


<b>Name:</b>	
<b>Enrolment No:</b>	

**UPES**  
**End Semester Examination, Dec 2024**

**Course: Service Operations** **Semester: III**  
**Program: MBA-CORE-III-B5** **Time: 03 hrs.**  
**Course Code: LSCM8032\_3** **Max. Marks: 100**

**Instructions:**

**SECTION A**  
**10Qx2M=20Marks**

S. No.		Marks	CO
Q 1	Statement of question		
1.1	The most interactive element in the service blueprint of a fitness facility is the a. choice of music played. b. amount and type of exercise equipment. c. attention given to prospective members on their initial visit. d. cleanliness of the locker rooms.	2	CO1
1.2	Which of the following is not a service design element? a. Capacity planning b. Managing capacity and demand c. Market research d. Information	2	CO1
1.3	Which of the following features does not illustrate a contribution that the customer can make in the delivery of services? a. Substitution of customer labor for provider labor b. Smoothing service demand c. Service standardization d. None of the above	2	CO1
1.4	The most common reason for difficulties during the interaction of customers and contact personnel is: a. unreasonable demands. b. a technical breakdown in service delivery. c. incompetent contact personnel. d. a lack of attention to detail by contact personnel.	2	CO1
1.5	_____ is the time it takes to complete a process from time of arrival to time of departure. a. Rush order flow time b. Cycle time c. Throughput time d. Direct labor time	2	CO1

1.6	Facility layout is discussed with attention to traffic flow, space planning, and one of the following: a. need to avoid unnecessary travel b. eliminating bottlenecks c. aesthetic factors d. cost of providing service	2	CO1
1.7	Faced with variable demand and a perishable capacity, a service manager can smooth demand by: a. using part-time help during peak hours. b. scheduling work-shifts to vary workforce needs according to demand. c. increasing the customer self-service content of the service. d. using reservations and appointments.	2	CO1
1.8	After selecting a line in a multiple queue system, a customer is _____ when she or he switches to a different line perceive it to be moving faster. a. jockeying b. balking c. renegeing d. weaving	2	CO1
1.9	The management has received complaints that waiting trucks have blocked the alley to the business next door. If there is room for 2 trucks at the loading dock before the alley is blocked, how often will this problem arise? a. 0.622 b. 0.364 c. 0.475 d. 0.578	2	CO1
1.10	The manager of the Departmental Store sells four cases of beer each day. Order costs are \$8.00 per order, and beer costs \$.80 per six-pack (each case of beer contains four six-packs). Orders arrive three days from the time they are placed. Daily holding costs are equal to 5 percent of the cost of the beer. What is the economic order quantity for beer? a. 8 cases b. 11 cases c. 14 cases d. 20 cases e. 32 cases	2	CO1

**SECTION B**  
**4Qx5M= 20 Marks**

Q 2	Statement of question	Marks	CO
2.1	How do the five dimensions of service quality differ from those of product quality? Discuss.	5	CO2
2.2	Recall that service operations can be classified as processing people, goods, or information. What challenges are faced in each category when globalization is undertaken? Discuss briefly.	5	CO2

2.3	What are some drawbacks of increased customer participation in the service process? Discuss with some relevant examples.	5	CO2																								
2.4	<p>Crazy Joe operates a canoe rental service on the Gualala River. He currently leases 15 canoes from a dealer in a nearby city at a cost of \$10 per day per canoe. On weekends, when the water is high, he picks up the canoes and drives to a launching point on the river, where he rents canoes to white-water enthusiasts for \$30 per day. Lately, canoeists have complained about the unavailability of canoes, so Crazy Joe has recorded the demand for canoes and found the experience below for the past 20 days:</p> <table border="1"> <tr> <td>Daily Demand</td> <td>10</td> <td>11</td> <td>12</td> <td>13</td> <td>14</td> <td>15</td> <td>16</td> <td>17</td> <td>18</td> <td>19</td> <td>20</td> </tr> <tr> <td>Frequency</td> <td>1</td> <td>1</td> <td>2</td> <td>2</td> <td>2</td> <td>3</td> <td>3</td> <td>2</td> <td>2</td> <td>1</td> <td>1</td> </tr> </table> <p>Recommend an appropriate number of canoes to lease.</p>	Daily Demand	10	11	12	13	14	15	16	17	18	19	20	Frequency	1	1	2	2	2	3	3	2	2	1	1	5	CO2
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**SECTION-C**  
**3Qx10M=30 Marks**

Q 3	Statement of question	Marks	CO
3.1	<p>A general-purpose auto-repair garage has one mechanic who specializes in muffler installations. Customers seeking service arrive at an average rate of 2 per hour, with a Poisson distribution. The average time to install a muffler is 20 minutes, with negative exponential distribution.</p> <p>a. On arrival at the garage, how many customers should one expect to find in the system?</p> <p>b. The management is interested in adding another mechanic when the customer's average time in the system exceeds 90 minutes. If business continues to increase, at what arrival rate per hour will an additional mechanic be needed?</p>	10	CO3
3.2	Think about the last time you used a high customer-contact service such as a clinic, a hotel, or a restaurant. Sketch the service process and try to determine which elements were subject to high levels of control. Were there any elements of the service that were not subject to control, but should have been? Why was this so?	10	CO3
3.3	Compare and contrast the sustainability efforts in service operations and manufacturing.	10	CO3

**SECTION-D**  
**2Qx15M= 30 Marks**

Q	Statement of question	Marks	CO
4.1	With the rise of digital services, traditional service blueprints have evolved. Choose a hybrid service (partially digital and partially face-to-face, like telemedicine or online food delivery). Create a service blueprint that includes both physical and digital touchpoints. Discuss the challenges	15	CO4

	involved in managing and integrating these touchpoints and how they affect customer experience.														
4.2	<p>Getting a physical examination at a physician’s office involves a series of steps. The table below lists these activities and their average times. The activities can occur in any order, but the doctor’s consultation must be last. Three nurses are assigned to perform activities 1, 2, and 4.</p> <table border="1"> <thead> <tr> <th>Activity</th> <th>Average Time (Min)</th> </tr> </thead> <tbody> <tr> <td>Blood pressure, wt., temp.</td> <td>6</td> </tr> <tr> <td>Medical History</td> <td>20</td> </tr> <tr> <td>Doctor’s Checkup</td> <td>18</td> </tr> <tr> <td>Lab Work</td> <td>10</td> </tr> <tr> <td>Doctor’s Consultation</td> <td>12</td> </tr> </tbody> </table> <p>a. What are the bottleneck activity and the maximum number of patients who can be seen per hour?  b. Suggest a reallocation of nursing and/or doctor activities that would result in increased service capacity, and draw a product flow diagram. What is the capacity, total direct labor content, rush order flow time, and direct labor utilization of your improved system?</p>	Activity	Average Time (Min)	Blood pressure, wt., temp.	6	Medical History	20	Doctor’s Checkup	18	Lab Work	10	Doctor’s Consultation	12	<b>15</b>	<b>CO4</b>
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