

CBCS SCHEME

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15CV/CT44

Fourth Semester B.E. Degree Examination, June/July 2019 Concrete Technology

Time: 3 hrs.

Max. Marks: 80

*Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. Use of IS10262, IS 383 are permitted.*

Module-1

- 1 a. Explain with the flow chart the manufacture of cement by dry process. (06 Marks)
b. What are the various tests conducted on coarse aggregate for determining its strength? Explain any two. (06 Marks)
c. List the different types of admixtures. (04 Marks)

OR

- 2 a. Explain hydration of cement and importance of Bogue's compounds. (08 Marks)
b. Explain the effect of fly ash and silica fume in the hardened state of concrete. (08 Marks)

Module-2

- 3 a. Define workability. Explain the factors affecting workability. (08 Marks)
b. Explain the different methods of curing. (08 Marks)

OR

- 4 a. Explain the process of manufacturing of concrete. (08 Marks)
b. Explain the good and bad practice of making and using fresh concrete. (08 Marks)

Module-3

- 5 a. Explain the factors influencing the strength of hardened concrete. (08 Marks)
b. List the insitu tests conducted on concrete. Explain the principle of rebound hammer test. (08 Marks)

OR

- 6 a. Discuss the various factors affecting the creep. (06 Marks)
b. Explain the different methods of controlling chloride attack on concrete. (06 Marks)
c. List the applications of ultrasonic pulse velocity test. (04 Marks)

Module-4

- 7 Design a concrete mix by I.S. method for M30 grade concrete as per IS 10262.
a. Grade : M30
b. Cement : OPC – 43 Grade
c. Maximum nominal size of aggregate : 20mm
d. Minimum cement content : 320 kg/m³
e. Maximum W/C ratio : 0.45
f. Workability : 75mm slump
g. Exposure condition : severe
h. Maximum cement content : 450 kg/m³
i. Method of concrete placing : pumping
j. Chemical admixture : Super plasticizer.