

SVKM's NMIMS
School of Distance Learning

Programme: DSCM / PGDSCM

Academic year: 2012 – 2013
Subject: Operations Management

Semester: II
Course: New
Marks: 70
Time: 11.00 a.m. to 2.00 p.m.

Instructions:

Candidates should read carefully the instructions printed on the question paper and on the cover of the Answer book, which is provided for their use.

NB:

1. All 4 questions are compulsory.
2. Candidates should attempt questions as per the internal options available.

Q.1. Attempt any two: (10)

- a) Explain the importance of Operations Management.
- b) Define productivity. What are the ways to increase the productivity?
- c) Explain concept of "Process capability index."
- d) Explain the importance of forecast for a production manager.

Q.2. Explain any two (10)

- a) JIT
- b) Merits and demerits of 'Process layout'
- c) What are the Operations strategies available to an organization?

Q.3. Attempt any three (30)

- a) Elaborate on MRP II
- b) Discuss Seven Quality control tools for problem solving and process improvement.
- c) Mention 10 quality system requirements as per ISO 9000. Briefly explain any 3 of it.
- d) Explain Delphi technique of forecasting.
- e) Discuss computer integrated manufacturing.

Q.4. Attempt any one (20)

- a) A product manufactured on an assembly line involves 10 processes. The tasks, precedence relationships and time required are shown in below table. What is the maximum output for 8 hours possible? Suggest number of workstations and allocate the tasks to the workstations and balance the line. Calculate the efficiency and idle time for the layout.

Task	Task time (minutes)	Task that must precede
A	1	None
B	2	A
C	4	A
D	2	B
E	1	B
Task	Task time (minutes)	Task that must precede
F	5	D
G	1	C, E
H	3	F, G
I	4	G
J	3	H, I

b) Following data is for regular consumption raw material:

Annual requirement – 12000 units, ordering cost – Rs. 10 per order, Inventory holding cost – Rs. 1 per unit per year

- i. Calculate: EOQ, Number of orders per year, Stock cycle (time period between two inventory receipts)
- ii. Calculate the ROP (Reorder point under following scenarios)
 - 1) Lead time of the raw material = 1 week
 - 2) Lead time of the raw material = 3 weeks
 - 3) Lead time of the raw material = 5 weeks

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2/2