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Q.4	i.	What are the key steps in recovering from a service failure?	<b>3</b>	03	11	03	2
	ii.	How can effective service recovery strategies improve customer satisfaction and loyalty?	<b>7</b>	04	11	03	2
OR	iii.	Discuss the key elements involved in designing and implementing a successful service guarantee.	<b>7</b>	03	11	03	2
Q.5	i.	Explain the concept of a service supply chain and its importance in managing supplier of service.	<b>4</b>	02	11	04	2
	ii.	Provide a review of different types of forecasting methods for demand forecasting.	<b>6</b>	04	11	04	2
OR	iii.	Discuss various techniques for optimizing vehicle routes in supply chain.	<b>6</b>	04	11	04	2

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*Total No. of Questions: 6**Total No. of Printed Pages: 4***Enrollment No.....**

**Faculty of Engineering  
End Sem Examination Dec 2024  
CB3CO19**

**Services Science & Service Operational Management  
Programme: B.Tech. Branch/Specialisation: CSBS**

**Maximum Marks: 60****Duration: 3 Hrs.**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

Marks	BL	PO	CO	PSO
<b>1</b>	01	11	01	2
Q.1	i.	Which of the following accurately distinguishes services from operations? (a) Services are intangible and involve direct interaction with customers, while operations focus on the production of goods (b) Services are tangible and produced in advance, while operations focus only on customer support (c) Services are standardized, and operations are flexible to meet customer demands (d) Services involve little or no customer interaction, while operations always require direct customer involvement	<b>1</b>	01 11 01 2
	ii.	What is the primary role of services in the economy and society? (a) Services contribute significantly to economic growth by creating jobs, supporting industries, and improving quality of life (b) Services focus on the production of tangible goods for trade and export (c) Services play a minor role, with economic growth driven by manufacturing and agriculture (d) Services reduce the need for technological advancements and industrial innovation	<b>1</b>	01 11 01 2
	iii.	Which of the following are key elements of a service delivery system? (a) People, processes, and physical evidence (b) Product features, pricing strategies, and promotion channels (c) Customer satisfaction, employee training, and technology infrastructure (d) Marketing mix, financial performance, and supply chain logistics	<b>1</b>	01 11 02 2

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iv.	Which of the following best describes the SERVQUAL model?	<b>1</b>	01	11	02 2
	(a) A model measuring customer satisfaction based on service tangibility and reliability				
	(b) A framework comparing customer expectations with perceptions of service quality				
	(c) A tool to measure the emotional intelligence of service employees				
	(d) A model evaluating the profitability of service organizations through customer feedback				
v.	Which of the following is the most effective way to recover from a service failure?	<b>1</b>	03	11	03 2
	(a) Apologizing to the customer and offering a discount on future services				
	(b) Ignoring the issue and continuing with regular service delivery				
	(c) Acknowledging the service failure, taking responsibility, and offering a quick and appropriate resolution				
	(d) Offering a free product without addressing the root cause of the service failure				
vi.	Which of the following is a key component of an effective service guarantee?	<b>1</b>	01	11	03 2
	(a) Offering a vague promise without specifying terms or conditions				
	(b) Clearly stating the terms, offering a remedy, and making it easy for customers to claim				
	(c) Providing a guarantee only for certain services with exclusions				
	(d) Relying solely on advertising without outlining the redemption process				
vii.	Which of the following tools is commonly used in managing waiting lines in service operations?	<b>1</b>	02	11	04 2
	(a) Queueing theory models to analyze and optimize customer flow				
	(b) Customer satisfaction surveys to improve service delivery				
	(c) Inventory management techniques to reduce service wait times				
	(d) Advertising strategies to reduce customer demand				
viii.	Which of the following best describes the role of inventory in services?	<b>1</b>	01	11	04 2
	(a) Inventory in services refers to raw materials for service production				
	(b) Inventory in services manages components like spare parts, equipment, and supplies for service delivery				
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	(c) Inventory in services is unimportant, as services are intangible				
	(d) Inventory in services deals with finished products ready for sale				
ix.	Which of the following best explains the need for services innovation?	<b>1</b>	02	11	05 2
	(a) It reduces the variety of services offered and streamline service delivery				
	(b) It helps to differentiate service offerings, meet changing customer needs				
	(c) It focuses primarily on reducing costs and increasing profits				
	(d) It aimed at eliminating customer interactions during service delivery, automated and impersonal				
x.	Which of the following are effective strategies for improving service productivity?	<b>1</b>	03	11	05 2
	(a) Increasing service costs to enhance service quality				
	(b) Streamlining service processes, investing in employee training, and leveraging technology to improve efficiency				
	(c) Reducing the variety of services offered to minimize complexity				
	(d) Focusing solely on reducing customer interaction to speed up service delivery				
Q.2	i. What is value co-creation in the context of service operation?	<b>2</b>	03	11	01 2
	ii. Explain the different kinds of service encounters and provide an example for each type.	<b>3</b>	02	11	01 2
	iii. Discuss the shift from Goods-Dominant Logic (G-D Logic) to Service-Dominant Logic (S-D Logic) in marketing and business strategy.	<b>5</b>	04	11	01 2
OR	iv. Introduce the Indian service sector. Discuss its role in employment generation.	<b>5</b>	03	11	01 2
Q.3	i. Explain the concept of the customer journey in service design.	<b>2</b>	02	11	02 2
	ii. Analyze the stages in the NSD cycle. How do key elements of a service delivery system contribute to the creation and delivery of high-quality services?	<b>8</b>	04	11	02 2
OR	iii. Explain the different models of facility location selection, with a focus on Huff's Retail Model.	<b>8</b>	02	11	02 2

