

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/  
COMMERCIAL PRACTICE, APRIL- 2023**

**INDUSTRIAL MANAGEMENT AND SAFETY**

[Maximum marks: 100]

(Time: 3 Hours)

**PART – A**

**Maximum marks : 10**

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

1. Define staffing.
2. Define job evaluation.
3. Identify the three prong approach to quality planning.
4. Define dummy activity.
5. List 4 E's of accident prevention. (5 x 2 = 10)

**PART – B**

**Maximum marks : 30**

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

1. List the principles of cooperative societies.
2. If the standard time to complete a job is 20 hours and hourly rate is rupees 10/-. A worker complete the job within 8 hours. Calculate his earnings as per the 50-50 Halsey plan and 33 1/3% Halsey plan.
3. List the types of quality audit.
4. The annual demand for an item is 8000units. The inventory carry cost is 10% cost per unit is Rs.30/-. The ordering cost per order is Rs.30/- calculate economic order quantity. If the lead time is 9 days and the company works 300 days in year, calculate re-order point assuming safety stock is 30 units.
5. In the following game pay of matrix, what is the value of the game? Who is the winner of the game?

$$\begin{matrix} & & Y \\ & & \\ X & \begin{bmatrix} -6 & -10 \\ 10 & -6 \end{bmatrix} \end{matrix}$$

6. List the unsafe conditions in an industry.  
 7. State the major functions of an entrepreneur. (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) State the contributions of F.W.Taylor in development of management theory. (7)  
 (b) List the advantages of training in industrial training. (8)

**OR**

- IV. (a) State the advantage and disadvantages of Rowan plan. (7)  
 (b) Calculate the earnings of a worker under Rowan plan hourly rate of wages guaranteed rupees 0.75 standard time for producing one dozen articles is 3 Hours. Actual time taken by the worker to produce 40 dozen articles is 48 Hours. (8)

**UNIT-II**

- V. (a) Explain the steps for ISO-9000 installation. (8)  
 (b) List the objectives of purchasing. (7)

**OR**

- VI.(a) List the benefits of an ISO-9001-2000 company. (8)  
 (b) Explain the advantages and disadvantages of centralized store. (7)

**UNIT-III**

- VII.(a) Explain the terms: (i) Event (i) Pre operation (iii) Post operation. (8)  
 (b) State the following terms: (i) Optimistic time estimate (ii) Most likely time estimate (iii) Pessimistic time estimate (7)

**OR**

- VIII.(a) A project has 9 activities. The expected time of each activity is (8)  
 (i) Draw the project network. (ii) Identify the critical path.  
 (iii) Find the project duration.

Activity	1-2	1-3	2-4	3-4	4-6	5-6	3-5	5-7	6-7
Expected time in weeks	8	10	9	14	5	7	9	13	12

- (b) A food company must produce at least 4000Kgs of a mixture consisting of ingredients A and B daily. A costs Rs.30/Kg and B costs Rs.80/Kg. No more than 800Kg of A can be used and at least 600Kgs of B must be used. Formulate a mathematical model to the problem. (7)

**UNIT-IV**

- IX. (a) Explain the role of safety officers. (8)  
(b) Describe the procedure for the permanent registration of a small scale industry. (7)

**OR**

- X.(a) Identify engineering methods of accident prevention. (8)  
(b) List the objectives of Technology Business Incubator (TBI) (7)

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