

Programme: DSCM/PGDSCM

Academic Year: 2011-2012

Subject: Operations Management

Date: 5.1.2012

Semester II

Course New

Marks: 70

Time: 11.00 a.m to 2.00 p.m

Instructions: 1] Begin answer to new question on a separate page.

2] Attempt all FOUR questions

3] Please note the internal options available in each question

4] Use of graph paper, non-programmable electronic calculator permitted.

Q. No: 1 Attempt ANY TWO [Marks: 10]

- A] Break Even Analysis approach in factory location decisions
- B] Goods-Service Continuum
- C] Explain the 'Product Development Process' in services
- D] Merits and Demerits of 'Product Layout.

Q. No: 2 Write short notes on ANY TWO [Marks: 10]

- A] Group Technology Layout [Cellular Layout]and its superiority to product and process layout
- B] ' Value Driven Concept ' in Operations Management.
- C] Criticality of 'Operations ' in business endeavour.
- D] Total Productive Maintenance
- E] Centroid method of facility location.

Q. No: 3 Attempt ANY THREE [Marks: 30]

- A] Seven Quality Control tools for problem solving and process improvement.
- B] Steps in constraints management leading to process improvement
- C] Kano's model of 'Quality ' and its relevance to USPs of a product .
- D] Building blocks of Total Quality management

E] A toy manufacturing company currently producing and selling 2000 toy-cars per month and has the following cost and revenue data.

- 1] Selling price per toy –car -----Rs. 50
- 2] Variable cost per toy-car -----Rs. 30
- 3] Fixed cost /month Rs. 20,000

Considering each of the following **separately**, find:

a] Break Even Point in quantity and the current Margin of Safety.

b] Assuming 30% drop in production and sales volume, next month, what would be the percentage change in monthly profit?

c] If fixed cost/month increases from Rs: 20,000 to 30,000, what would be the new Break Even Point in quantity ?

Q. No: 4 Attempt ANY TWO [Marks:20]

A] In an Automobile Manufacturing Co [AMC] a particular casting part X is required 25,000 numbers per year for a model . The foundry [casting manufacturing department] of AMC can produce 250 castings X per day. The set-up cost for a batch of casting X is Rs 30,000 . The cost of holding one casting X for an year is Rs 2,500 .

If the AMC is working for 250 days in an year , calculate the Economic Batch Quantity for production of casting X when gradual [non-instantaneous] replenishment of inventory of casting X is effected.

B] A diesel engine manufacturer buys an item in lots of 500 units which is a three months requirement. The cost per unit is Rs. 90 and the ordering cost is Rs. 180 per batch order. The inventory carrying cost is estimated at 20 % of the average inventory investment.

- 1] What is the annual total cost of the existing inventory policy?
- 2] How much money can be saved from economic order quantity purchase.

C] Optimized Production Technology-an endeavour towards process perfection . Explain
