

Eighth Semester B.E. Degree Examination, June / July 2014
Operations Management

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, selecting atleast TWO questions from each part.**PART - A**

- 1
 - a. Define Operation Management. Give the classification of production systems. (06 Marks)
 - b. Explain in brief the functions of operations management. (06 Marks)
 - c. Define productivity. List the various factors affecting productivity. (08 Marks)
- 2
 - a. What is Decision Making? What are the steps involved in decision making? (06 Marks)
 - b. Briefly explain the characteristics of operations decision and the frame work for decisions. (08 Marks)
 - c. What is break even analysis? Explain. (06 Marks)
- 3
 - a. What is forecasting? List the steps involved in forecasting process. (05 Marks)
 - b. Briefly explain the various factors affecting forecasting. (05 Marks)
 - c. A company believes that its annual profit depend on its expenditure for research. The information for the preceding 6 years is given in the table below. Estimate the profit when the expenditure for research is 6 units. Also compute the values for slope and intercept. (10 Marks)

Expenditure for Research (X)	2	3	5	4	11	5	6
Annual profit (Y)	20	25	34	30	40	31	□

- 4
 - a. Define : i) Design capacity ii) System capacity and iii) Capacity planning. (06 Marks)
 - b. What are the factors influencing plant location? (06 Marks)
 - c. An automobile component manufacturer has the plan of buying a moulding machine which can manufacture 17000 parts / year. The moulding m/c is a part of product line and its efficiency is 85%. i) What is the required system capacity ii) Assume that 100 seconds time is required to mould each part and the plant operates for 2000 hours/year. If the mould machines are used for 60% of the time and are 90% efficient, what is the output of moulding machines / hour iii) How many moulding machines would be required. (08 Marks)

PART - B

- 5
 - a. Briefly explain the following with the help of a flow chart :
 - i) Aggregate planning ii) Master scheduling. (08 Marks)
 - b. A firm has developed the following demand forecast in units for an item which is influenced by seasonal factors :

Month	Jan	Feb	March	April	May	June	July	Aug
Forecast Demand	270	220	470	670	450	270	200	370
Cumulative Demand	270	490	960	1630	2080	2350	2550	2920

Suppose that the firm estimates that it costs Rs 150/unit to increase the production rate, Rs 200/unit to decrease the production rate, Rs 50/unit per month to carry the items on inventory and Rs 100 per unit if subcontracted. Compare the cost incurred if pure strategies are followed. (12 Marks)

- 6 a. What do you mean by inventory? What are the types of inventories? (04 Marks)
b. What are the major costs associated with inventories? What are the reasons for carrying inventories? (06 Marks)
c. A producer of photo equipment buys lenses from a supplier at 100 dollars each. The producer requires 125 lenses/year and the ordering cost is 18 dollars/order. Carrying costs/unit year are estimated to be 20 dollars each. The supplier offers a 6% discount for purchases of 50 lenses and an 8% discount for purchases of 100 or more lenses at one time. What is the most economical amount to order at a time? (10 Marks)
- 7 a. Define Materials Requirement planning. What are the basic inputs for MRP? (06 Marks)
b. What are the benefits and limitations of MRP? (08 Marks)
c. Briefly explain the following : i) MRP – II ii) ERP. (06 Marks)
- 8 a. Briefly explain the importance of purchasing and supply chain management. (06 Marks)
b. Write a note on Make or Buy decision. (05 Marks)
c. Briefly explain the following :
i) Vendor development.
ii) E – procurement.
iii) Concept of tenders. (09 Marks)
