



**SIDDHARTH GROUP OF INSTITUTIONS:: PUTTUR**

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**QUESTION BANK DESCRIPTIVE**

**Subject with Code:** OM (19MB9012)

**Course & Branch:** MBA

**Year & Sem:** I Year & II-Sem

**Regulation:** R19

**UNIT - 1**

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|-----|--|-----|
| 1.  | What is production and operational management? Make an overview about POM. | 10M |
| 2.  | Define POM? Sketch out the historical development of POM.                  | 10M |
| 3.  | Examine the role and importance of POM today's scenario.                   | 10M |
| 4.  | Explain about product design.  | 10M |
| 5.  | Explain about process design.  | 10M |
| 6.  | Examine about product and process development.                             | 10M |
| 7.  | Explain about need of production and operational management.               | 10M |
| 8.  | Give a description on the manufacturing process technology with example.   | 10M |
| 9.  | a) What is CAM? Explain with an example.                                   | 05M |
|     | b) Define CAD. Explain with an example.                                    | 05M |
| 10. | a) Distinguish between product development and design.                     | 05M |
|     | b) Write short notes on the significance of operation management.          | 05M |

**UNIT 2**

1. What do you understand by plant layout? Explain its system and systems and evaluate the same 10M
2. “Location decision is a trade-off decision”- why? Elaborate. 10M
3. Explain about layout of facilities and example. 10M
4. “Product layout is better than process layout.” Do you agree with this statement? Support your answer. 10M
5. Explain about flexible manufacturing. 10M
6. Why layout of facilities is needed for organization? Explain with an example. 10M
7. What is aggressive planning? Explain its functions? 10M
8. a) What is aggregate demand forecast? 05M  
b) What are the differences between location and layout? 05M
9. What is the difference between aggressive planning and forecasting? What are their advantages and disadvantages? 10M
10. Differentiate between optimization of product and process. What are their advantages and disadvantages? 10M

## UNIT 3

1. What is scheduling in job? Explain the concept underlying its importance. 10M
2. Briefly discuss the shop type production usually used in manufacturing firms. 10M
3. Explain assessment and sequencing and its importance in POM. 10M
4. How inventory control techniques works in real world? List out its importance. 10M
5. 'Assessment and sequencing in production' what do you think about this statement? 10M
6. What is shop loading? Explain with an example. 10M
7. What is the method of production control? 10M
8. 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?

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

9. Give a description on the line of balancing. 10M
10. 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 10M

**UNIT - 4**

1. Explain the following. 10M  
a) Work study b) Quality management.
2. List out the types of different control charts for variables 10M
3. Discuss about control chart for attributes. 10M
4. a) What is acceptance sampling? Explain with an example. 05M  
b) What is economics of quantity assurance? Explain with an example. 05M
5. Explain the features of theory of control charts? 10M
6. What is meant by “ISO 9000 series standards”? Explain its scope. 10M
7. Why do manufacturing industries need “six sigma”? Elaborate. 10M
8. a) What is quality control? Explain with an example. 05M  
b) Write short notes on work design and job design. 05M
9. What are Industrial Engineering Techniques? Explain with examples. 10M
10. Discuss about TQM management techniques. 10M

## UNIT 5

1. What is called productivity? Explain its importance in today's scenario. 10M
2. Explain about characteristics of productivity . Make a note of factors affecting productivity. 10M
3. Define productivity and production. Explain how productivity can be enhanced in the Indian industries. 10M
4. What is a productivity Cycle? Explain it with an example. 10M
5. Explain about New productivity engineering. Explain its importance. 10M
6. What are the effects of productivity cycle? How does it affect product market? 10M
7. 'Phases of business cycle-steps to avoid business cycles'. Substantiate this statement. 10M
8. What is meant by productivity engineering? Explain its scope. 10M
9. What is the need of line production? Explain with a diagram. 10M
10. Explain about various methods in measuring total productivity. 10M

## CASE STUDY- I

### Company Background

Apollo Animal Clinic (AAC) is a metropolitan veterinary clinic specialising 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 specialised 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 specialised 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.

Job 1	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.