

Roll No. ....

**24199**

**B. Tech. 4th Sem. (Civil Engineering)**

**Examination – May, 2012**

**CONSTRUCTION AND CONCRETE TECHNOLOGY**

**Paper : CE - 210- F**

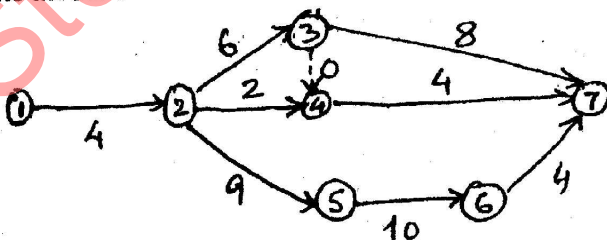
**Time : Three hours ]**

**[ Maximum Marks : 100**

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

**Note :** Attempt any *five* questions. All questions carry equal marks.

1. Discuss the need of project planning and management. What are the various techniques of project planning ? Discuss Milestone chart in detail giving its advantages and drawbacks. 20
2. Differentiate between an event and activity in CPM network. Calculate various types of floats for the following network and find out the time of completion of the project. Activity times in days are marked on the arrow : 20



3. Discuss the process of setting of cement. What are various factors affecting the strength of cement ? What are various tests to test the suitability of cement for construction work ? Describe soundness test in detail. 20

4. Why curing is essential for concrete ? Define workability of concrete. How it is tested ? Discuss various factors affecting workability of concrete. Discuss the use of admixtures to increase the workability of concrete and the precautions while using admixtures. 20

5. What are various parameters to be considered while designing a concrete mix ? Briefly explain the IS guidelines regarding concrete mix design. What will be the target strength for a design mix of M30 ? 20

6. Write short notes on any *four* of the following :

$$4 \times 5 = 20$$

- (i) Bulking of sand,
- (ii) Fineness Modulus,
- (iii) Creep of concrete,
- (iv) Pumping of concrete,

(v) Segregation and bleeding,

(vi) Dozers.

7. Discuss the general features and material requirement for mass concreting in a Dam. What are the problems related to mass concreting and how they are overcome at site ?

20

8. Discuss the need of heavy construction equipments and their selection criteria. What heavy equipments and plants would you require for construction of a bridge ? Describe the equipments needed for compaction.

20