

Questions

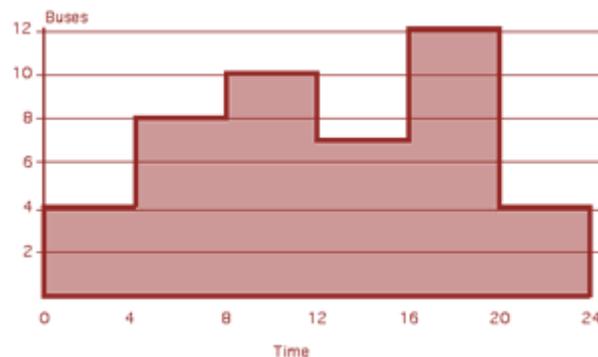
1. Define capacity in the context of services.
2. What are the challenges in managing capacity in service sector?
3. What are the different levels of capacity management in any service organization? Take an example of any service industry and list the activities under various levels.
4. What are the disadvantages of hiring part time employees?
5. What is the difference between chase strategy and level strategy of capacity management?
6. Consider any service organization and discuss the capacity management strategies followed by that organization.
7. Justify the statement “Yield management is applicable to the service organizations with fixed capacity”.
8. Will applying yield management with the concept of market segmentation impact the customer relationship? Justify your answer with examples.
9. The cultural committee of Edu University is planning to organize a rock show in their university. The venue of rock show has fixed capacity of 500 seats. Suppose the rock show will be held after 30 days from the current day. Edu University is planning to sell the full price tickets at the price of Rs. 1000 per person. At the same time to give discount to the students, Edu University has decided to offer discounted price of Rs. 500 per person for students if they book tickets 20 days in advance. After 10 days only one price will be charged that is full ticket price. From previous years’ experience, Edu University has estimated the demand for full price tickets to follow normal distribution with mean 350 and standard deviation 20. To minimize any losses how many tickets Edu University should reserve as full price tickets?

10. A hospital requires different numbers of nurses on different days of the week. Based on different demand on different days, the minimum number of nurses desired on each day is given below.

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
16	12	14	18	13	15	10

As per the hospital rules each nurse must work five consecutive days and then receive two days off. For example, an employee who works Monday to Friday must be off on Saturday and Sunday. The hospital wants to meet its daily requirements using nurses. Formulate a LP model that the hospital can use to minimize the number of nurses who must be hired.

11. A bus transport company wants to schedule drivers for its buses. The customer demand for buses varies on hourly basis as shown in the figure below.



REQUIREMENTS FOR BUSES IN A 24 HOUR PERIOD

In the timeline of 24 hour clock starting at midnight, the desired number of buses must run in different shifts are given below in the Table.

Time interval (hours)	Number of buses
Midnight – 04:00	4
04:00-08:00	8
08:00-12:00	10
12:00-16:00	7
16:00-20:00	12
20:00-24:00	4

The company is facing constraints where drivers work eight hour shifts that start at times: 0, 4, 8, 12, 16 or 20. For example, a driver starting at time 0 can drive a bus from time 0 to 8. A driver scheduled to start at time 20 works for the final four hours of the day and the first four hours of the next day. There is no requirement that a driver drive a bus for the entire period. He might be idle for a four hour interval within the period. How many drivers the transport company should schedule at each starting time to cover the requirements for buses, which will minimize the number of drivers used.