R15

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year I Semester Examinations, May - 2018
CONCRETE TECHNOLOGY
(Common to CEE, CE)

Time: 3 hours   Max. Marks: 75

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A
(25 Marks)

1.a) What is meant by "Hydration of cement"? [2]
 b) What are "Bouges compounds"? [3]
 c) Explain setting times of cement. [2]
 d) List the factors affecting workability. [3]
 e) Define Abram's law. [2]
 f) What are different techniques used for measuring Pulse velocity in hardened concrete? [3]
 g) Explain durability of concrete. [2]
 h) Write the formula for target strength of concrete. [3]
 i) List various applications of light weight aggregates. [2]
 j) What is a Polymer concrete? [3]

PART - B
(50 Marks)

2. Explain the following types of cements and their uses in detail:
 a) Rapid Hardening cement.
 b) Sulphate resisting cement
 c) Low heat cement
 d) Ordinary Portland cement. [10]

OR

3. Describe the mechanical properties of aggregates that are important for construction. [10]

4. Explain the process of manufacture of concrete in detail. [10]

OR

5. Explain the concept of segregation and bleeding of fresh concrete. [10]

6. Give the detailed explanation on the splitting tests that are carried on concrete. [10]

OR

7. How concrete creep is measured? What are the factors affecting creep of a concrete? [10]

8. What are the steps involved in BIS method of mix design? [10]

OR

9. Explain how quality control of concrete is achieved? [10]

10. Describe "Cellular concrete" and "No-fines concrete" in detail. [10]

OR

11. What is fibre reinforced concrete? Explain the factors affecting properties of fibre reinforced concrete. [10]

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