

TED (15) 5001  
(Revision-2015)

**A20-00287**

Reg.No.....  
Signature.....

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

**INDUSTRIAL MANAGEMENT AND SAFETY**

[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 management.  
(2). Differentiate between earliest finish time and latest finish time in critical path method.  
(3). List any two functions of purchase department in an organization.  
(4). Define inventory.  
(5). Write any two personal factors causing accidents. (3 x 2 = 6)

**PART – B**

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

- II. (1). List any six differences between private limited and public limited company.  
(2). Write any six dimensions of quality.  
(3). Differentiate between pre-operation and post operation with examples.  
(4). Explain the following time estimates used in PERT:  
(i). Optimistic Time. (ii). Most likely time. (iii). Pessimistic time.  
(5). Explain vision, mission and quality policy of an organization.  
(6). Write any six functions of an entrepreneur.  
(7). Define the following terms.  
(i). Factory. (ii). Accident. (iii). Frequency Rate. (4 x 6= 24)

**PART – C**

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

**UNIT –I**

- III. (a). Explain the contributions of F.W. Taylor in the field of management. (8)  
(b). Explain Line organization with the help of a chart. (7)

**OR**

- IV. (a). Explain Halsey and Rowan premium plans with suitable graphs and formulae. (8)  
 (b). List any seven functions of Human Resource Management. (7)

**UNIT-II**

- V. (a). Differentiate between centralized and decentralized stores with layout. (8)  
 (b). Briefly explain ABC analysis in inventory control techniques with suitable graph. (7)

**OR**

- VI. (a). A company has an annual requirement of 20,000 units of a particular product. The cost per order is Rs.300. Inventory carrying cost is Rs.1 per unit per year. Cost per unit of the product is Rs.2. Determine:  
 (i). Economic Order Quantity. (ii). Total inventory cost.  
 (iii). Total annual cost. (iv). Number of orders per year. (8)  
 (b). List any seven functions of sales department. (7)

**UNIT-III**

- VII. (a). Three raw materials P, Q and R are required for manufacturing two products A and B. The details of raw material requirement for each product and the total availability of raw materials are given below.

| Raw materials | Unit of raw material required for making one unit of product. |   | Total units of raw material available. |
|---------------|---|---|--|
|               | A   | B |  |
| P             | 4   | 2 | 25                                     |
| Q             | 2   | 3 | 15                                     |
| R             | 2   | 4 | 20                                     |

- The profit of A is Rs.2 per unit and that of B is Rs.3 per unit. Formulate a linear programming problem to maximize the profit. (8)  
 (b). Write any seven differences between CPM and PERT (7)

**OR**

VIII.(a). Write short notes on:

(i). Event. (ii). Activity. (iii). Critical Activity. (iv). Critical Path. (8)

(b). The details of a project are given below:

| Activity | Dependency | Duration (days) |
|----------|------------|-----------------|
| A        |            | 3               |
| B        | A          | 5               |
| C        | B          | 4               |
| D        | A          | 3               |
| E        | D          | 2               |
| F        | C&E        | 1               |

(i). Draw the network diagram.

(ii). Identify the critical path.

(iii). Calculate the project duration. (7)

#### UNIT-IV

IX. (a). Briefly explain the role of Engineering in accident prevention. (8)

(b). Define feasibility report? Explain the constituents of feasibility report. (7)

#### OR

X. (a). List and explain the mechanical factors promoting accidents. (8)

(b). Explain any seven factors contributing to the failure of entrepreneurial ventures. (7)