

BT-7/D-13

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CONCRETE TECHNOLOGY

CE-423-E

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks. Assume any data suitably if missing and state clearly.

Unit I

1. (a) What is the significance of trade of cement ? List various grades of cement and explain. 8
- (b) What do you understand by Quality Control concept of Concrete ? Explain. 7
2. (a) List the various types of cement commonly used in the construction industry. Explain any *three* types in detail. 10
- (b) List the various qualities of water suitable for the construction purpose. 5

Unit II

3. (a) What are the requirements of workability ? Explain Vee-bee test for evaluation of workability. 8
- (b) What do you understand by the permeability of concrete ? Explain its importance. 7
4. (a) How is the concrete produced ? Explain different phases for the production of concrete. 10
- (b) How will you calculate the shrinkage of concrete ? Explain. 5

Unit III

5. (a) What is the significance of the Non-destructive testing of concrete ? Explain Rebound Hammer test in detail. 10
- (b) Explain the Penetration techniques for evaluation of strength of concrete. 5
6. (a) Explain Alkali-Aggregate reaction in detail. 8
- (b) How is the concrete deteriorated by chemical reaction ? Explain. 7

L-8749

2

Unit IV

7. (a) List the various types of repair techniques for concrete. Explain any *one* in detail. 8
- (b) How will you repair the fire damaged structures ? Explain few techniques in detail. 7
8. (a) List the properties and the applications of Light Weight Concrete. 7
- (b) Write short notes on the following : 8
- (i) Waste Material Based Concrete
- (ii) Fibre Reinforced Concrete.

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3

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