural light weight concrete. (08 Marks)

OR

- 6 a. What do you understand by the terms polymer concrete and polymer impregnated concrete. (08 Marks)
- b. Discuss the mechanical and durability properties of latexmodified concrete. (08 Marks)

Module-4

- 7 a. What is the significance of high strength concrete and its applications? (08 Marks)
- b. Write a note on ultra high strength concrete with reference to materials and mix proportion. (08 Marks)

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OR

- 8 a. Explain in brief production of High Strength Concrete (HSC). (08 Marks)
b. Discuss in brief fresh and hardened properties of HSC. (08 Marks)

Module-5

- 9 a. What is the role of chemical admixtures in concrete and its mechanisms (08 Marks)
b. What is optimum dosage of super plasticizers? How do you determine the optimum dosage of super plasticizers (08 Marks)

OR

- 10 a. Explain the mechanism by which mineral admixtures are able to improve the durability, probability and finishability of concrete structures. (08 Marks)
b. Explain in brief :
i) G.G.B.S (Ground Granulated Blast Furnace Slag)
ii) Condensed Silica Fume (CSF)

(08 Marks)

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