

**R13**

Code No: 115EP

**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]
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]

AG AG AG AG AG AG AG A

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

OR

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

AG AG AG AG AG AG AG A

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]

AG AG AG AG AG AG AG A

---ooOoo---

AG AG AG AG AG AG AG A

AG AG AG AG AG AG AG A

AG AG AG AG AG AG AG A

AG AG AG AG AG AG AG A

AG AG AG AG AG AG AG A