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Total number of pages:[2]

Total number of questions:06

B.Tech. || CE || 4th Sem

Construction Machinery & Works Management

Subject Code:BTCE-402A

Paper ID:

Time allowed: 3 Hrs

Max Marks: 60

Important Instructions:

- All questions are compulsory
- Assume any missing data

PART A (2×10)

Q. 1. Short-Answer Questions:

All COs

- (a) What is bar chart and give its drawbacks?
- (b) Define the terms total float, free float and independent float.
- (c) Differentiate between Activity and Event.
- (d) Explain 'Variation' and 'Standard Deviation'.
- (e) What are the essential components of Belt Conveyor system?
- (f) Discuss the advantages of four wheel tractors.
- (g) What do you understand by Cost Slope?
- (h) What are the different types of mixers?
- (i) What do you understand by 'dummy'? Write its uses.
- (j) Define the term 'Slack'.

PART B (8×5)

Q. 2. Explain the necessity of planning a project . Describe various steps for planning a project. CO1

OR

Describe the role of management in project execution and also describe various phases of Project management.

Q. 3. Explain in brief the difference between PERT and CPM network. Explain the circumstances under which one is preferred over the other. CO2

OR

What do you understand by 'Critical Path'? How it is determined? Explain the tabular form of doing computations for CPM network elements.

Q. 4. Explain how beta distribution is suitable for Pert analysis. Also explain how will you determine the 'Expected time' and 'Standard Deviation'? CO3

OR

The time estimates for three Activities A, B and C are as follows:

Activity	Optimistic time	Most likely time	Pessimistic time
A	10	12	14
B	6	8	12
C	5	10	12

Determine 'Expected time' and 'Variance' for each Activity. Which activity has more reliable time estimates?

Q. 5. Table below gives information regarding various Activities of network shown in Fig I CO4

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

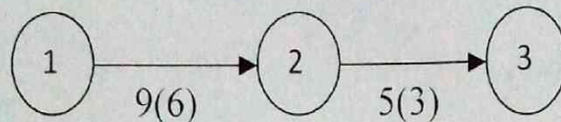


Fig I

The Project overhead costs are @Rs. 300/day. Determine

- Direct cost duration relationship
- Total Cost duration relationship

OR

Define the terms 'Direct Cost', 'Indirect Cost' and 'Outage Loss'. Also explain the method of time-cost optimization of project network.

Q. 6. (a) What factors you will keep in mind while selecting an equipment for a construction or execution job? CO5

(b) Explain Economic life of an equipment.

OR

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

(b) Write notes on (any two)

- Hoisting equipment
- Time Grid diagram
- Bitumen Plants