CE 222 (R-20)

Total No. of Questions : 10] [Total No.of Pages : 02

II/IV B. Tech. DEGREE EXAMINATIONS, AUGUST - 2024

Second Semester

CIVIL ENGINEERING

CONCRETE TECHNOLOGY

Time : **Three Hours** Maximum : **70** Marks

Answer ONE question from each Unit. 5x14=70 M

All Questions carry equal marks.

UNIT - I

1. a) Classify aggregates according to size and shape.

   b) Explain briefly about port land pozzolana cement and sulphate resisting cement.

(OR)

2. a) Explain procedure of bulking of sand.

   b) How to determine fineness modulus of coarse aggregate.

UNIT - II

3. a) What are tolerable concentrations of impurities in mixing water in water ?

   b) Explain about cube compressive strength of concrete.

(OR)

4. Definie Workability. Give any two test procedures to determine workability of concrete.

UNIT - III

5. Write the time dependent behavior of concrete (i) shrinkage (ii) creep (iii) fatigue.

(OR)

6. Design a concrete mix of M25 grade. Take standard deviation of 4MPa. The specific gravities of coarse aggregate and fine aggregate are 2.72 and 2.60 respectively. The bulk density of coarse aggregate is 1610 kg/m^3 and fineness modulus of aggregate is 2.74. A slump of 60mm is necessary. The water absorption of coarse aggregate is 1% and free moisture in fine aggregate is 2%. Design the concrete mix using IS code method. Assume any missing data.

P.T.O.

UNIT - IV

7. Explain in any two non-destructive tests on concrete in detail.

(OR)

8. a) Explain procedure how GGBFS admixture treatment influencing on concrete.

   b) What are the functions of admixtures and accelerators.

UNIT - V

9. Write about the following (i) Self compacting concrete (ii) high strength concrete.

(OR)

10. a) Explain about Polymer concrete.

    b) What is need of green building in construction industry and explain its maintenance.