A24 - 7528

## DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE, APRIL – 2024

## INDUSTRIAL 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. What is standard time?

2. List the types of forecasting.

3. What is depreciation?

4. What is variable in basic statistical concept?

5. List the elements of cost.                                          (5 x 2 = 10)

### PART-B
[Maximum Marks: **30**]

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

1. Explain the concept of value engineering with its advantages.

2. Explain about PMTS.

3. Explain the procedure for conduct of method study.

4. Compare floor inspection and centralized inspection.

5. Explain the need for improving productivity.

6. What are the advantages, limitations and application of sampling inspection?

7. Mention the advantages of Control Charts.                          (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 types of plant layout.                                          (8)

b. Define the dispatching and list the various functions of dispatching.          (7)

IV.   a. Explain  the various  types of plant maintenance.                                    (8)

      b. Describe  any seven factors to be considered in locating industrial plants.        (7)

## UNIT – II

V.    a. Draw and explain SIMO chart.                                                          (8)

      b. Draw and explain flow diagram.                                                     (7)

**OR**

VI.   a. Explain work measurement and its objectives.                                        (8)

      b. Explain the terms MTM, Standard Data and Analytical Estimating in Work
        Measurement.                                                                    (7)

## UNIT- III

VII.  a. Explain the concept of variability in the process.                                   (8)

      b. List the procedure for constructing X and R charts.                                (7)

**OR**

VIII. a. Explain the C chart and P chart and also explain advantages of Control charts.      (9)

      b. Find the mean, median and mode of the data given below.

| Reading | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| Diameter of shaft | 5 | 7 | 6 | 3 | 2 | 3 | 4 | 4 | 3 |

                            (6)

## UNIT - IV

IX.   a. Explain Overhead expenses and its classifications.                                   (8)

      b. Comparison of estimating and costing.                                              (7)

**OR**

X.    a. Explain prime cost, factory cost and office cost.                                    (6)

      b. Describe the following methods of calculating depreciation.

          (i) Straight line method   (ii) Reducing balance method   (iii) Annuity method.   (9)

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