

CE - 402

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B.E. IV Semester Examination, December 2014

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.
iii) 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 numericals, Derivation, Design and Drawing etc.

Unit - I

1. a) Discuss in brief disadvantages of concrete.
b) What do you understand by grade of concrete? Discuss with example.
c) What is the role of admixtures and additives in concrete? Discuss in brief.
d) Enumerate various tests conducted on cement to access its characteristics. Explain any one test in detail.

OR

Write a detailed note on inspection and testing of materials as per Indian Standard Specifications.

Unit - II

2. a) Enumerate properties of fresh and hardened concrete.
b) Write a note on durability of concrete.
c) What do you mean by micro-cracking of concrete?
d) Write detailed notes on the following: i) Factors affecting workability ii) Testing of concrete

OR

Write detailed notes on the following: i) Shrinkage ii) Creep

Unit - III

3. a) Differentiate between Mix Design and Nominal Mix Design of concrete.
b) What do you mean by design of plastic concrete mix?
c) What is the role of pozzolanic materials in concrete? Discuss with example.
d) Discuss in detail basic consideration in mix design and factors influencing the choice of mix design.

OR

What do you understand by computer aided design of concrete mix?

Unit - IV

4. a) What do you understand by batching process for concrete production?
b) How temperatures conditions affect the curing process? Briefly discuss.
c) Write a note on quality control of concrete.
d) Why non destructive testing is required? Explain working and constructional features of anyone of NDT instrument.

OR

How weather condition affects the concreting process? Discuss hot and cold weather concreting.

Unit - V

5. Write short notes on the following:
a) Ferro-cement
b) Rubble concrete
c) Polymer concrete
d) Write detail note on the following: Light weight concrete and Vacuum concrete

OR

Ready mix concrete