Course Code: 20MB9012 **R20**

SIDDHARTH GROUP OF INSTITUTIONS:: PUTTUR
(AUTONOMOUS)
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QUESTION BANK (DESCRIPTIVE)

Subject with Code: OPERATIONS MANAGEMENT (20MB9012)
Course & Branch: MBA
Year & Sem: I-MBA & II-Sem
Regulation: R20

UNIT –I
INTRODUCTION TO PRODUCTION & OPERATIONS MANAGEMENT

1	a. Explain Overview of Production and Operations Management (POM). b. Explain the nature of Operations Management (OM) and its importance.	[L1][CO1] [L1][CO1]	[05M] [05M]
2	How Automobile sector is using the Function of Operations Management (POM)**?**	[L3][CO1]	[10M]
3	Illustrate the Historical Development of POM.	[L3][CO1]	[10M]
4	How would you explain POM scenario today with the help of the NEWS?	[L4][CO1]	[10M]
5	Explain Product Design, with the help of the diagram.	[L2][CO1]	[10M]
6	What factors play a key role in Process Design? Explain with help of the diagram.	[L2][CO1]	[10M]
7	Explain Product development, with the help of the diagram.	[L2][CO1]	[10M]
8	Explain Process development, with the help of the diagram.	[L2][CO1]	[10M]
9	Classify the Manufacturing Process Technology.	[L2][CO1]	[10M]
10	Define the following: a. CAD b. CAM c. Objectives of Operations Management (POM)	[L1][CO1]	[10M]

UNIT –II
FACILITIES MANAGEMENT & AGGREGATE PLANNING

1	Define Facilities Management & Aggregate Planning. Explain its Nature and Scope.	[L1][CO2]	[10M]
2	What can you say about Location of Facilities?	[L2][CO2]	[10M]
3	What can you say about Layout of Facilities?	[L2][CO2]	[10M]
4	Distinguish between Optimization of Product Vs Process Layout with examples.	[L2][CO2]	[10M]
5	State how Flexible Manufacturing process is done.	[L1][CO2]	[10M]
6	Explain how to Identify core processes in aggregate demand Forecast.	[L1][CO2]	[10M]
7	Illustrate Flexible Manufacturing Vs Group Technology with the sample case study and explain.	[L1][CO2]	[10M]
8	What is the significance of Aggregate planning in Operations Management (OM)?	[L1][CO1,2]	[10M]
9	If you are a manager at Audi what are the issues you face in Break down maintenance. Highlight the issues.	[L6][CO2]	[10M]
10	Define the following: a. inventory level b. back-order c. business plan.	[L1][CO1]	[10M]

UNIT –III
SCHEDULING

1	a. Write a short note on Scheduling. b. Explain Scheduling importance in Operations Management (OM).	[L1][CO3] [L1][CO3]	[05M] [05M]
2	Explain in detail about the Scheduling In Job with merits and demerits.	[L1][CO3]	[10M]
3	Design a network of Assignment and Sequencing for mobile based industries.	[L6][CO3]	[10M]
4	How would you explain about Scheduling in Mass?	[L1][CO3]	[10M]

5	How do Methods of Production Control models work? Explain in your own words.	[L3][CO3]	[10M]
6	Outline the various Inventory control techniques with examples.	[L1][CO3]	[10M]
7	A department head has four subordinates, and four tasks have to be performed. Subordinates differ in efficiency and tasks differ in their intrinsic difficulty time each man would take to perform each task to perform each task is given in the effectiveness matrix how the tasks should be allocated to each person so as to minimize the total man-hours?	[L4][CO3]	[10M]
8	A biscuit manufacturing company buy a lot of 10,000 bags of wheat per annum the cost per bag is Rs 500/- and the ordering cost is Rs 400/- the inventory cost is estimated as 10% of price of the wheat. Determine EOQ	[L3][CO3]	[10M]
9	What is the significance of shop loading? Give two examples.	[L2][CO5]	[10M]
10	State the line of balancing model with suitable examples.	[L2][CO3]	[10M]

