S. S. Jain
Subodh Management Institute

MBA I Semester
M-103
Operation Management I
Sample Questions

Part A: Short answer question (up to 25 words)

Part B: Analytical/ problem Solving questions

Part C: Descriptive/ Analytical/ Problem Solving/ Case questions.

PART A

Module I

1. Define Operations Management.
2. Define Operations.
3. Name the 5 P's of Operations.
4. Differentiate between production and Operation Management.
5. Define competitiveness.

Module II

6. Define dependent demand.
7. Define Independent demand.
8. Classify the forecasts.
9. Define qualitative techniques of forecasting.
10. Define weighted average moving method of forecasting.
11. What is Focus Forecasting?
12. Define CPFR.
13. Mention any 2 benefits of CPFR.
14. What is aggregate demand forecast?

Module III

15. Explain the following in relation to new product development:
(a) Standardization
(b) Simplification
(c) Speed to Market
(d) Activity Based Costing
(e) Value Engineering
(f) Modular Design

16. Write short notes on -
a. CAD
b. Concurrent Engineering.
3. Explain product design.
4. Explain service design.
5. Examine about product and process development.

Module IV

17. Define:
a. Capacity Planning.
b. Capacity
c. Strategic Capacity Planning
d. Design Capacity
e. Effective Capacity

Module V

18. Define:
a. Facilities Planning
b. Product-Process Matrix.
19. Name the Qualitative techniques used for making location decisions.
20. Name the Quantitative techniques used for making location decisions.

Module VI

21. Define:
a. Facilities Layout.
b. Plant layout
22. What is Fixed position layout?
23. Define Plant Location.

Module VII

24. Define Planning.
25. Name the different types of plans.
26. What is Aggregate Planning?
27. Define MRP
28. Define ERP.

Module VIII

29. What do you mean by Batch Production?
30. What do you know about Routing?
31. 31. Define the term
a. Production.
b. Inventory
c. Standardisation
32. Define different types of inventory models.
33. Discuss uncertainty in demand and lead time.

PART B

Module I

1. Explain the Concept and significance of Operations Management.
2. Discuss the significance of operations management.
3. Explain the scope of Operations Management.
4. Explain the different responsibilities of operation Management at different levels.
5. Throw a light on the key decisions taken by Operations Management.
6. Discuss the recent trends which are changing the working patterns of operations in any company.
7. Which factors influence competitiveness for achieving growth in the company?
8. What is production and operations management? Make an overview about POM.
9. Define POM? Sketch out the historical development of POM.
10. Examine the role and importance of POM in today's scenario.

Module II

11. What are the elements of a Good Forecast?
12. Why is their always a need for demand forecasting in operations?
13. Why are the short range objectives necessary in forecasting?
14. What are the factors affecting forecast?
15. What are various types of forecasting techniques? Discuss their relative strength and weaknesses in logistics and supply chain perspective.
16. Briefly explain the different steps in forecasting.
17. Why are forecasts done according to time horizons? Classify them and explain.
18. How can you do forecasts based on judgements and opinions?
19. What is the difference between aggressive planning and forecasting? What are their advantages and disadvantages?
20. Write the objectives of CPFR. Explain the model completely.

Module III

21. "Product decisions often make or break companies". Discuss.

22. How does Design for Manufacturability (DFM) work? How are DFM and Value Engineering different? Explain with examples. Work out the design of any simple object of your choice using the principles of DFM?
23. How do product development strategies relate to the other organizational strategies (i.e. competitive and functional)? What is the difference between single and multi-business organizations? Provide examples.
24. How can the service designers be kept under check? Name a few companies that were involved in any legal dispute over product design.
25. Explain the concept of product lifecycle. Which is better from operations point of view– product lifecycle or technology cycle? Why?
26. Does the concept of product lifecycle always hold good? Discuss the situations where it is not valid.
27. "Without products, there would be no customers. Without customers, there would be no revenue." What implications does this have related to design?
28. Critically analyse the concept of delayed differentiation.
29. Why, do you think, concurrent engineering is more critical in high clock-speed industries?
30. "Mass customization is a challenge but very useful if implemented successfully". Validate the statement.
31. Explain the role of product architecture in gaining competitive advantage.
32. How is reliability of product design related to quality? What is redundancy?
33. Define CAD. Explain with an example.
34. Distinguish between product development and design.
35. What is CAM? Explain with an example.
36. Brief the steps of Life Cycle of a Product.

Module IV

37. 'Capacity is modified in response to demand' and 'demand is modified in response to capacity'. Which of these two statements do you consider to be correct? Why?

