

Code: ME6T5

**III B.Tech - II Semester – Regular /Supplementary Examinations March 2018**

**INDUSTRIAL ENGINEERING AND MANAGEMENT  
(MECHANICAL ENGINEERING)**

Duration: 3 hours

Max. Marks: 70

**PART – A**

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

11x 2 = 22 M

1.

- a) Explain the role of an Industrial Engineer.
- b) Differentiate between Douglas Mc-Gregor's Theory X and Theory Y.
- c) What is meant by decentralization?
- d) What are the advantages of organization chart?
- e) Can you explain the difference between flat and tall organizations?
- f) What is a SIMO chart?
- g) Explain the term TQM.
- h) Explain outline process chart.
- i) What is the significance of crashing in network technique?
- j) Define quality circles.
- k) Explain the significance of using PERT.

## PART – B

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

3 x 16 = 48 M

2. a) Briefly discuss the importance of industrial engineering. 8 M
- b) Discuss the Taylor's principles of scientific management. 8 M
3. a) Explain about departmentation. State its aims and advantages. 8 M
- b) Discuss the factors influencing plant location. 8 M
4. a) Define sampling inspection and explain types of sampling inspection in detail. 8 M
- b) Define Quality control. Explain in detail how the Statistical Quality control technique is been approached. 8 M
5. a) Describe the basic procedure to be followed in adopting work study techniques for sound results. 8 M
- b) What is a process chart? Explain any one process chart with a neat diagram. 8 M

6. The following table lists the jobs of a network along with their time estimates.

16 M

jobs		Duration(days)		
i	j	Optimistic	Most Likely	Pessimistic
1	2	3	6	15
1	6	2	5	14
2	3	6	12	30
2	4	2	5	8
3	5	5	11	17
4	5	3	6	15
6	7	3	9	27
5	8	1	4	7
7	8	4	19	28

- i) Draw the project network.
- ii) Calculate the length and variance of the critical path and
- iii) What is the probability that the jobs on the critical path will be completed in 41 days?