PVP 14

Code: CE4T1

II B.Tech - II Semester – Regular/Supplementary Examinations – April 2017

CONCRETE TECHNOLOGY
(CIVIL ENGINEERING)

Duration: 3 hours Max. Marks: 70

PART – A

Answer ***all*** the questions. All questions carry equal marks

11 x 2 = 22

1.

a) What is meant by "Hydration of cement"?
b) What are "Bouges compounds"?
c) Explain setting times of cement.
d) Write about "Alkali Aggregate reaction".
e) List the factors affecting workability.
f) Define "Gel space Ratio".
g) What are different techniques used for measuring Pulse velocity in hardened concrete?
h) What is "creep"? List the factors affecting it.
i) Write the formula for target strength of concrete.
j) What is a Polymer concrete?
k) List various applications of light weight aggregates.

PART – B

Answer any ***THREE*** questions. All questions carry equal marks.

3 x 16 = 48 M

2. a) Explain the following types of cements and their uses in detail: 8 M

   i) Rapid Hardening cement.
   ii) Sulphate resisting cement
   iii) Low heat cement
   iv) Ordinary Portland cement.

   b) Describe the mechanical properties of aggregates that are important for construction. 8 M

3. a) Explain the process of manufacture of concrete in detail. 8 M

   b) Discuss the maturity of concrete and its importance. 8 M

4. a) Give the detailed explanation on the splitting tests that are carried on concrete. 8 M

   b) How concrete creep is measured? What are the factors affecting creep of a concrete? 8 M

5. a) Describe the impact of water cement ratio on durability of concrete. 8 M

b) Explain how quality control of concrete is achieved. 8 M

6. a) Describe “Cellular concrete” and “No-fines concrete” in detail. 8 M

b) What is fibre reinforced concrete? Explain the factors affecting properties of fibre reinforced concrete. 8 M