

B.E. (Civil Engineering) Semester Third (C.B.S.)  
**Concrete Technology**

P. Pages : 2

Time : Three Hours



**KNT/KW/16/7211**

Max. Marks : 80

Notes : 1. Due credit will be given to neatness and adequate dimensions.

1. a) Give the oxide composition of cement and state the effect of each on the properties of cement. 8  
b) What are the field tests for judging the preliminary quality of cement? 6
- OR**
2. a) Give the classification of aggregates according to source, shape and size. 8  
b) Explain impact value test on Aggregate. 6
3. a) What is workability and what are the factors affecting it? 7  
b) Explain hot weather concreting. 6
- OR**
4. a) What is curing? Explain various types of curing with their suitability? 7  
b) What is mean by maturity of concrete? 6
5. a) What are the factors affecting compressive strength of concrete. 6  
b) Explain Modulus of elasticity of concrete. 4  
c) Explain Poison's ratio of concrete. 4
- OR**
6. a) Explain the effect of h/d ratio on strength of concrete. 4  
b) Short note on indirect tension test. 5  
c) How abrasion and erosion affects the concrete? 5
7. a) Enlist various methods of mix design and discuss various factors affecting mix proportions. 5  
b) Write the step by step procedure adopted for the method of mix design as per IS. 8

**OR**

8. a) List various types of admixtures used in concrete. Explain plasticizers and super plasticizers. 7
- b) Write short note on Accelerators and Retarders. 6
9. Write short note on 13
- a) Self compacting concrete.
- b) Fiber reinforced concrete
- c) Shotcrete pumped concrete.

**OR**

10. a) Define and classify Shrinkage in concrete. How it can be controlled? 7
- b) What do you understand by Creep? What are various factors affecting it? 6
11. a) What is permeability of concrete? 6
- b) What are types of cracks in concrete? Explain various causes of cracks in concrete. 7

**OR**

12. Explain in brief the following non-destructive tests on concrete. 13
- 1) Rebound hammer method
- 2) Ultrasonic pulse velocity method.

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