Ref. No.: Ex/FTBE/ME/T/424/2018

B.E. FOOD TECHNOLOGY AND BIO-CHEMICAL ENGINEERING
FOURTH YEAR
SECOND SEMESTER EXAM 2018

INDUSTRIAL MANAGEMENT

Time: 3hours Full Marks: 100

Answer any five questions

1. a) Describe Taylor's Functional Organization with its advantages and limitations.

b) Distinguish between "Responsibility and Authority".

c) What is scheduling? 10+5+5= 20

2. a) What is economic order Quantity? Derive the formula for determining 'EOQ'.

b) "Best buying result when annual procurement cost equals to annual inventory carrying cost." Justify the statement.

c) ABC manufacturing company needs ball bearings of worth Rs. 28800 per year. The cost of placing an order is Rs. 48 and inventory carrying cost as a percentage of average inventory investment is 12 %.

Determine – i) Value of each assignment.

ii) No. of orders per year. 6+6+8= 20

3. a) Define Linear programming and state the advantages of linear programming.

b) A light metal industry manufactures two products A and B. Each product must pass through two processing sections 'L 'and 'M'. A good no. of machines are available in both sections. Product A requires 1 hour of processing time in L and 4 hours in M.

The product B requires 2 hours processing time in section L and 4 hours in M. The total time available in section L is 8000 hours and in M it is 12000 hours. The net profit for product A is Rs. 3.5 per unit and for B it is Rs. 6.

Formulate the given problem and find the optimal mix of two products that will maximize the profit. (Solve the problem graphically) 8+12= 20

[Turn over

4. a) Explain the importance of plant location factors for the localization of cotton textile mills in Bombay and silken sarees at Kanji Waran (Tamil Nadu).

b) Differentiate between "Job order Production" and "Batch Production System".

c) Briefly discuss about "Responsibility" and "Authority". 10+5+5= 20

5. a) Describe various functions of inventory control.

b) Derive the formula for determining EOQ.

c) A company requires 16000 unit of raw material costing Rs. 2 per unit. The cost placing an order in Rs. 45 and the carrying cost are 10 % per unit of the average inventory.

Determine- I. Economic order quantity.

II. No. of order per year.

III. Total variable cost of managing the inventory. 4+8+8=20

6. a) A factory producing only one item which it sales for Rs. 25/unit has a fixed cost equal to Rs.1,20,000 and variable cost Rs.15/unit. Find out:

I. No. of the units to be produced to reach B.E.P.
II. The profit if 50,000 units are produced and sold.

b) Find the trend by least square method for data as follows:

Year	1980	1981	1982	1983	1984	1985	1986
Demand in 1000 units	100	90	95	87	80	75	70

Also estimate the demand for the year 1990. 10+10= 20

7. a) Differentiate between PERT and CPM.

b) Draw the following network comprising the following activities:

I. A and B start immediately.
II. A is the predecessor of E.
III. F depends on the completion of B.
IV. D depends on the completion of both A and B.
V. E is the predecessor of G.

c) Describe briefly the procedure to be followed for "Time Study". 4+10+6= 20

8. Write short notes on: **(any four)**

a. Moving- average method.
b. Motion study.
c. ABC analysis.
d. Preventive maintenance.
e. Line and staff organization.
f. Advantages of sales forecasting.
g. Product layout and process layout.
h. Gantt chart. $5 \times 4 = 20$

.....