

Total No. of Questions—8]

[Total No. of Printed Pages—3

Seat No.	
-------------	--

**[5152]-108**

**S.E. (Civil Engineering) (II Sem.) EXAMINATION, 2017**

**CONCRETE TECHNOLOGY**

**(2012 PATTERN)**

**Time : Two Hours**

**Maximum Marks : 50**

- N.B. :-**
- (i) Answer Q. No. 1 or Q. No. 2, Q. No. 3 or Q. No. 4, Q. No. 5 or Q. No. 6, Q. No. 7 or Q. No. 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 wet process of manufacturing of Portland cement. [6]  
(b) Define workability of concrete. Explain the factors affecting workability. [6]

*Or*

2. (a) Write a short note on classification of aggregates. [6]  
(b) Write short notes on : [6]  
(i) Shrinkage  
(ii) Swelling.

P.T.O.

3. (a) What are the test cores ? What are the advantages and disadvantages of test cores ? [6]
- (b) Describe the different types of vibrators used for compaction of concrete. [6]

*Or*

4. (a) Write short notes on : [6]
- (i) Light weight concrete
- (ii) Under water concreting
- (b) Write the comparison between Ferro cement and RCC construction work. [6]
5. (a) What do you mean by concrete mix design ? What are the objectives in mix design ? [6]
- (b) Explain mix design by IS recommended guidelines in detail. [7]

*Or*

6. (a) Explain the factors affecting the mix design. [4]
- (b) Write a short note on statistical quality control of concrete. [4]
- (c) Briefly outline DOE method of mix design. [5]
7. (a) Explain in detail permeability and factors affecting permeability of the concrete. [5]

- (b) Write short notes on : [8]
- (i) Corrosion monitoring techniques and its preventive measures
  - (ii) Shotcrete.

*Or*

8. (a) What is evaluation of cracks ? Why is it necessary ? [5]
- (b) Write short notes on : [8]
- (i) Attack by sea water
  - (ii) Carbonation of concrete and its determination.