38. How capacity planning has become a strategic tool in the operations function?

39. Why theoretical capacity is rendered meaningless for any operations manager?

40. "To estimate capacity, you must first select a yardstick to measure it". Discuss

41. "Capacity planning has to address the external environment of the firm". Why?
42. "Capacity offerings can also yield a competitive advantage". Comment.
43. Critically examine the use of decision trees to determine capacity.
44. "The basis for decisions on outsourcing or vertical integration is knowledge of the true cost of manufacturing goods internally against the cost of acquiring these goods from suppliers". Discuss.
45. What are the basics that must be kept in mind while developing capacity alternatives?
46. Calculate the quantity to be produced and contribution margin from the data given below:
(a) Price per unit = 3500
(b) Fixed Costs = 10,20,000
(c) Estimated Profits= 3,90,000
(d) Total Cost = 30,00,000
(e) Targeted sales= 20,000 units
47. Differentiate between fixed costs and variable costs and explain how they help in determining the breakeven point.

Module V

48. "Product design, capacity and process selection have a direct relationship". Substantiate.
49. "The development of a location strategy depends upon the type of firm being considered". Discuss.
50. "Well-planned facilities offer real value added improvements to the organization's core business." Explain the statement.
51. What do you mean by the 'right services' in facility master plan?
52. "Any facility will create an impact on the environment." Elucidate.
53. Why is it important to evaluate a site beforehand for setting up the facility location? Justify.
54. The governing principle is that a location of plant should be fixed in such a manner that people interested in its success can sell goods most profitably and manufacture them at least expenses. Explain how this objective can be achieved?
55. Give main criteria of plant location in following cases:
    a. Wide range of volumes or bulky resources

b. Medical research centre/hospitals
c. Fire stations
d. Public/professional services
e. Cotton/textile industry
f. Sugar industry
g. Cement industry
h. Jute industry
i. Iron and steel industry/steel mill
j. Paper industry
k. Coal industry.

56. What are the special problems faced by service operators like Non-veg Restaurants in locating new facilities?

57. A manufacturer of farm equipment is considering three locations (A, B and C) for a new plant. Cost per year at the sites are 2,40,000, 2,70,000 and 2,52,000 respectively whereas variable costs are 100 per unit, 90 per unit and 95 per unit respectively. If the plant is designed to have an effective system capacity of 2500 units per year and is expected to operate at 80 per cent efficiency, what is the most economic location on the basis of actual output?

58. Mr.Satish is a manufacturer of IT goods. He is considering three locations (A, B and C) for a new plant. Cost per year at the sites are 9,40,000, 3,80,000 and 5,72,000 respectivelywhereas variable costs are 100 per unit, 90 per unit and 95 per unit respectively. If the plant is designed to have an effective system capacity of 2500 units per year and is expected to operate at 90 per cent efficiency, what is the most economic location on the basis of actual output?

59. Explain the criteria for process selection.

60. "Location and co-ordination have become the critical issues for corporations facing the challenge of globalization". Discuss.

61. "The objective of the process is to provide the maximum overall value to the customer in the product". Substantiate.

62. Processes seldom stand alone. What is the rationale behind the statement?

63. Compare the various types of categorizations of the processes.

64. What is the basic difference between 'make to order' and 'engineer to order'? Explain with examples

65. Do you appreciate the increasing involvement of customers in the production and service process? Why or why not?

66. "Flexibility relates to the ability of the system to create products capable of meeting a customer's need". Elucidate.

Module VI

67. What is the difference between continuous and intermittent production system.

68. What do you mean by service blueprinting and explain the difference between Product and service?

69. Is there any advantage of combined layout? Explain.

70. What is the significance of plant layout? Elaborate the factors influencing layout changes.

71. “Location decision is a trade-off decision”- Why? Elaborate.
72. Explain about layout of facilities and give example.
73. “Product layout is better than process layout.” - Do you agree with this statement? Support your answer.
74. Explain about flexible manufacturing.
75. Why layout of facilities is needed for an organization? Explain with an example.
76. What is aggressive planning? Explain its functions?
77. What do you understand by plant layout? Explain its systems and evaluate the same.
78. What are the differences between location and layout?
79. Differentiate between optimization of product and process. What are their advantages and disadvantages?
80. Compare and contrast the process and product layouts. Give figures and tables to explain the points.
81. Explain the rationale behind assembly line and balancing.
82. Define link capacity and layout. How important it is to consider the capacity of the firm while designing a layout?
83. Under what conditions does fixed layout work well? Why it is not advisable to have fixed layout for firms producing small size products?
84. Critically analyse U shaped assembly lines vis-à-vis traditional assembly lines. With the help of examples, explain the concepts of mixed line layout and retail layouts.

85. Enumerate various factors determining plant location.

86. Describe about Material Handling and its importance.

87. Discuss in detail the concept of material planning.

Module VII

88. Explain the characteristics of Planning.
89. Explain the process of planning and control of projects.
90. Differentiate between different types of plans.
91. How does APP hold an important position in the various business processes?
92. Elucidate on the various factors required for APP.
93. Classify the different strategies for APP.
94. How does MRP assist in planning capacity requirements?