	I	II	III	IV
A	8	26	17	11
B	13	28	04	26
C	38	19	18	15
D	19	26	24	10

UNIT –IV
WORK STUDY & QUALITY MANAGEMENT

1	What is the need of Managing Work Study & quality management?	[L1][CO4]	[10M]
2	How do you manage Method Study in a plant?	[L3][CO4]	[10M]
3	List out the types of different control charts for variables	[L1][CO4]	[10M]
4	a. Illustrate acceptance sampling with suitable examples. b. Write short notes on economics of quantity assurance with suitable examples.	[L1][CO4] [L1][CO5]	[05M] [05M]
5	What are the theories of control charts and how do they help in OM?	[L2][CO4]	[10M]
6	Construct Work measurement method for “1plus” mobile company.	[L6][CO5]	[10M]
7	What is meant by “ISO 9000 series”? Explain its scope.	[L1][CO4]	[10M]
8	How does production sector will help organization in Total Quality Management?	[L1][CO4]	[10M]
9	Why would Apple corp. choose Six Sigma method for production? Justify your answer.	[L4][CO4]	[10M]
10	What is the need of ISO 9000 series? Explain in your own words.	[L1][CO4]	[10M]

UNIT –V
PRODUCTIVITY

1	What is productivity? Explain its importance in today’s scenario.	[L1][CO5]	[10M]
2	Explain about characteristics of productivity. Make a note of factors affecting productivity.	[L2][CO5]	[10M]
3	Define productivity and production. Explain how productivity can be enhanced in the Indian industries.	[L2][CO5]	[10M]
4	What is productivity Cycle? Explain it with an example.	[L1][CO5]	[10M]
5	Explain about New productivity engineering. Explain its importance.	[L2][CO5]	[10M]
6	What are the effects of productivity cycle? How does it affect product market?	[L1][CO5]	[10M]
7	What is meant by productivity engineering? Explain its scope.	[L1][CO5]	[10M]

8	What is the need of line production? Explain with a diagram.	[L1][CO5]	[10M]
9	Explain about various methods in measuring total productivity.	[L1][CO5]	[10M]
10	Consider yourself as CEO of Benz company. If you find errors in Productivity Engineering what measures do you suggest to rectify them .	[L6][CO5]	[10M]

CASE STUDY- I

Company Background

Apollo Animal Clinic (AAC) is a metropolitan veterinary clinic specializing in the medical care of dogs and cats. Dr. Sunitha opened the clinic three years ago, in Bangalore hiring another full-time veterinarian, a staff of three nurses, an office manager, and an office assistant. The clinic operates Monday through Friday during regular business hours, with half days on Saturdays and extended hours on Wednesday evenings. Both doctors work during the week and take turns covering Wednesday evenings and Saturdays. Dr. Sunitha opened the clinic with the intent of providing outpatient animal care. Overnight services are provided for surgical patients only. No other specialized services are offered. The facility for the clinic was designed for this type of service, with a spacious waiting and reception area. The examining and surgical rooms are in the rear, just large enough to accommodate their initial purpose. As time has passed, however, the number of patients requesting specialized services has increased. Initially the requests were few, so Dr. Sunitha tried to accommodate them. As one of the nurses was also trained in grooming services, she began to alternate between her regular duties and pet grooming. Pet grooming was performed in the rear of the reception area, as it was spacious and there was no other room for this job. At first this was not a problem. However, as the number of pets being groomed increased, the flow of work began to be interrupted. Customers waiting with their pets would comment to the groomer in the rear, who had difficulty focusing on the work. The receptionist was also distracted, as were the animals. The number of customers requesting grooming services was growing rapidly. Customers wanted to drop off their pets for a "package" of examining, grooming, and even minor surgical procedures requiring overnight stays. The space for grooming and overnight services was rapidly taking over room for other tasks. Also, most of the staff was not trained in providing the type of service customers were now requiring.

