Roll No. | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(ME) (2012 Onwards E-II) (Sem.–7)

OPERATIONS MANAGEMENT

Subject Code : DE/ME-2.3

M.Code : 72009

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1) Explain briefly :

a) Delphi method of forecasting.

b) Define EOQ and safety stock.

c) Production *vs.* Productivity

d) Master production schedule

e) Statistical Quality Control.

f) Product design in terms of operation aspects.

g) Steps in designing a planned maintenance system.

h) Functions of MIS

i) Documents raised by a dispatcher

j) Justify the statement "*Down time cost makes the machine maintenance expensive*".

SECTION-B

2. A company intends to buy a machine having a capacity to produce 1,70,000 good parts per annum. The machine constitutes a part of the total product line. The system efficiency of the product line is 85 %.

   a) Find the system capacity

   b) If the time required to produce each part is 100 seconds and the machine works for 2000 hours per year. If the utilization of the machine is 60% and the efficiency of the machine is 90%, compute the output of the machine.

   c) Calculate the number of machines required.

3. Starwars Co. Ltd., uses simple exponential smoothing with smoothing constant $\alpha = 0.2$ to forecast the demand. The forecast for the first week of March was 400 units and the actual demand turns out to be 450 units.

   a) Estimate the demand for the second week of March.

   b) If the actual demand for the second week of March is 460 units, forecast the demand up to April second week. Assume that the demand for subsequent weeks is 465,434,420,498,462 and 470 units.

4. State the differences between quality of design and quality of conformance.

5. State briefly the various forms of planned and unplanned maintenance.

6. Identify and discuss briefly the operating elements of MIS.

SECTION-C

7. The demand for an item is 18,000 per year. Production rate is 3000 units/month. The carrying cost is Rs. 0.15/unit/month and the setup cost is Rs. 500 per setup. The shortage cost is Rs. 20 per unit per year. Find the following parameters :

   a) Economic batch quantity　　b) Maximum inventory

   c) Maximum stock out　　d) Cycle time.

8. What is meant by product development? Identify the ways to develop new products. Describe briefly the various steps in product development.

9. Write short notes on :

   a) Gantt Load charts　　b) Bill of materials

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.