Reg. No. : .....

Name : .....

Third Semester B.Tech. Degree Examination, November 2014
(2013 Scheme)
13.304 : CONCRETE TECHNOLOGY AND ADVANCED CONSTRUCTION (C)

Time : 3 Hours Max. Marks : 100

Instruction : *Answer **all** questions from Part **A** and **one full** question from **each** Module in Part **B**.*

PART – A **(5×4=20 Marks)**

1. Discuss the effects of impurities in mixing water on properties of concrete.
2. Distinguish between setting and Hardening of concrete.
3. Discuss the different methods of compaction of concrete.
4. Discuss the factors affecting durability of concrete.
5. Discuss various types of concrete mixers.

PART – B **(4×20=80 Marks)**

Module – I

6. a) Explain the phenomenon of bulking of fine aggregate. Indicate the significance of bulking of aggregate in concrete technology.

   b) Write the Indian standard specifications for ordinary port land cement, Port land Pozzolona cement and Portland slag cement on setting time, compressive strength, fineness and soundness.

7. Write notes on ordinary Port land cement, Rapid Hardening Port land cement, Port land Pozzolona, Port land slag cement with special emphasis on the oxide composition, strength development and application.

Module – II

8. a) Discuss the role of water in concrete.

   b) Enumerate different methods of testing fresh concrete for workability. Explain any one test method in detail.

9. a) Explain different methods of batching of concrete with their relative merits and demerits.

   b) Write a detailed note on application of polymers in concrete.

Module – III

10. a) Write a detailed note on factors affecting strength of concrete.

    b) Discuss the factors causing variation in quality of concrete.

11. a) Discuss in detail about the chemical durability of concrete.

    b) Discuss the use of ultrasonic pulse velocity technique on evaluation of quality of concrete.

Module – IV

12. a) Discuss the suitability of different materials used in formwork giving their relative merits and demerits.

    b) Write short notes on earthquake resisting building construction.

13. Explain, with the aid of neat sketches, different types of cofferdams.
