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**5575**

Register Number:

Name of the Candidate:

**B.Sc. DEGREE EXAMINATION December 2014**

**(CONSTRUCTION MANAGEMENT)**

**(FOURTH SEMESTER)**

**440: ELEMENTS OF CONCRETE**

Time: Three hours

Maximum: 75 marks

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**Answer ONE FULL question from each UNIT**

**(5 × 15 = 75)**

**UNIT-I**

1. a) What are the physical properties of portland cement? Explain the testing of any one of them.  
b) Explain the phenomenon of Alkali-Aggregate reaction.

(OR)

2. a) What are the mechanical properties of aggregate?  
b) Discuss between the ordinary Portland cement and Pzolana cement.

**UNIT-II**

3. a) What are the test conducted for measurement of workability in fresh concrete? Explain any one of them.  
b) What are the factors affecting workability of fresh concrete?

(OR)

4. a) Define the terms segregation and bleeding of concrete.  
b) What are the steps involved in the standard slump cone test?

**UNIT-III**

5. a) What are the factors influencing the strength of concrete?  
b) Discuss the relationship between compression and tensile strength of hardened concrete?

(OR)

6. a) Explain the flexural strength test of hardened concrete with neat sketch.  
b) Explain any one non destructive test for hardened concrete.

**UNIT-IV**

7. a) Explain the step by step procedure for mix design using BIS codal provisions.  
b) What are influencing the choice of mix proportioning? Explain any one of them.

(OR)

8. a) What are the basic requirements for concrete mix design?  
b) Explain the different ductility tests of concrete?

**UNIT-V**

9. a) Explain the mix design procedure for light weight aggregate concrete.  
b) What are the different types of fibres used in FRC?

(OR)

10. a) What are the factors affecting properties of fibre reinforced concrete?  
b) What are the types of polymer concrete? Explain any one of them.

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