

[Time: 03.00 Hrs]

[Marks:75]

Please check whether you have got the right question paper.

N.B:

1. Q.1 is compulsory and carries 20 Marks.
2. Q. 8 is compulsory and carries 15 Marks.
3. Attempt any four questions from Q.2, Q.3, Q.4, Q.5, Q6 and Q7. Each of these questions carry 10 Marks.
4. Figures to the right indicate full marks.

Q.1	(A)	<p>Select the correct option for the following statements/questions:</p> <p>1. The network created amongst different companies producing, handling and/or distributing a specific product is called_____.</p> <p>(a) Logistics (b) Supply Chain (c) Supply Chain Management</p> <p>2. Value Engineering (VE) is concerned with _____ products.</p> <p>(a) old (b) new (c) existing</p> <p>3. The _____ principle of the ISO 9001 Standard will help you promote a process-driven culture across your organisation.</p> <p>(a) Plan Do Cross Act (b) Plan Divide Check Act (c) Plan Do Check Act</p> <p>4. _____ is the performance of the product as per the commitment made by the producer to the consumer.</p> <p>(a) Quantity (b) Quality (c) Specification</p> <p>5. The start of MTM application may be put around the year_____.</p> <p>(a) 1948 (b) 1958 (c) 1968</p> <p>6. _____ concerns itself with better ways of doing things and control over the output of those things by setting standards with respect to time.</p>	(10)
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- (a) Time Study
 - (b) Method Study
 - (c) Work Study
7. A _____ is a listing of all the materials, components, and subassemblies needed to assemble one unit of an end item.
- (a) BOB
 - (b) BOM
 - (c) BOS
8. _____ follows aggregate planning and expresses the overall plan in terms of the amounts of specific end items to produce and dates to produce them.
- (a) Aggregate Planning
 - (b) Master Scheduling
 - (c) Master Planning
9. In FSN analysis, F stands for _____.
- (a) Flow
 - (b) Fast
 - (c) Flexible
10. _____ are distinguished from flow and flow-cost matrices by the fact that they describe qualitatively the desirability or need for work centres to be close together, rather than providing quantitative measures of flow and cost.
- (a) Proximity Chart
 - (b) Proximity Class
 - (c) People Class

(B) State whether True or False:

1. An organization carries out four major functions namely finance, human resource management, production and marketing functions.
2. Selection of plant location and facility location is long term capital decision.
3. In the make-to-order and engineer-to-order environments, the customer order decoupling point could be in either raw materials at the manufacturing site or possibly even with the supplier inventory.
4. A WorkCentre layout, sometimes referred to as a job shop, is where similar equipment or functions are grouped together, such as all drilling machines in one area and all stamping machines in another.

(10)

	<p>5. Dominant factors are those derived from competitive priorities (cost, quality, time, and flexibility) and have a particularly strong impact on sales or costs.</p> <p>6. Assembly lines are a special case of product layout.</p> <p>7. Buffer stock (BS) = Average demand \times Average lead time</p> <p>8. Capacity planning for manufacturing and service systems are different.</p> <p>9. The number of mixed strategy alternative production plans is almost limitless.</p> <p>10. Available-to-Promise (ATP) inventory is that portion of the on-hand inventory plus scheduled production that is not already committed to customer orders.</p>	
Q.2	<p>Answer any TWO of the following:</p> <p>(a) What is Operations Management? Explain the process involved in Operations Management.</p> <p>(b) Explain in detail Project layout.</p> <p>(c) Explain the need for Selecting a Suitable Location.</p>	(10)
Q.3	<p>Answer any TWO of the following:</p> <p>(a) What is Weighted Factor Rating Method? Explain with an instance.</p> <p>(b) What are the Objectives of Plant Layout?</p> <p>(c) Write a note on Process Layout.</p>	(10)
Q.4	<p>Answer any TWO of the following:</p> <p>(a) Explain the reasons for keeping inventories.</p> <p>(b) Write a note on ABC analysis.</p> <p>(c) Explain the Process of Capacity Planning.</p>	(10)
Q.5	<p>Answer any TWO of the following:</p>	(10)

	<p>(a) How does master scheduling differ under manufacturing strategies of (i) make-to-stock, (ii) assemble-to-order, and (iii) make-to-order.</p> <p>(b) Write a note on Combination Loading.</p> <p>(c) Explain the Shortest Processing Time (SPT) Rule.</p>	
Q.6	<p>Answer any TWO of the following:</p> <p>(a) Discuss the Job Shop Problem.</p> <p>(b) Discuss the Reasons for the Growth of Service Sector.</p> <p>(c) Explain the four Stages in the Development of Service Operations Management.</p>	(10)
Q.7	<p>Answer any TWO of the following:</p> <p>(a) Explain the relationship between method study and time study.</p> <p>(b) Discuss The Bullwhip Effect.</p> <p>(c) Explain the Seven Quality Management Principles in detail.</p>	(10)
Q.8	<p>Answer any THREE of the following:</p> <p>(a) Explain the different types of layouts.</p> <p>(b) An oil engine manufacturer purchases lubricants at the rate of Rs. 42 per piece from a vendor. The requirements of these lubricants are 1800 per year. What should be the ordering quantity per order, if the cost per placement of an order is Rs. 16 and inventory carrying charges per rupee per year is 20 paise.</p> <p>(c) The design capacity for engine repair in our company is 80 trucks per day. The effective capacity is 40 engines per day and the actual output is 36 engines per day. Calculate the utilization and efficiency of the operation. If the efficiency for next month is expected to be 82%, what is the expected output?</p>	(15)

(d) Let us assume that a new medical facility, Health-care, is to be located in Delhi. The location factors, factor rating and scores for two potential sites are shown in the following table. Which is the best location based on factor rating method?

Sr.no	Location Factor	Factor Rating	Rating of Location 1	Rating of Location 2
1	Facility Location	8	3	5
2	Total patient per month	5	4	3
3	Average time per emergency trip	6	4	5
4	Land and construction costs	3	1	2
5	Employee preferences	5	5	3