

(DCE 221)

B. Tech. DEGREE EXAMINATION, MAY - 2015

(Examination at the end of Second Year)

CIVIL ENGINEERING

Paper - I : Concrete Technology

Time : 3 Hours

Maximum Marks : 75

Answer question No. 1 compulsory

(15)

Answer ONE question from each unit

(4 x 15 = 60)

- 1) a) Define durability of concrete.
- b) What is a retarder?
- c) Define hydration of cement.
- d) What are the Indian standard specifications for initial and final setting time of OPC?
- e) What is segregation?
- f) What are admixtures?
- g) What is No-fines concrete?
- h) Define water cement ratio.
- i) What are plasticizers?
- j) What is the importance of impact strength of concrete?
- k) How are aggregates are classified?
- l) What is acid attack?
- m) Define bleeding.

- n) How is permeability of concrete measured?
- o) What are the Bogue's compounds?

UNIT – I

- 2) a) Describe the oxide composition of ordinary Portland cement.
- b) What are the main compounds into which the above oxides will transform in the process of fusion?

OR

- 3) a) Write about calcium carbide method to measure the moisture content of aggregates.
- b) Write about sulphate resisting cement.

UNIT – II

- 4) Write about the classification of admixtures.

OR

- 5) a) Write a short notes on quality of mixed water.
- b) What are the factors affecting workability?

Unit – III

- 6) a) What are the factors affecting the shrinkage of concrete and discuss their influence.
- b) How do you find permeability of hardened concrete in the laboratory.
- c) Discuss carbonation shrinkage.

OR

- 7) Explain the manufacturing process of concrete.

UNIT – IV

- 8) What is sulphate attack? And what are the methods of controlling sulphate attack.

OR

- 9) a) Explain salient features of light weight concretes.
- b) Explain different types of fibres used to prepare fibre reinforced concretes and their relative features.

