

TRIBHUVAN UNIVERSITY
FACULTY OF MANAGEMENT

Office of the Dean

September - October 2023

Full Marks: 60

Pass Marks: 30

Time: 3 Hrs.

BBM / Fifth Semester / OPR 311: Introduction to Operations Management

Candidates are required to answer all the questions in their own words as far as practicable.

Group "A"

Brief Answer Questions:

[6 × 1 = 6]

1. List out the reasons for operations management shifting from local focus to global focus?
2. State the basic assumptions underlying the classical EOQ model.
3. Point out the competitive advantages of concurrent engineering.
4. What standard does ISO 9000 series deal with?
5. What is six sigma?
6. How is supply chain management different from logistics management?

Group "B"

Descriptive Answer Questions:

[6 × 3 = 18]

7. Define operations management. Also provide the transformation process of university system.
8. Describe the types of customer behavior during the waiting line and state two assumptions of single server single queuing system.
9. Why is it important to match supply and demand? If a manager believes that supply and demand will not be equal, what actions could the manager take to increase the probability of achieving a match?
10. Describe the types of plant layout with simple sketches.
11. A supplier for St. Joseph Hospital has introduced quantity discounts to encourage larger order quantities for a special X ray plate. The price for various order quantity is as follows.

Order Quantity	Price per unit
1-750	Rs 60
751-899	Rs 54
900 and more	Rs 45

The hospital estimates that its annual requirement for this item is 9,360 units, ordering cost per order is Rs 450, and its annual holding cost is 25 percent of the item's unit price. What quantity of this item should the hospital order to minimize the total cost?

12. Eighteen rolls of coiled wire were monitored and the number of defects per roll has been recorded in the following table. Is the process in control? Use appropriate control chart.

Sample	No. of defects	Sample	No. of defects
1	3	10	1
2	2	11	3
3	4	12	4
4	5	13	2
5	1	14	4
6	2	15	2
7	4	16	1
8	1	17	3
9	2	18	1

Group "C"

Analytical Answer Questions:

[4 × 6 = 24]

13. What are the driving forces behind TQM? Describe the major TQM philosophies.

14. Solve the given assignment problem.

Jobs/Employee	Jit	Sit	Hit	Tit
Pitching	10	7	5	4
Hunting	9	10	6	9
Poaching	11	12	8	7
Heading	7	6	3	2

15. Find the optimal transportation schedule from the following with the objectives of minimizing the cost by using VAM.

Warehouse	Available	Factory	Requirements
P	30	D	20
Q	45	E	50
R	40	F	45

Cost of transportation is given in the following table.

From\To	D	E	F
P	10	16	24
Q	10	20	20
R	40	60	40

16. A manufacturer makes two products P_1 and P_2 using two machines M_1 and M_2 . Product P_1 requires 5 hours on machine M_1 and no time on machine M_2 , product P_2 requires 1 hour on machine M_1 and 3 hour on machine M_2 . There are 16 hours of time per day available on machine M_1 and 20 hours on M_2 . Profit margin from P_1 and P_2 is Rs 2 and Rs 10 per unit respectively. What should be the daily production mix to maximize profit?

Group "D"

Comprehensive Answer Questions:

[4 × 3 = 12]

17. Read the following case carefully and answer the questions that follow:

Roots Corporation Limited is a fully owned subsidiary of the Indian Hotels Company Limited (IHCL), which is a part of the Tata Group. With more than 90 properties, IHCL is India's largest hotel chain. It has been in the hospitality sector for over a century. Roots Corporation Limited operates a group of hotels under the brand name Ginger Hotels. The first hotel was launched in Whitefield, Bangalore, in June 2004. Today, Ginger hotels are located in 27 cities in India.

At a glance, a Ginger hotel will appear to be very similar to any other hotel. A Ginger hotel offers all the facilities that a normal hotel would offer. These include check-in facilities; rooms with a TV, fridge, and a tea/coffee maker; room services such as laundry; restaurants; digital safes; Wi-Fi connections; meeting rooms, a business center, gymnasium, car rental service, doctor on call, and currency exchange. However, the similarity ends at this level.

A Ginger hotel distinguishes itself in several ways in the manner these services are offered. Unlike other hotels, Ginger hotels offer a limited à la carte menu in the restaurant at a nominal price. In case a guest does not like what is being offered, it is possible to call up nearby restaurants, place an order, and collect the food from the Give n' Take Counter in the hotel. The rooms are compact and well maintained, and are available at a price that is much lower than the price charged by other hotels for a similar service.

"Please help yourselves" is a line that can be seen on most of the brochures and booklets in a Ginger hotel, and it aptly reflects its most distinguishing feature. It is not uncommon for guests to use the self-service check-in kiosk, identify their room, and carry their luggage to the room. As soon as a guest enters a Ginger hotel, he/she will come across several operations with a self-service facility. Some elements of self-service are described here:

- Self-Service Check-in: Upon arrival, guests can check into the hotel without any assistance from the reception counter. This is possible because Ginger hotels have self-check-in kiosks.
- Give n' Take Counter: Ginger hotels have a "Give n' Take" counter that the guest can use to deliver used clothes for laundry in the morning and to collect washed clothes after 7.30 p.m. the same day.
- Smart Get Set: There is an ironing room in every floor in Ginger hotels. Guests can use the room for pressing their clothes. Further, there are water dispensers on each floor, from which guests can fill their bottles.

- *Smart Knick Knacks:* Ginger has installed vending machines for hot and cold beverages and packed snacks. These vending machines can be accessed round the clock, irrespective of whether the restaurant is working or not.
- *Smart Mart:* There are vending machines that supply other things such as toiletries, combs, toothpaste, hygiene products, and mosquito repellants.

The company summarizes "the Ginger experience" as one providing intelligent, well-thought-out facilities and services at great value and with no frills attached.

Questions:

- How will you describe the overall strategy of Ginger Hotels in the hotel industry?
- Is their operations strategy consistent with the overall strategy? What are the operational elements of Ginger Hotels that provide this strategic dimension to the operations?
- Can you identify the strategic and operational benefits that Ginger Hotels is likely to derive from the operations strategy and operations system design that it has chosen?
- Describe the relationship between three levels of strategy.

