Questions

1. Define servicescape. How service scape influences the behavior of employees and customers?

2. Give example of any service scape from your experience of any service organization and check if it is aligned with service concept.

3. Compare ambient conditions of two different service organizations you have visited recently?

4. What is the impact of types of service on servicescape?

5. List down various service design factors with examples.

6. What are the different types of service facility layouts? Compare product layout with process layout.

7. A series of steps required to get physical examination done in a hospital is represented in the table below. There are 6 activities performed with their average times given in table. All activities can be done in any order except activities 1, 6 and 7. Four nurses are assigned to perform activity 2, 3, 5. Activity 3 is performed by 3 nurses. One clerk is there for registration and one pharmacist at pharmacy. Same doctor does the check up and give consultation.

Sl. No.	Activity	Average Time (Mins)
1	Registration	4
2	Medical history	10
3	Routine checkup (Blood pressure, weight, height, temperature)	6
4	Doctor's check up	18
5	Lab related tests	15
6	Doctor's consultation	18
7	Prescribed medicines from pharmacy	10

a) Which activity is the bottleneck activity?

b) What are the numbers of patients who can be seen per hour?

c) Can you suggest an improved layout which can increase service capacity?

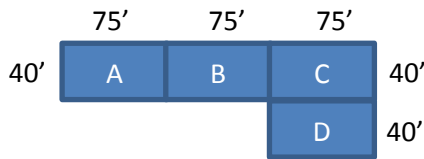d) Draw product flow diagram of improved system.

8. 'At your service' bank wants to increase the number of applications pertaining to savings accounts per day. The activities involved in opening a savings account are given in table below. The activities 5 and 6 cannot be carried out before all 4 activities are done. There are in total four tellers involved. One teller at reception, one who

checks the completion of form, one teller who verifies the documents and handover passbook and cheque book and one teller is required to deposit money in the account.

Sr. No.	Activity	Average Time (Mins)
1	Collect savings account form from Reception	5
2	Form filling by customer	8
3	Submit form to officer and officer checks the filled form	3
4	Verification of documents and clearance	10
5	Deposit initial amount in the account	4
6	Collect pass book and cheque book	7

a. Which activity is the bottleneck activity?

b. If bank wants to reduce the number of tellers by one then what will be the new layout?

c. What is the capacity of the bank in terms of total new accounts opened per day? Where will you add one more teller to improve the capacity of bank further and why?

9. There are four departments in an office A, B, C and D. The current layout of the office is presented below. Each department is 75 feet long and 40 feet wide. The cost of
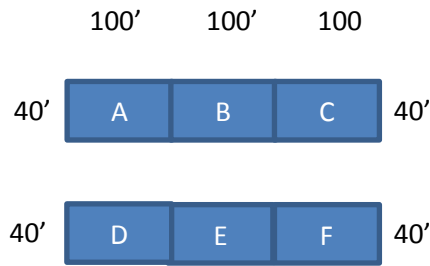
movement is Rs. 2 per unit per foot. The flow of units between departments is also presented in the triangular flow matrix below. Compute the total cost of layout.

DEPARTMENT		A	B	C	D
DEPARTMENT	A	-	20	30	55
	B		-	25	10
	C			-	15
	D				-

10. A supermarket has 6 main sections A to F like apparels, shoes, fashion accessories and so on. The current layout of supermarket is presented below. The supermarket wants to encourage impulse buying by placing high association product groups close to one another. The high association is represented by the density flow presented in the triangular flow matrix. The revenues estimated per person moving between associated sections are Rs. 3. Determine the facility layout which will encourage impulse buying.

11.

	A	B	C	D	E	F
A	-	50	70	-	-	-
B		-	60	-	-	-
C			-	40	50	-
D				-	30	40
E					-	-
F						-

Diagram labels: 100′ 100′ 100 (top), 40′ | A | B | C | 40′, 40′ | D | E | F | 40′. Side label: SECTION. Top label over matrix: SECTION.

12. Justify the following statement "Locating facility to a new location can be a part of growth strategy".

13. What kind of challenges service organizations face while making facility location decisions?

14. How appropriate decision of service facility location can help in achieving competitive advantage?

15. How different optimization criterions impact the decision on service facility location? Give examples.

16. A call center wants to open an office in a metro city. It has identified 5 potential sites. The location of these 5 site sin kilometers on *xy* coordinate grid are; L1 = (10, 10), L2 = (10, 22), L3 = (12, 5), L4 = (22, 24) and L5 = (25, 15). The call center is looking for young boys and girls for executive positions from 5 regions which are having youngster density with weights of w1 = 3, w2 = 2, w3 = 3, w4 = 4 and w5 = 1. The call

center has to bear the travel expenses for all executives. Find the location for the call center that will minimize the total weighted metropolitan travel distance. Compare your result by considering Euclidean distance.

17. A pizza corner Pizzo is planning to open an outlet with two drive away facilities in a region A having 4 customer zones. There is already one pizza corner (competitor) with one drive away facility located in that region. The travel time in minutes for 4 customer zones in A to the two pizza corners and the number of customers in A are given in table below:

Customer zones	1	2	3	4
Travel time to Pizza corners (minutes)				
Competitor	6	2	10	15
Pizza	20	10	12	8
Number of customers	120	150	70	60

a. Assuming $\lambda = 2$, determine the probability of a customer travelling from each customer zone to two pizza corners.

b. Estimate the proportion of the existing market lost by the competitor to Pizzo, if any, provided same amount of spending by the customers for both Pizza corners.

18. Ministry of education is interested to open graduate colleges in the rural area covering 6 villages. Ministry has decided to locate the colleges in such a way that the colleges can be reached in 30 minutes or less by the potential students residing in those 6 villages. The time taken in minutes between each pair of 6 villages is presented in the network below. How many colleges ministry should open to meet the criteria of 30 minutes?