Module VIII

95. What is the significance of batch production?
96. What are the functions of inventory?
97. Annotate and analyse the term inventory costs.
98. Define inventory control by classification systems.
99. What do you understand by ABC classification and analysis?
100. Discuss the concept of inventory control systems.
101. What is Economic Order Quantity (EOQ)? Explain the EOQ model of inventory with its simplifying assumptions. How is the model of inventory used by a manufacturer different from a retailer?
102. What is the cost of uncertainty in demand during lead time?
103. Hindustan Levers is a manufacturer of the Surf detergent powder. A 100-g pack of its detergent power is priced at 30 for its suppliers. One of its suppliers purchases 16,000 packs per annum. The suppler incurs an ordering cost of 350.00 per order and has a carrying cost of 12% of the inventory value. Hindustan Levers offers discounts for the following ranges of bulk purchases to its suppliers: 0.5% for 3,000 - 6,999 units, 0.75% for 7000 – 9,999 units and 1% for 10,000 and more units. Which discount option should the supplier choose? What isthe EOQ in this case?
104. Discuss the concept of ABC classification.
105. What are the other types of classification used in the monitoring of inventory?

PART C

Module I

1. Do you think operations management is much more complex than managing operations? Give reasons.
2. How would you connect production with marketing, HR, finance and materialsmanagement?
3. "The major objective of production management is to produce quality goods and services".Does this hold good in modern scenario? Give examples of companies that have deviatedfrom this.
4. "Production management is viewed as a continuous process of planning, organising andcontrolling". Substantiate.
5. Has automation helped humans by reducing their burden or it has taken away theirefficiency by making them dependent on machines? Validate your argument.
6. “Automation is directly linked to unemployment.” Comment.
7. Why is mastering a service organisation is much more difficult than manufacturing? Whyhas service become so important?
8. "Productivity is linked to the competitive strategy of the organisation". Discuss.
9. Explain assessment and sequencing and its importance in POM.
10. How inventory control techniques works in real world? List out its importance.

Module III

11. Suppose you are the product manager of a company engaged in production of motorbikes. You are faced with a situation wherein you have to choose between designs, one which can give maximum value to consumers or one which is cost-effective. Which one will you choose and why?
12. "We will offer a small passenger car priced at 1 lac to our customers by the end of this decade" says, Mr.Ratan Tata. Relate this statement to the product development strategy of MarutiUdyog Ltd. and explain your recommendations.

Module IV

13. What are the issues involved in designing a Mall? What lessons do they give you in planning capacity for other service companies?
14. A glass factory specializing in crystal is experiencing a substantial backlog, and the firm's management is considering three courses of action:
(a) Arrange for subcontracting
(b) Construct new capacity
(c) Do nothing (no change)

15. What would you suggest to the management considering the different pros and cons of all the alternatives?

Module V

16. "Location is a critical element in determining fixed and variable costs for both industrial and service firms." Substantiate.
17. Suppose you are a businessman producing garments, looking to start your business operations in some other country. What factors will you keep in mind while setting up your business abroad?
18. If you expand your existing company by opening a new division in a foreign country, should the new division be staffed by local personnel or by personnel imported from the parent organisation? Explain and Justify.
19. How does International Location decision differ from Domestic Location consideration? You may answer by briefly identifying areas that are unique to International locations.
20. Although facility location is a planning decision, it has implications for decisions in the organising and controlling and sub-function. Explain.

Module VI

21. Flexible manufacturing systems try to produce products with large variability on the same set of equipment’s with minimal set up times. How does cellular manufacturing help in this purpose?
22. Outline and assess the factors affecting the decisions corporations might take about the location and management of key activities, such as research and development, manufacturing, sales and marketing, in the light of the statement above. How might such corporations respond to these challenges? Illustrate your answer with examples with which you are familiar.

Module VIII

23. A company uses 1,200 units per month of an electronic component each costing Rs. 2/-.Placing each order costs Rs. 50/- and carrying cost is 6% per year of the average inventory.

a) Find EOQ.

b) If the company gets 5% discount if it places single order, should they accept discount offer?

c) Find breakeven discount percentage which matches EOQ ordering.

24. Inventory control system may need to be modified as demand, costs, and competitive pressures changes. What are the parameters that should be reviewed for the fixed reorder quantity and periodic reorder systems?

25. A Firm's annual requirement of inventory is 40,000 units. The acquisition Cost amount to

Rs.200 per order. The carrying Costs are likely to be Rs.1.50 per unit per year. Assume the

following order sizes.

a) 60,000 Units

b) 30,000 Units

c) 10,000 Units

Determine:

i) EOQ

ii) Order Cost

iii) Carrying Cost

26. How does just-in-time benefit the food and beverage industry? Explain their usage in context of fast food restaurants like McDonalds and Sub Way.
27. A biscuit manufacturing company buy a lot of 10,000 bags of wheat per annum the cost per bag is Rs 500/- and the ordering cost is Rs 400/- the inventory cost is estimated as 10% of price of the wheat. Determine EOQ.