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CE - 402 B.E. IV Semester
Examination, June 2015 Concrete Technology
Time: Three Hours
Maximum Marks: 70

Note: i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.
ii) All parts of each questions are to be attempted at one place.
i ii) All questions carry equal marks, out of which part A and B (Max.50 words) carry 2 marks, part C (Max. 100 words) carry 3 marks, part D (Max.400 words) carry 7 marks.
iv) Except numerical, Derivation, Design and Drawing etc.

1. a) What is gap-grading of aggregate?
- b) What are main components of concrete?
- c) What factors control the proportion of concrete mix?
- d) What is the effect of water cement ratio on strength of concrete? What is Abraham's Law? What are its limitations?

OR

Discuss requirements for mixing water for concrete. Why sea water is not normally recommended?

2. a) Define fresh and hardened concrete.
- b) What is the difference between "Workability" and "Consistency"?
- c) Explain stability, mobility and compatibility.
- d) Enumerate the laboratory tests for concrete and describe any one of them.

OR

What is a slump test? How is it performed?

3. a) How are concrete classified?
- b) Concrete mix design is still very much a problem of trial and error. Comment.
- c) Discuss various factors influencing the choice of mix design.
- d) Write detailed proforma for concrete mix design.

OR

Give general step-by-step procedure for proportioning of concrete mixes.

4. a) Define curing. What is its significance?
- b) Explain Air-Void analysis testing of concrete.
- c) Describe statistical quality control of concrete.
- d) What are methods of curing of concrete? Discuss them.

OR

What do you mean by batching? Discuss batching equipments.

5. a) Define PIC.
- b) Explain guniting.
- c) Discuss uses of SIFCON and its effects.
- d) Discuss in detail important characteristics of light weight concrete.

OR

Write short note on :

- i) Polymer concrete
- ii) Temperature control of mass concrete