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Total No. of Questions : 09] [Total No. of Pages : 03

Paper ID [A0612]

(Please fill this Paper ID in OMR Sheet)

B.Tech. (Sem. - 5th)

CONSTRUCTION MACHINERY AND WORKS MANAGEMENT

(CE - 301)

Time : 03 Hours **Maximum Marks : 60**

Instruction to Candidates:

1) Section - A is **Compulsory**.
2) Attempt any **Four** questions from Section - B.
3) Attempt any **Two** questions from Section - C.

Section - A

Q1) *(10 × 2 = 20)*

a) Write any two shortcomings of Bar Charts.

b) What do you understand by a 'Dummy'. Write its uses.

c) Explain slack. What does a negative slack indicate?

d) Define Free Float.

e) What do you understand by cost slope?

f) Name any 3 equipments used for excavation of earth.

g) List two advantages of Four wheel Type Tractor.

h) List two advantages of small trucks.

i) What is the function of Graders.

j) Electric pole has to be erected, which requires following activities :

(i) Digging holes.

(ii) Preparing concrete mixture.

(iii) Erection of poles.

(iv) Concreting Foundation.

Draw network for this.

Section - B

(4 × 5 = 20)

Q2) What is a milestone chart? How does it differ from a Bar Chart? How can milestone chart be developed into a network?

Q3) (a) Define optimistic time estimate.

(b) For a particular activity of a project, time estimates from two engineers X and Y are as follows :

	Time : Optimistic	Most likely	Pessimistic
X	4	6	8
Y	3	5	8

State who is more certain about the time of completion.

Q4) For the project represented by network in Fig I, the value of expected time for each activity is shown along the arrows. If the scheduled completion time is 30 hours, determine the slack time for each event and identify the critical path.

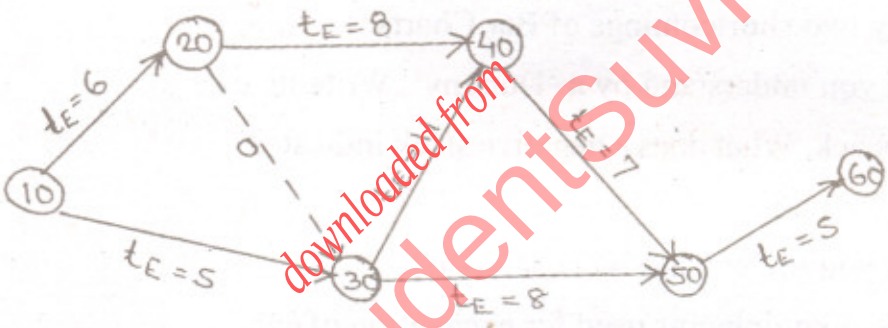

Figure I

Q5) What do you understand by updating? Why is it essential? Illustrate method of updating during its execution period.

Q6) What are scrapers? Give factors affecting output of scrapers.

Section - C

(2 × 10 = 20)

Q7) What type of records are kept for measuring performance of the equipment?

Q8) Write short notes on (any two) :

(a) Types of Mixers.

(b) Time Grid Diagram.

(c) Planning for a house.

Q9) Table gives the data about duration and costs of various activities of the network shown in Fig II.

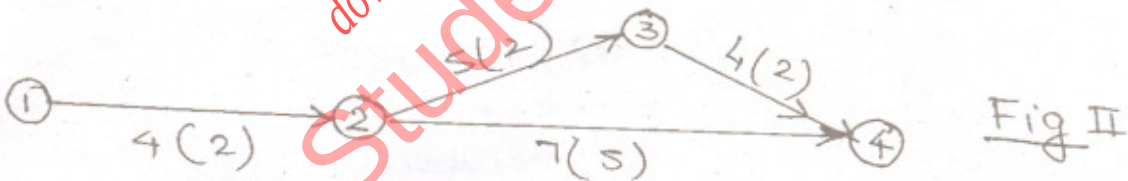

Fig II

Activity	Normal Duration (weeks)	Normal Cost (Rs.)	Crash Duration (weeks)	Crash Cost (Rs.)
1-2	4	2,000	2	12,000
2-3	5	3,000	2	7,500
2-4	7	3,600	5	6,000
3-4	4	5,000	2	10,000

Project overhead costs are Rs.2,000 per week. Find the optimum duration and cost associated with it. Draw Least Cost Network.