



PAPER ID : 0054

TCE-406

Printed Pages : 2

Paper ID and Roll No. to be filled in your Answer Book

Roll No.

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B. Tech.

(SEM. IV) (EVEN SEM.) EXAMINATION, 2013

CONCRETE TECHNOLOGY

Time : 3 Hours]

[Total Marks : 100

Note : Attempt all questions

1 Attempt any four parts: 4×5=20

- (a) Explain briefly the Hydration of cement. What is concept of strength development?
- (b) List the entire test on cement. How initial and final setting time is found out?
- (c) What are different Physical Properties of aggregate? Discuss in brief.
- (d) How proportioning of concrete is carried out? List various factors affecting concrete mix design.
- (e) Explain in detail the mechanics of setting and hardening of concrete.

2 Attempt any four parts: 4×5=20

- (a) List various process of manufacturing of cement. Explain the wet process of manufacturing of cement.
- (b) Describe the test conducted for soundness of cement.
- (c) How suitability of aggregate can be judged.

- (d) Compare segregation, bleeding and laitance.
- (e) Explain the rheology of concrete.

3 Attempt any two parts : 2×10=20

- (a) Discuss the strength, hardness and toughness properties of aggregate.
- (b) What is tensile strength of concrete? How it is measured?
- (c) Compare plain concrete, high density concrete and high performance concrete.

4 Attempt any two parts : 2×10=20

- (a) Discuss Gel Space ratio and Gel structure. What is power's law?
- (b) Discuss the aggregate in terms of grading, fineness and shape.
- (c) What are different Admixtures used in concrete? How they affect the Properties of concrete?

5 Attempt any two parts : 2×10=20

- (a) Discuss the role of different component of cement. How various Properties of cement can be changed?
- (b) Discuss the composition, use and Properties of sulphur Impregmented cement.
- (c) Discuss the advantages and disadvantages of non-destructive tests on concrete. Explain the principles of non-destructive test.