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**B.E / B.Tech ( Part Time ) DEGREE END SEMESTER EXAMINATIONS, NOV / DEC 2013**

**CIVIL ENGINEERING**

Fifth Semester

**PTCE061 Concrete Technology**

(Regulation 2002)

Time : 3 Hours

Answer ALL Questions

Max. Marks 100

**PART-A (10 x 2 = 20 Marks)**

1. Mention the classification of aggregates based on size and shape
2. What are admixtures?
3. What is meant by compaction factor?
4. List any two factors influencing the compressive strength of concrete.
5. Compare nominal mix and design mix.
6. List any two changes in mix design when fly ash is used.
7. List any four materials needed for light weight concrete.
8. What are the advantages of carbon fibres?
9. In what way, early setting of cement is important?
10. List any two problems during hot weather concreting.

**Part – B ( 5 x 16 = 80 marks)**

11. Explain the process of manufacturing of concrete with a flow chart.
12. a) Explain any four special cements with their chemical composition and applications.  
(OR)  
b) Explain in detail any two laboratory tests to be conducted on cement as per I.S.
13. a) Explain the fresh concrete properties.  
(OR)  
b) Explain in detail any two strength tests to be conducted on hardened concrete as per I.S.
14. a) Explain the step by step mix design procedure based on IS method.  
(OR)  
b) Explain the procedure to design a concrete mix based on ACI method for construction of an elevated water tank.
15. a) Explain the properties of fibre reinforced concrete both in plastic and hardened stage?  
(OR)  
b) Explain the process of manufacturing of light weight concrete and its applications and advantages.