

TED (15) – 5022

Reg. No. ....

(REVISION — 2015)

Signature .....

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/  
MANAGEMENT/COMMERCIAL PRACTICE — APRIL, 2019**

**INDUSTRIAL ENGINEERING**

[Time : 3 hours

(Maximum marks : 100)

**PART — A**

(Maximum marks : 10)

Marks

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

1. Define productivity.
2. Define work study.
3. State the concept of therbligs.
4. State any two cost of appraisal.
5. Define depreciation.

(5×2 = 10)

**PART — B**

(Maximum marks : 30)

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

1. Explain the benefits of PPC.
2. Point out the advantages of preventive maintenance and disadvantages of breakdown maintenance.
3. Explain the advantages of work study.
4. Draw and explain process chart symbols.
5. Draw and explain Histogram.
6. With the help of sketch explain ideal OC curve.
7. List the main functions of estimating.

(5×6 = 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 dispatching and list the various functions of dispatching. 7

OR

- IV (a) Explain master schedule, parts schedule and machine loading schedule. 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 the procedure for the conduct of stop watch time study. 7  
 (b) Find out the Normal time, Allowance time and Standard time using the following data. Average time for machine elements = 4 min, Average time for manual elements = 3 min, Performance rating = 120%, Allowances = 10%. 8

## UNIT — III

- VII (a) List the objectives of inspection. 5  
 (b) Explain the concept of variables and attributes with relevant examples. 10

OR

- VIII (a) Explain the calculation of control limits for C chart. 4  
 (b) Draw and explain frequency polygon. 6  
 (c) Purpose of selection of P-chart. 5

## UNIT — IV

- IX (a) Explain prime cost, factory cost and office cost. 6  
 (b) Describe the following methods of calculating depreciation. 9  
 (i) Straight line method (ii) Reducing balance method (iii) Annuity method

OR

- X (a) Explain the procedure for single and multiple sampling plans. 9  
 (b) Total overhead expenses in an organization is 10000 for a particular period. Total direct material cost is 40000 and total direct labour cost is 30000. Allocate the overhead expenses by following methods. 6  
 (i) Percentage on direct labour cost (ii) Percentage on direct material cost.