The Dilemma

Dr. Sunitha sat at her desk wondering how to handle the operations dilemma she was faced with. She started her business as a medical clinic but found that she was no longer sure what business she was in. She didn't understand why it was so complicated given that she was only providing a service. She was not sure what to do.

Case Questions

(a). Identify the operations management problems that Dr. Sunitha is having at the clinic.

(b). How would you define the "service bundle" currently being offered? How is this different from the initial purpose of the clinic?

(c). Identify the high-contact and low-contact segments of the operation. How should each be managed?

(d). What should Dr. Sunitha have done differently to avoid the problems she is currently experiencing? What should Dr. Sunitha do now?

Case Study 2:

ABC Ltd. is the country's largest manufacturer of spun yarn with well-established market. ABC Ltd. has good reputation for quality and service. Their marketing department identified that the potential for global market is expanding rapidly and hence the company undertook exercise for expansion of the capacity for export market.

The company formed team of Marketing and Materials department to study the global logistics possibilities. After extensive study, the team came up with a report on global logistics and submitted that global logistics is essentially same as domestic due to following similarities:

- The conceptual logistics framework of linking supply sources, plants, warehouses and customers is the same.
- Both systems involve managing the movement and storage of products.
- Information is critical to effective provision of customer service, management of inventory, vendor product and cost control.
- The functional processes of inventory management, warehousing, order processing, carrier selection, procurement, and vendor payment are required for both.
- Economic and safety regulations exist for transportation.

The company had very economical and reliable transportation system in existence. For exports as well they

decided to evaluate capabilities of their existing transporter and entrusted them with the job of transport till port. For customs formalities they engaged a good CHA after proper cost evaluation and entered into contract for freight with shipping company agent

The response for company's export was very good and the company could get as many as 15 customers within first two months and reached to a level of USD 250,000 per month by the end of first half of the year. Based on this response the export volumes were expected to grow to a level of USD 400,000 per month by the end of the year. When the review was made at the end of the year, company found that export volumes had in fact come down to the level of USD 120,000 which was much lower than it had reached in the first half of the year.
The managing committee had an emergency meeting to discuss this and the export manager was entrusted with the task of identifying the reasons for this decline. Mr. Ganesh decided to visit the customers for getting the first hand information. When he discussed the matter with the customers, the feedback on the quality and price were good but the customers were very upset on the logistic services due to delayed shipments, frequent changes in shipping schedules, improper documentation, improper identifications, package sizes, losses due to transit damages

Case Study 3:

A job consists of four work elements and all are performed by the same operator. An analyst conducted work sampling to determine the standard time for the job. The duration of the study in one day with two shifts. Each shift has 420 minutes of effective time. The details of observations are summarized in the following table. The total number of acceptable units produced during the study period is 225 units. Determine the standard time by assuming allowance of 12%.

Work element number	Frequency of performance	Performance rating
1	50	90%
2	90	150%
3	75	100%
4	85	115%

Case Study 4:

Find the schedule using graphical method to minimize the time needed to process the following jobs on the machines shown (i.e., for each machine). Find the job which should be scheduled first. Also calculate the total time elapsed to complete both jobs.

Job1	Sequence	A --- B ---- C --- D --- E
	Time (Hrs)	4 3 6 2 7
Job 2	Sequence	C --- B ---- E --- D --- A
	Time (Hrs)	6 3 5 3 7

Case Study 5:

There are four existing facilities which are to be served by a single new facility. The details of the existing facilities are shown in the following table:

Existing facility	1	2	3	4
Coordinates (a_i, b_i)	15.10	10.50	5.15	20.10
No. of trips of loads/year	200	100	300	400

Find the optimum location of the new facility such that the total cost of materials handling is minimized using each of the following methods:

(a) Gravity location method.

(b) Euclidean-distance location method.

Case Study 6:

The product line manufacturing electric motor has seven stations. The individual capacity of the critical station is limited to 1000 units per week. If, the actual output of the product line is 800 units per week, find:

(a) The system capacity.

(b) The system efficiency.

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