TED (15) -5022
(Revision- 2015)

N21-07086

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DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE –NOVEMBER -2021.

INDUSTRIAL ENGINEERING

(Maximum Marks : 75) [Time : 2.15 hours]

PART–A

Marks

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

1. Define productivity.
2. Draw any two process chart symbols.
3. What you mean by Quality?
4. List examples for variables and attributes.
5. What is meant by 'depreciation'? (3x2=6)

PART - B

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

1. Explain the term value engineering.
2. State the principles of material handling.
3. State the concept of therbligs.
4. Explain the procedure of stop watch time study.
5. List the objectives of Quality control.
6. Compare floor inspection and centralized inspection.
7. Draw and explain OC curve for general plan.

[4x6 =24]

PART - C

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

UNIT I

III (a) Categorize and explain the types of production. (8)

(b) Explain the types of maintenance. (7)

OR

IV (a) Explain product and process layout with advantages and limitations of each. (8)

(b) Explain the factors affecting material handling. (7)

UNIT- II

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

(b) State the applications of work sampling. (7)

OR

VI (a) State the principles of motion economy related to human body and workplace. (8)

(b) Calculate standard time if average time for machine element=5 minutes, average time for manual element=4 minutes, rating factor =115% and allowances =10%. (7)

UNIT- III

VII (a) Calculate control limits and plot Range (R) chart for the below given random sample dimensions of a component. Take D4=2.11 and D3=0. (8)

Sample	Dimensions				
A	43	43	42	42	44
B	39	46	40	42	45
C	43	40	41	42	43
D	46	45	45	44	40
E	44	40	46	43	43

(b) Draw and explain normal distribution curve. (7)

OR

VIII (a) Explain the terms mean, median, mode and standard deviation. (8)

(b) Describe the control limit calculation of 'C' chart. (7)

UNIT – IV

IX (a) Distinguish between estimating and costing. (8)

(b) Explain the procedure of double sampling plan. (7)

OR

X (a) List the causes of depreciation. Also calculate annual rate of depreciation and depreciation fund collected at the end of 5 years by straight line method, if purchase value of machine is Rs.40000 and scrap value of machine after 10 years of useful life is Rs.6000. (8)

(b) Describe estimating procedure. (7)

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