

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/  
MANAGEMENT/COMMERCIAL PRACTICE, NOVEMBER – 2023**

**CONSTRUCTION MANAGAMENT & SAFETY ENGINEERING**

[Maximum Marks: **100**]

[Time: **3 Hours**]

**PART-A**

[Maximum Marks: **10**]

I. (Answer *all* questions in one or two sentences. Each question carries **2** marks)

1. List any four elements of construction project.
2. Define Earnest Money Deposit (EMD).
3. Define Shelf life of a material.
4. Define Entrepreneurship.
5. Describe Occupational hazards. (5 x 2 = 10)

**PART-B**

[Maximum Marks: **30**]

II. (Answer *any five* of the following questions. Each question carries **6** marks)

1. Distinguish between Administrative Sanction & Technical Sanction.
2. Give example for a typical bar chart showing some items used in the construction of a residential building.
3. Explain general instructions to be observed in recording measurements.
4. Explain the term Security Deposit in Contract agreement.
5. Explain the role of trade unions in industries.
6. Describe different methods adopted for increasing productivity in industries.
7. Explain the role of site engineer in ensuring safety at work site. (5 x 6 = 30)

**PART-C**

[Maximum Marks: **60**]

(Answer *one* full question from each Unit. Each full question carries **15** marks)

**UNIT – I**

- III. a. Explain the functions of Construction Management. (8)
- b. Compare between CPM & PERT network. (7)

**OR**

- IV. a. Sketch the network diagram & find the critical path, also compute total float & free float of activities:- (8)

Activity	A	B	C	D	E	F	G
Predecessor Activity	-	-	-	A	B	C	D,E,F
Time duration(days)	3	4	6	2	6	3	5

- b. Describe job layout/ site layout with a neat sketch. Also explain the points to be kept in mind while preparing a job layout/site layout. (7)

**UNIT – II**

- V. a. Explain the various recoveries to be made in the preparation of bills. (8)  
b. Explain the need for inspection and quality control check in construction activities. (7)

**OR**

- VI. a. Explain different types of bill forms used in making payments. (8)  
b. Differentiate between Item rate contract and Lump sum Contract. (7)

**UNIT- III**

- VII. a. Explain any four excavating and earth moving equipment with its suitability and applications. (8)  
b. Explain the stages of human resource procurement. (7)

**OR**

- VIII. a. A Company has three plants (P1, P2, P3) located throughout a state with production capacities 50, 75 and 25 units respectively (Supply capacity). Each day, the firm must furnish its four retail shops R1, R2, R3, & R4 with at least 20, 20, 50, and 60 units respectively (Demand). The transportation costs (in Rs.) are given in the respective cell below. Determine an optimal solution using the North West corner method. (8)

Company	Retailer				Supply
	R1	R2	R3	R4	
<b>P1</b>	3	5	7	6	<b>50</b>
<b>P2</b>	2	5	8	2	<b>75</b>
<b>P3</b>	3	6	9	2	<b>25</b>
<b>Demand</b>	<b>20</b>	<b>20</b>	<b>50</b>	<b>60</b>	

b. Explain the factors affecting the selection of Construction equipments in site. (7)

**UNIT - IV**

IX. a. List the major causes of accidents at Construction Site. Explain briefly. (8)

b. Differentiate between Managerial style and Entrepreneurial style. (7)

**OR**

X. a. Write the precautions to be taken while handling hazardous materials. (8)

b. List the expectations of the society from an entrepreneur. (7)

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