

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 4079

Roll No.

B.Tech.(SEM IV) EVEN SEMESTER THEORY EXAMINATION,
2009-2010**INDUSTRIAL ENGINEERING**

Time : 3 Hours

Total Marks : 100

Note : (i) Attempt All questions.(ii) All the questions carry *equal* marks.

(iii) Make assumptions, if necessary, but state them clearly.

1. Attempt any four parts of the following : (4x5=20)

- List the important stages in the development of Industrial engineering.
- Compare traditional to modern Industrial engineering.
- How does morale improve productivity ?
- Discuss partial productivity and total factor productivity.
- Discuss the position of 'work study development' in the organisational structure of a manufacturing concern.
- What do understand by 'rating in time study' ? What are the various methods used for rating ? Describe one of them.

(b) Discuss the concept of total quality management and show how various activities of this concept contribute in the quality planning ?

(c) (i) What is the main shortcomings of a 100% inspection plan ? Explain with example.

(ii) What do mean by 'producer risk' and 'consumer risk' ?

5. Attempt any two parts of the following : (2x10=20)

(a) Discuss the importance of organization in management. Describe three merits and demerits of line organisation and functional organisation.

(b) Describe the point rating scale system used for merit rating.

(c) List any ten essential requirements for a sound man power planning.

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2. Attempt any four parts of the following : (4x5=20)

(a) Discuss the following principles of Plant layout :

- (i) Principle of over-all integration
- (ii) Principle of flow

(b) Describe the advantages of Product layout and Process layout.

(c) How do 'method of manufacture' and the 'distance to be covered' affect the selection of material handling equipments ?

(d) Briefly describe any five functions of production, planning and control.

(e) Mention any four objectives of JIT management. List any one situation under that JIT is preferred over others.

(f) The actual sales of a company, manufacturing automobiles are as follows :

Year	2004	2005	2006	2007	2008
Sales	1100000	1300000	1500000	1600000	1800000

By the method of least squares, find the trend values for each of the five years. Also estimate the annual sales for 2009.

3. Attempt any two parts of the following : (2x10=20)

(a) What do mean by maintenance and maintainability ? Discuss breakdown maintenance and preventive maintenance.

(b) The fixed costs of a company are Rs. 350,000. The net sales amount to Rs. 6,00,000 annually. The direct costs are 35% of sales in rupees. Determine the followings :

- (i) The break even point in term of sales in rupees.
- (ii) The sales required to earn a profit of Rs. 80,000.

(c) A boiler was purchased for Rs. 45,000 on 1st January, 1946, the erection and installation work cost Rs. 7000. The boiler was replaced by a new one on 31st December 1965. If the scrap value was estimated as Rs. 15,000. What should be the rate of depreciation and depreciation fund on 15th June, 1955 ? If after 12 years of running, some boiler tubes are replaced and replacement cost is Rs. 1500, what will be the new rate of depreciation ?

4. Attempt any two parts of the following : (2x10=20)

(a) A particular item has a demand of 9000 units per year. The cost of one procurement is Rs. 100 and the holding cost per unit is Rs. 2.40 per year. The replacement is instantaneous and no shortage is allowed. Determine :

- (i) Economic lot size
- (ii) Number of orders per year
- (iii) Time between orders
- (iv) Total cost per year if the cost of one unit is Rs. 1.50