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B.Tech. (CE) (2011 Onwards) (Sem.–4)

CONSTRUCTION MACHINERY AND WORKS MANAGEMENT

Subject Code :BTCE-402

M.Code : 56084

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**
4. **Assume missing data.**

SECTION-A

Q1 Answer briefly :

a) Describe the various phases of project management.

b) Explain why planning is necessary.

c) What is Ghantt bar chart?

d) Define event and activity?

e) Differentiate between forward planning, backward planning and combined planning.

f) Write short note on "Hierarchies"'.

g) What do you meant by probability distribution curve.

h) What is indirect project cost?

i) How do you select the size of a power shovel?

j) Compare between Drag line and Clam shell in Cycle time.

SECTION-B

Q2 What are the different types of network scheduling? Give examples.

Q3 A project consist of 8 activities A,B,C,D,E,F,G and H with their time of completion as follows :

Activities	A	B	C	D	E	F	G	H
Duration	2	4	2	4	6	4	5	4

The precedence relationships are as follows :

A and B performed parallel

C and D cannot start until A is complete

E cannot start until the half work of activity C is complete

F can start only after D is complete

G succeeds C.

H is the last activity, which should succeed E

Draw network diagram

Q4 A project takes 25 days along the critical path and has standard deviation of 5 days. What is the probability of completing the project within (i) 30 days (ii) 25 days?

Q5 Draw a typical cost-duration curve and show on it the optimum cost and optimum duration. Explain the importance of the curve.

Q6 With neat sketches explain the working of a dragline.

SECTION-C

Q7 The following table gives the activities in a construction project :

Activity :	1-2	1-3	2-3	2-4	3-4	4-5
Duration (days) :	20	25	12	11	7	10

a) Draw the network for the project

b) Find the critical path

c) Find the float, total float and independent float for each activity

Q8 For the construction of a hostel building the following activities are to be performed :

Activities	P	Q	R	S	T	U	V	W
Duration	1	3	1	3	5	3	4	3

Activities P and Q can be performed in parallel; activities R and S cannot start until P is complete; T cannot start until half the work of the activity R is complete; activity U can start only after activity S is complete; activity N succeeds activity R and activity W which is the last activity succeeds T.

a) Draw the Bar Chart.

b) What is the total completion time of the project? Explain how you can improve upon the limitations of the use of the chart.

Q9 Write snort notes differentiating the following :

a) Back hoe and bull dozer

b) Belt conveyor and aerial ropeways

c) Normal duration and Crash duration

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.