

Roll No.

24199

B. Tech 4th Semester (Civil Engineering)

Examination – May, 2011

CONSTRUCTION AND CONCRETE TECHNOLOGY

Paper : CE-210-F

Time : Three hours]

[Maximum Marks : 100

Before answering the question, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt any five questions of equal marks.

1. Compare bar chart and Milestone charts giving their advantages and disadvantages. Discuss how network planning techniques developed from bar chart and Milestone charts. 20
2. What do you understand by elements of a network. Describe various types of activities in a CPM network analysis. What do you understand by float of an activity in a CPM network ? How floats are classified ? How floats are important for a project planner ? 20

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3. What do you understand by initial and final setting time of cement. Discuss the process of hardening of cement explaining the effect of various compounds. What are various tests required to test the suitability of cement for construction, describe any two in detail. 20
4. What do you understand by workability of concrete, bleeding and segregation ? Discuss the effect of water cement ratio on properties of fresh concrete. What are the various tests to be conducted on fresh concrete. Describe compaction factor test ? 20
5. Define characteristic strength and target mean strength for a design mix. Outline the mix design procedure as per IS guidelines and list the design principle behind this. 20
6. Write short notes on any *three* of the following 20
- (i) Creep of concrete,
 - (ii) Admixtures,
 - (iii) Extreme weather concreting,
 - (iv) Pre stressed concrete,
 - (v) Quality aggregate for construction,
 - (vi) Bulking of Sand.
7. What are the special requirements in construction of large structures. Discuss how quality control is achieved in a multi- storied building construction. What are the requirements of slump if the concrete is to be pumped ? 20

8. What are various heavy construction equipment ? Describe batching plants. Discuss the quality control at a batching plant. Suggest an equipment for compaction of concrete at a dam site and justify your answer. 20
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