Code: 13A03801

B.Tech IV Year II Semester (R13) Regular Examinations April 2017
INDUSTRIAL ENGINEERING
(Mechanical Engineering)

Time: 3 hours   Max. Marks: 70

PART – A
(Compulsory Question)
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1   Answer the following: (10 X 02 = 20 Marks)
- (a) Give any two merits of decentralization.
- (b) Define motivation.
- (c) State characteristics of batch production.
- (d) Mention the various types of plant layout.
- (e) Define standard time computation method.
- (f) Compare micro motion with memo motion studies.
- (g) Define inventory.
- (h) "Best buying results when annual procurement cost equal annual inventory carrying cost" — Justify the statement.
- (i) List the different types of control charts.
- (j) Compare quality and inspection.

PART – B
(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

2   Discuss the various forms of business organizations. If you have to form an organization what shall be your most preferred form of business organization. Explain.

OR

3   Explain Henry Fayol's principle of management.

UNIT – II

4   Explain the factors affecting the plant location.

OR

5   Describe the criteria for selection of material handling equipment.

UNIT – III

6   Explain the various techniques used to study path of movement in method study.

OR

7   Explain the various steps involved in time study.

UNIT – IV

8   A manufacturing company purchases 9,000 parts of a machine for its annual requirements, ordering one month usage at a time. Each part costs Rs. 20. The ordering cost per order is Rs. 15 and the carrying charges are 15% of the average inventory per year. You have been assigned to suggest a more economical purchasing policy for the company. What advice you offer and how much would it save the company per year?

OR

9   ABC manufacturing company requires special involute gears at the rate of 3000 numbers per year. Each gear costs Rs. 360. The procurement cost and inventory carrying cost are estimated at Rs. 300 and 20% respectively. If the supplier offers a discount of Rs. 20 per gear or an order of 2000 or above, will it be advisable to purchase higher quantity?

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UNIT – V

10 Calculate the mean, standard deviation and variance of the different age distributions of a given population of a village, with a total population of 542 people. Calculate the percentage of productive population (i.e. within the age group of 20-60).

Age	20-30	30-40	40-50	50-60	60-70	70-80	80-90
No. of people	4	60	130	155	140	50	3

OR

11 Discuss the concept of TQM in detail and mention the advantages upon applying them.

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