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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	А	В	С	D	Е	F	G	Н
Duration	2	4	2	4	6	4	5	4

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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	Р	Q	R	S	Т	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.