

# Questions

1. What kinds of costs due to excessive waiting are incurred by the customer and service provider?
2. How a waiting customer can become resource for service organization?
3. What is the difference between balking and reneging?
4. Customers arrive at service facility follow Poisson distribution at the rate of 20 per day. What is the probability that no customer will arrive during any 1 hour, assuming the service facility is open 6 hours a day.
5. Mc Rock fast food centre uses an average of 500 kg of potatoes per week. The average number of kgs of potatoes on hand is 300. On an average, for how long the stock of potatoes will be there in the restaurant before being used?
6. What do you mean by Jockeying in the context of waiting line?
7. In a health clinic, the average rate of patient arrival is 12 per hour. On an average, a doctor can serve the patients at the rate of one every four minutes. Assuming Poisson arrivals and exponential service distributions, find average number of patients in the waiting line and in the system. Also find the average waiting time in line and in the system.
8. The Indi123 Bank is a new bank planning for the capacity to serve customer during the peak hour of 10 am to 11 am. Indi123 bank has mean time between arrivals of

customer to be 3 minutes. If on an average a customer spends 30 minutes in a bank during peak hour, how many servers Indi123 bank should have during that period.

9. A weighing station has a single weighing bridge with the capacity of accommodating maximum of 10 vehicles inside the station. The arrival rate and service rate follows Poisson distribution with 45 vehicles per hour respectively. The probability of having 10 vehicles in the work station is 0.3. What is the effective arrival rate?

10. The arrival rate of breakdown machines at a maintenance shop follows Poisson distribution with a mean of 4 per hour. The service rate of machines by a maintenance mechanic also follows Poisson distribution with a mean of 3 per hour. The downtime cost per hour of a breakdown machine is Rs200. The labor rate per hour is Rs50. Determine whether it is economical to have 3 mechanics or 4 mechanics?