

Code: ME6T5

**III B.Tech-II Semester–Regular/Supplementary Examinations–March 2019**

**INDUSTRIAL ENGINEERING & MANAGEMENT  
(MECHANICAL ENGINEERING)**

**Tables/codes: Normal distribution tables should be supplied.**

Duration: 3 hours

Max. Marks: 70

**PART – A**

Answer *all* the questions. All questions carry equal marks

11x 2 = 22 M

1. Differentiate between:

- a) Administration, Organization & Management.
- b) Positive and Negative Motivation.
- c) Line and Staff Organizations.
- d) Autocratic Vs. Democratic Leadership styles.
- e) Chance and Assignable causes.
- f) Defect and Defective.
- g) Two handed process chart and SIMO chart.
- h) Normal time and Standard time of a job.
- i) CPM and PERT.
- j) Optimistic and Pessimistic time of an activity.
- k) Total float and free float.

## PART – B

Answer any *THREE* questions. All questions carry equal marks.

3 x 16 = 48 M

2. a) State and explain the functions of management. 8 M

b) Explain briefly about Maslow's hierarchy of human needs. 8 M

3. a) Compare rural and urban sites with respect to a plant location. 8 M

b) What are the different types of plant lay outs? Discuss their merits and demerits? 8 M

4. a) Illustrate Single and Double Sampling attribute plans with neat schematic diagrams. What are their advantages and disadvantages? 8 M

b) The number of customer complaints received daily by an organization is given below. Does it mean that the number of complaints is under control? Establish a control scheme for future. 8 M

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No. of complaints	2	3	0	1	9	2	0	0	4	2	0	7	0	2	4

5. a) What is method study? Explain the basic steps of method study. 8 M

b) What is meant by standard time of a job? What are different allowances used in calculating standard time? 8 M

6. Draw the PERT network for a project consisting of 7 tasks (A to G) in which the following precedence relationship must hold ( $X < Y$  means X must be completed before Y can start).

$A < B$  ;  $A < C$  ;  $B < D$  ;  $B < E$  ;  $C < F$  ;  $D < G$  ;  
 $E < F$  ;  $F < G$

Task	A	B	C	D	E	F	G
Expected Time (hrs.)	10	6	7	4	4	6	6
Standard deviation (hrs.)	2	2/3	1/3	2/3	2/3	2/3	2/3

Determine the critical path, expected minimum duration and variance of the project. Also find the probability that the project is completed 2 hours earlier than expected time.

16 M