

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/  
MANAGEMENT/COMMERCIAL PRACTICE, APRIL – 2020**

**CONSTRUCTION MANAGEMENT & SAFETY ENGINEERING**

[Maximum Marks: 75]

[Time: 2.15 Hours]

**PART-A**

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

- I. 1. Define the term work charged establishment.  
2. What do you mean by construction planning?  
3. Distinguish between tender & contract.  
4. Define human resource management.  
5. Define the term entrepreneurship. (3 x 2 = 6)

**PART-B**

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

- II 1. What are the factors involved in construction management?  
2. Explain the following: (i) Bar chart (ii) Job layout.  
3. What are the documents included in a tender?  
4. List the recoveries to be made from bills.  
5. Write any six functions of material management.  
6. What are the characteristics of an entrepreneur?  
7. What are the major points should be kept in mind while selecting excavation equipment? (4 x 6 = 24)

**PART-C**

(Answer *any of the three units* from the following. Each full question carries 15 marks)

**UNIT – I**

- III (a) Explain the different stages in construction. (7)  
(b) Determine the critical path, total float & total time for completion of a project with the following data.

Activities	1-2	1-3	2-4	3-4	4-6	5-6	3-5	5-7	6-7
Durations(weeks)	6	8	7	12	3	5	7	11	10

(8)

**OR**

- IV (a) Explain in detail approximate estimate & detailed estimate. (6)
- (b) The relationship of the activities of a project is given below. Draw the network and calculate the expected time for each activity, and mark the critical path. (9)

Activities	1-2	1-3	1-4	2-5	3-5	4-6	5-6
Optimistic time (weeks)	1	1	2	1	2	2	3
Most likely time (weeks)	1	4	2	1	5	5	6
Pessimistic time (weeks)	7	7	8	1	14	8	15

(9)

**UNIT - II**

- V (a) Explain the procedure of opening tenders and their scrutiny. (7)
- (b) Explain item rate contract & piece work contract. (8)

**OR**

- VI (a) What are the specifications? Describe the need of specifications. (8)
- (b) Distinguish between EMD & SD. (7)

**UNIT- III**

- VII (a) State the functions of trade unions. (7)
- (b) Explain any three hoisting equipments used in construction industry. (8)

**OR**

- VIII (a) Write brief notes on (i) Stock verification (ii) Indent (iii) Power shovel. (8)
- (b) Write short notes on workmen compensation act. (7)

**UNIT - IV**

- IX (a) State the principles of safety in construction. (8)
- (b) List the merits & demerits of ISO 9000. (7)

**OR**

- X (a) Explain the role of supervisor in prevention of accident (8)
- (b) List the quality standards. (7)

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