Roll No. ☐☐☐☐☐☐☐☐☐☐☐☐   **Total No. of Pages : 02**

Total No. of Questions : 09

B.Tech. (CE) (2011 Onwards)   (Sem.–4)
CONSTRUCTION MACHINERY AND WORKS MANAGEMENT
Subject Code :BTCE-402
Paper ID : [A1172]

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. What do you understand by Dummy' write its uses?

b. What is critical path?

c. Define the term total float, free float, share float.

d. Write any 3 methods (equipments) used for Transportation and handling concrete.

e. What do you understand by the work Breakdown structure?

f. List two disadvantages of small trucks.

g. What are essential components of belt conveyor system?

h. How do you select the size of power showel?

i. What are the essential parts of conveyor belt?

j. Draw network for following cases:

   i) A can start when F has finished.

   ii) N can start when C, D, J and L has finished.

SECTION-B

Q2 What are the principles of planning? Discuss the role of planning at different stages of a project.

Q3 Discuss various rules for providing dummies in a network. What are redundant dummies?

Q4 What are the advantages of drag lines? Give different zones of digging by a drag line (by sketch).

Q5 What are Hoisting equipments? Discuss any two of commonly used hoisting equipments.

Q6 List various excavating equipments used in civil engg. projects. Explain one in detail with neat sketch.

SECTION-C

Q7 Table shows information regarding various activities of network shown under.

Activity	Normal duration (days)	Normal cost (Rs.)	Crash duration (days)	Crash cost (Rs.)
1-2	9	8000	6	9500
2-3	5	5000	3	5500

The project overhead costs are @ Rs. 300 per day :

Determine

a. Direct cost-duration relationship.

b. Total cost-duration relationship and the corresponding least cost plan.

Q8 What factors you will keep in mind while selecting equipments for a construction and excavation job?

Q9 Draw the network, for following ten events, with following interrelationships :

Event	1	2	3	4	5	6	7	8	9	10
Immediate predecessor	-	1	2	2	2	3,5	3,4	3,7	7	3,6,8,9