

Total No. of Questions—8]

[Total No. of Printed Pages—3

Seat No.	
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[5352]-108

**S.E. (Civil Engineering) (Second Semester)**

**EXAMINATION, 2018**

**CONCRETE TECHNOLOGY**

**(2012 PATTERN)**

**Time : Two Hours**

**Maximum Marks : 50**

**N.B. :—** (i) Answer Q. 1 or 2, 3 or 4, 5 or 6, 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.

(vi) Assume suitable data, if necessary.

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

1. (a) Explain the dry process of manufacturing of cement. [6]
- (b) Define creep of concrete. What are factors affecting creep of concrete ? [6]

*Or*

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

P.T.O.

- (b) Write short notes on : [6]
- (i) Shrinkage
- (ii) Swelling.
3. (a) State the different types of destructive tests carried on hardened concrete. Explain Flexural test. [6]
- (b) Write short notes on : [6]
- (i) Ready mix concrete
- (ii) Hot weather concreting.
- Or*
4. (a) What is light weight concrete ? How it can be achieved in practice ? [6]
- (b) Write the comparison between ferrocement and RCC construction work. [6]
5. (a) What do you mean by concrete mix design ? What are the objectives in mix design ? [6]
- (b) Briefly outline the IS code method of concrete mix design. Write the procedure of trial mixes. [7]
- Or*
6. (a) Write a short note on statistical quality control of concrete. [4]
- (b) Explain the factors affecting the mix design. [4]
- (c) Explain DOE method of mix design in brief. [5]

7. (a) What is durability ? What is significance of durability ? What effect of water cement ratio makes on durability ? [5]
- (b) Write short notes on : [8]
- (i) Shotcrete
- (ii) Corrosion monitoring techniques and preventive measures.
- Or*
8. (a) What are the symptoms and diagnosis of distress of concrete ? [5]
- (b) Write short notes on : [8]
- (i) Attack by sea water
- (ii) Carbonation of concrete and its determination.