**Marking Scheme**  
**CB3CO19 Services Science & Service Operational Management (T)**

Q.1	i) A. Services are intangible and involve direct interaction with customers, while operations focus on the production of goods.	1
	ii) A. Services contribute significantly to economic growth by creating jobs, supporting industries, and improving quality of life.	1
	iii) A. People, processes, and physical evidence	1
	iv) B. A framework comparing customer expectations with perceptions of service quality.	1
	v) C. Acknowledging the service failure, taking responsibility, and offering a quick and appropriate resolution.	1
	vi) B. Clearly stating the terms, offering a remedy, and making it easy for customers to claim.	1
	vii) A. Queueing theory models to analyze and optimize customer flow.	1
	viii) B. Inventory in services manages components like spare parts, equipment, and supplies for service delivery.	1
	ix) B. It helps to differentiate service offerings, meet changing customer needs	1
	x) B. Streamlining service processes, investing in employee training, and leveraging technology to improve efficiency.	1

Q.2	i. Definition of value co-creation	(1 mark)	2
	Explanation of its relevance in service operations	(1 mark)	
	ii. Three types of service encounters	(1.5 marks)	3
	Example of service encounters	(1.5 marks)	
	iii. Key differences between G-D Logic and S-D Logic	(3 marks)	5
	Significance of the shift in marketing and business strategy:		
		(2 marks)	
OR	iv. Introduction to the Indian service sector	(2 marks)	5
	Role in employment generation	(3 marks)	

  

Q.3	i. Definition of the customer journey	(1 mark)	2
	Explanation of its role in service design	(1 mark)	

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|--|------------------------------|---|
| ii. Analysis of the stages in the New Service Development (NSD) cycle                        | (4 marks)                    | 8 |
| Explanation of the contribution of each element to high-quality service                      | (4 marks)                    |   |
| OR      iii. Explanation of different models of facility location selection                  | (4 marks)                    | 8 |
| Focus on Huff's Retail Model   | (4 marks)                    |   |
| Q.4      i. Key steps in recovering from a service failure                                   | (3 marks)                    | 3 |
| ii. Effective service recovery strategies to improve customer satisfaction and loyalty.      | (7 marks)                    | 7 |
| OR      iii. Key Elements in Designing a Service Guarantee                                   | (4 marks)                    | 7 |
| Key Elements in Implementing a Service Guarantee   | (3 marks)                    |   |
| Q.5      i. Definition and Concept of a Service Supply Chain                                 | (1 mark)                     | 4 |
| Importance of a Service Supply Chain   | (3 marks)                    |   |
| ii. Different Types of Forecasting Methods in demand forecasting                             | (6 marks)                    | 6 |
| OR      iii. Techniques for optimizing vehicle routes in supply chain.                       | (6 marks)                    | 6 |
| Proper explanation (6 marks)   |                              |   |
| Q.6      Attempt any two:  |                              |   |
| i. Definition and Concept of Service Innovation  | (2 marks)                    | 5 |
| Importance of Service Innovation for Businesses  | (3 marks)                    |   |
| ii. Impact of service productivity strategies to enhance productivity in service industries. | Proper explanation (5 marks) | 5 |
| iii. Definition and Concept of Service Productivity  | (2 marks)                    | 5 |
| Methods to Improve Service Productivity without Compromising Quality                         | (3 marks)                    |   |

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