

S.No. : 290

BCE 3604

No. of Printed Pages : 05

Following Paper ID and Roll No. to be filled in your Answer Book.

**PAPER ID : 33126**

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## **B. Tech. Examination 2021-22**

**(Even Semester)**

### **CONSTRUCTION TECHNOLOGY & MANAGEMENT**

***Time : Three Hours]***

***[Maximum Marks : 60***

**Note :-** Attempt all questions.

#### **SECTION - A**

1. Attempt all parts of the following :  $8 \times 1 = 8$

- (a) Define depreciation.
- (b) What is minimum cost analysis?
- (c) What is AOA and AON in project management?
- (d) Write any three methods (equipments) used for transportation and handling concrete.

**[P. T. O.]**



- (e) Define the term total float and share float.
- (f) List two disadvantages of small trucks.
- (g) How do you select the size of power shovel?
- (h) What is the travel time for a scraper moving at 18 mph over a distance of 2300 ft?

### SECTION – B

2. Attempt any two parts of the following :  $2 \times 6 = 12$

- (a) What do you mean by discounted cash flow analysis? Write its objectives with proper justification and add examples.
- (b) Why designing of organisational structures is so important in present day business scenario. Enlist key issues in designing organisational structures.
- (c) Write short notes differentiating the following :
  - (i) Back hoe and bull dozer
  - (ii) Belt conveyor and aerial ropeways
  - (iii) Normal duration and crash duration



- (d) 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

- (i) Draw the network for the project.
- (ii) Find the critical path.
- (iii) Find the float, total float and independent float for each activity.

### SECTION – C

**Note :-** Attempt all questions. Attempt any two parts from each questions.  $5 \times 8 = 40$

3. (a) What are hoisting equipments? Discuss any two of commonly used hoisting equipments.
- (b) Define break even analysis. Draw a break even chart and explain its components.
- (c) Explain about resource analysis and resource allocation.
4. (a) Explain in detail about the functions and limitations of PERT and CPM techniques.

[ P. T. O. ]



- (b) What are the laws related to land acquisition?
- (c) List various excavation equipments used in civil engg. projects. Explain one in detail with neat sketch.
5. (a) Write short notes on the following :
- (i) Prequalification of contracts
  - (ii) Bid submission and evaluation process
- (b) What are the different types of floats involved in CPM?
- (c) Explain the important economical consideration required for construction equipments.
6. (a) A project consists 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

There precedence relationships are as follows :

- (i) A and B performed parallel.
- (ii) C and D cannot start until A is complete.



- (iii) E cannot start until the half work of activity C is complete.
- (iv) F can start only after D is complete G succeeds C.
- (v) H is the last activity, which should succeed E.

Draw network diagram.

- (b) What are the various ways to analyze investment?
- (c) Explain the laws related to labour safety and welfare.

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