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SVKM's NMIMS University
School of Distance Learning

Operations Management

Date: 11.12.2007
Time: 11.00 to 2.00

Marks: 100

- Instructions: 1] Attempt ANY FIVE questions .
2] All questions carry equal [20 each] marks
3] Sub questions 'A' and 'B' if present, carry 10 marks each
4] Use of calculator and graph paper permitted.

Q. No: 1 A] Define 'Operations Function' and the concept of 'Productivity' with suitable examples.

- B] Define Total Quality Management [TQM],
What do you understand by terms Quality Control [QC],
Total Quality Control [TQC],
and Quality Assurance [QA] ?

Q. No: 2 A] What are the purposes of estimating 'forecasting error' ?
Calculate MAD and Tracking Signal for the following data

Month	Forecast Demand – Rs Crores	Actual Demand – Rs Crores
January 2006	100	90
February 2006	100	95
March 2006	100	115
April 2006	110	100
May 2006	110	125
June 2006	110	140

B] Differentiate between 'Product Layout' and 'Process Layout'

Q. No: 3 Explain in detail the at least 10 characteristics of Just -In -Time systems.

Q. No:4 A] Enumerate and briefly state the characteristics of various production systems

B] In a manufacturing company, a certain component is required in the quantity of 20,000 units per year. A manufacturing unit in the same company has a capacity to produce this component 40,000 units per year, if allowed to produce continuously. If it is taken up for production, the setting cost per run is Rs 50. The cost of carrying inventory of one unit this component for the entire year is estimated as Rs 4. If the number of working days per year is 240, and consumption of the components is allowed simultaneously with its production, **find out**

- 1] The Economic Batch Quantity [EBQ] for manufacturing the component .
And 2] The batch run [duration] in terms of working days

(P.T.O)

Q. No: 5 A] State the assumptions underlying the basic EOQ model

B] Quick Money Bank {QMB} orders cash from RBI to meet daily transaction requirement . Ms Jyoti , the operations manager of QMB , estimates that Rs 50 Crs in cash will be needed next year,. She has estimated that the cost to order, receive and place each shipment of cash from the RBI will be Rs 6000 per shipment. Quick Money Bank is open for business 250 days each year. The bank's related carrying cost for cash is 0.5 percent per month.

- 1] How much should Ms. Jyoti order from RBI each time a cash order is placed?
- 2] What is the expected total ordering cost plus total carrying cost for the year?
- 3] How many working days should one shipment of cash last for Quick Money Bank

Q. No: 6 A] Enumerate and briefly explain five important elements of Material Requirement Planning [MRP -I]

B] Enumerate and briefly explain the six significant causes of reduction of equipment utilization which are dealt with in Total Productive Maintenance [TPM]

Q. No: 7 A] Explain the core logic of Just In Time {JIT} manufacturing System

B] Explain the concept of Computer Integrated Manufacturing [CIM]

Q. No: 8 Write short notes on [any four]

- 1] Delphi Technique
- 2] Group Technology [Cellular] Layout
- 3] Computer Aided Design [CAD]
- 4] Optimized Production Technology [OPT]
- 5] Exponential Smoothing technique of forecasting
- 6] Seven QC tools for problem solving
- 7] Process Capability Index

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