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[5459]-107

S.E. (Civil Engineering) (II Sem.) EXAMINATION, 2018

CONCRETE TECHNOLOGY

(2015 PATTERN)

Time : 2 Hours

Maximum Marks : 50

N.B. :— (i) Answer Q. Nos. 1 or 2, 3 or 4, 5 or 6 and 7 or 8.

(ii) Neat diagrams must be drawn wherever necessary.

(iii) Figures to the right indicate full marks.

(iv) Your answers will be valued as a whole.

(v) Use of electronic pocket calculator is allowed.

(iv) Assume suitable data, if necessary.

(vii) Use of IS code 10262,456 is not allowed.

1. (a) Explain wet process of manufacturing of Portland cement.[6]

(b) Write short notes on : [6]

(i) Bleeding

(ii) Segregation.

Or

2. (a) What are the different functions of admixtures ? [6]

(b) What are different methods to measure workability ? Explain compaction factor test in detail. [6]

3. (a) Explain the factors affecting the strength of concrete. [6]

(b) Write a short note on : [6]

(i) Underwater concreting

(ii) Ready mixed concrete.

P.T.O.

Or

4. (a) What is core test ? What are advantages and disadvantages of core test ? [6]
- (b) Write a short notes on : [6]
- (i) High density concrete
- (ii) Self compacting concrete.

5. (a) What do you mean by concrete mix design ? What are the objectives in mix design ? [6]
- (b) Write step by step procedure for concrete mix design by using IS 10262 methods. [7]

Or

6. (a) Write major factors affecting mix design. Explain water-cement ratio. [4]
- (b) What do you mean by : [4]
- (i) Mean strength
- (ii) Variance
- (iii) Standard deviation
- (iv) Coefficient of variation.
- (c) Explain the DOE method of mix design in brief. [5]

7. (a) State and explain factors affecting permeability of concrete. What measures should be taken to reduce permeability of concrete ? [8]

- (b) Explain in detail corrosion monitoring techniques of reinforcement and its preventive measures. [5]

Or

8. (a) Write a detailed note on : [8]
(i) Attack by sea water
(ii) Chloride attack on concrete.
- (b) Explain process of preparation of surface for repairs along with its importance. [5]