



INDIAN INSTITUTE OF MATERIALS MANAGEMENT

Post Graduate Diploma in Logistics & SCM
Post Graduate Diploma in Materials Management - 2 years
PAPER No 10 (enrolment code –PGMM, PGSM)

Dec 2024

Operations Management

Date : 19.12.2024

Time : 10.00 a.m to 1.00 p.m

Max. Marks: 70

Duration : 3 Hrs.

Instructions:

1. From Part A, contains 4 main questions (with 5 sub-questions) each question carries 1 mark Total of 20 marks
2. From part B answer any 5 questions out of 5 questions. Each question carries 10 marks – A total of 50 marks
3. Use of standard calculator is permitted.

PART – A (compulsory)

[20 marks]

(Compulsory- each sub-question carries one mark)

Q1. Fill in the Blanks

[5 marks]

- i) _____ metrics is to monitor the risk level and to detect early warning signs of potential issues.
- ii) When single machine is made available. job with _____ time which is ready at that time would begin processing.
- iii) Main aim of scheduling is to minimize the production _____ and cost.
- iv) Basic _____ is the foundation of good and lasting product.
- v) The main Objective of _____ is to increase cooperation and communication between production chain members.

Q2 Expand the following -

[5 marks]

- | | |
|-----------|----------------------------------|
| (i) PLM | a. Product life cycle management |
| (ii) FTA | b. Fault tree analysis |
| (iii) VCM | c. Value chain Management |
| (iv) FMS | d. Flexible Manufacturing system |
| (v) LDR | e. Linear decision rule |

Q3 Match the following

[5 marks]

- | Column A | Column B |
|--------------------------|-------------------------|
| a) Bill of Material | (i) QFD |
| b) Hadoop | (ii) Process analysis |
| c) Capacity lag strategy | (iii) Big data analysis |
| d) Voice of customer | (iv) Moderate strategy |
| e) Affinity Diagram | (v) MRP |

Q 4 Say True or False

[5 marks]

- i) Capacity requirements are derived from MPS.
- ii) Bill of material is one of important inputs for MPS.
- iii) Production and consumption is simultaneous in case of service.
- iv) DOE can be used to select capacity factory location.
- v) OR is an absolute method of decision making.

PART B

[30 marks]

(Attempt any 3. Each question carries 10 marks)

- Q5 a)** Describe service blue prints with schematic diagram for fast food restaurant. [5 marks]
- b)** Describe service design, its character sticks, functions while highlighting differences vis a vis Goods [5 marks]
- Q6 a)** Write a note on cellular manufacturing. [5 marks]
- b)** Describe strategy formulation process starting from vision. What is strategic intent? Explain with 2 examples [5 marks]
- Q7 a)** Describe process lay out vs product lay out. [5 marks]
- b)** Explain line balancing vs. Line loading and its importance in optimizing production with available resources [5 marks]
- Q. 8 a)** List and describe factors affecting factory locations. What are uncontrollable factors and how do you take care of them? [5 marks]
- b)** Enumerate types of risks in operations including financial & regulatory etc. How do you align risk management with operations strategy. [5 marks]
- Q. 9** Write short notes on ANY TWO [2x 5= 10 marks]
- i) Customization vs standardization
 - ii) MRP
 - iii) Quality leaders
 - iv) Predictive analysis for procurement

PART –C

(Compulsory)

[20 marks]

Q 10 Case Study

Proton is a MNC with HQ at Amsterdam and subsidiaries in India, Indonesia, Malaysia. It manufactures, sales and services home electronic appliances. It had been managing service operations through 2000 technicians and about 1000 service partners. The communication with them and with customers had been through emails, phone calls till 2013. Sales were good and steady. Feedback on customers from service personnel was also good.

But in 2014-15, few local competitors like Hair, Midea from China, or LG from S Korea entered into area, And soon customer complaints started rising, warranty cost went up. By 2018, Proton sales had dropped by 20% and annual warranty cost had doubled. Alarmed Proton did close customer survey in Asian market through external agency. The findings were revelation to Management. Existing customers were highly dissatisfied on service response and quality of service. Further deep dive revealed poor visibility of service personnel vis a vis SLA (service level agreements)

So, proton appointed service director, Mr Park lee, who was working earlier with Samsung. He did root cause analysis to arrive at potential root causes and initiated following actions to address them

- 1 Did service process analysis to bring in service discipline and consistency across service personnel
- 2 Reviewed service design using service blue print and service location planner and customer journey map
- 3 Introduced ERP integrating production, sales, finance, and service. This was linked to partners portals.
- 4 Use of information and communication technology like service app linked to proton website
- 5 introduced use of servqual for customer monitoring.

Over next one year improvement in sales and customer perception was dramatic

Questions:

- Q1. Why were customers getting dissatisfied with proton service? [4 marks]
- Q2. What could have been cause and effect diagram (Fish bone diagram) drawn by Mr Park? [4 marks]
- Q3 What service process and service design gaps would have been identified, Elaborate . [4 marks]
- Q4. How would have ERP and ICT helped to streamline communication? [4 marks]
- Q5. Why was ServQual used and what way it would have contributed? [4 marks]