

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

PAPER ID : 2858

Roll No.

--	--	--	--	--	--	--	--	--	--

### B.Tech.

(SEM. VIII) EVEN THEORY EXAMINATION 2012-13  
**CONSTRUCTION TECHNOLOGY & MANAGEMENT**

*Time : 3 Hours*

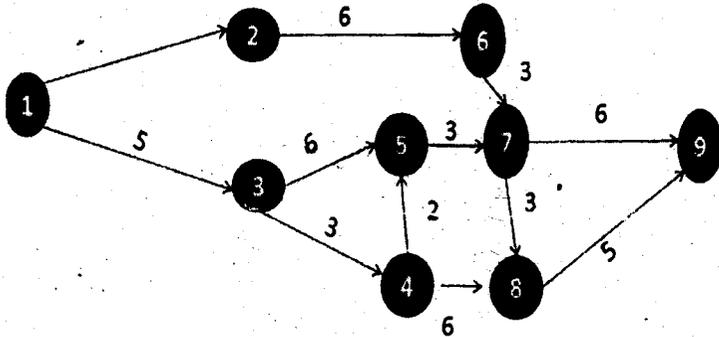
*Total Marks : 100*

**Note** :--Attempt all questions. All questions carry equal marks.

- Attempt any **two** parts of the following : **(10×2=20)**
  - Describe the salient features of various activities and resources involved to be planned for a new project. What are the roles of planning techniques to make the decisions for a new project ?
  - Why is it necessary to maintain an appropriate reporting and monitoring system in a construction project ? Describe the managerial system with the help of an organizational chart for a job site.
  - What are the basic reasons for the failure of a construction company ? Discuss the factors for cost escalation of a construction project.
- Attempt any **two** parts of the following : **(10×2=20)**
  - Illustrate the CPM techniques as used in scheduling a construction project. Also give the differences between PERT and CPM system.

- (b) State how project controlling and activity inter-relationships can be achieved in a modified Bar chart.

Determine the critical path with the scheduled completion time of 21 days.



- (c) State difference between two major network systems in respect to cost optimization.

For an activity of casting a raft foundation of a high rise building, three engineers A, B, C have given the following time estimates. State, among these three engineers, who is more certain about the time of completion of job ?

Engineer	Time in Week		
	$t_o$	$t_m$	$t_p$
A	05	07	09
B	04	06	07
C	03	05	08

3. Attempt any two parts of the following : (10×2=20)

- (a) Bring out the scope of engineering economics with appropriate examples. Explain the process of material selection in new product development.
- (b) Explain the term “Break-Even Analysis” and discuss its usefulness.

How much do you need to invest in equal annual amounts for the next 10 years if you want to withdraw Rs. 5,000 at the end of the eleventh year and increase the annual withdrawal by Rs. 1,000 each year thereafter until year 25 ? The interest rate is 6%, compounded annually.

- (c) Explain the causes for replacement of assets, in detail with examples.

The cost of a machine is Rs. 1,60,000 and its scrap value is Rs. 40,000. Estimated life is 5 years. Using the appropriate method, determine the depreciation charges for each year.

4. Attempt any two parts of the following : (10×2=20)

- (a) List the information which should customarily appear in an advertisement for tenders.
- (b) Explain briefly the procedure of pre-qualification of contractors. State its advantages and drawbacks. List the main points to be considered while pre-qualifying the contractors.
- (c) What is the purpose of ‘retention money’ ? When payments may be made at reduced rate ? How and by whom are the reduced rates determined ?

5. Attempt any **four** parts of the following : <sup>y</sup> (5×4=20)

- (a) How the purchase of an equipment is beneficial as compared with renting it? Explain.
- (b) 'Operational cost of any equipment is very necessary for any project.' How will you maintain the cost records of the equipment?
- (c) What are the various types of heavy hauling equipment vehicles? Also write in brief, their relative advantages and disadvantages.
- (d) What are the methods of preparing concrete in field? Also describe the advantages for using concrete mixers.
- (e) Briefly describe various equipments, which are used for placing concrete along with their comparative advantages and disadvantages.