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)

June 2025

Operations Management

Date : 19.06.2025 **Max. Marks: 70**
Time : 10.00 a.m to 1.00 p.m **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 any5 questions out of 5 questions. Each question carries 10 marks – A totalof50 marks
3. Use of standard calculator is permitted.

PART – A [20 marks]

(Compulsory- each sub-question carries one mark)

Q1 Select the right answer from the given options. [5 marks]

(a) "Services" cannot be stored. It is a feature of ---------- of service characteristics.
(i) Intangibility (ii) Perishability, (iii) Heterogeneity, (iv) Inseparability

(b) A Layout designed to Group similar resources together is example of _____
(i) Product layout (ii) Fixed position layout (iii) Process layout (iv) Hybrid layout

(c) Which of the following is **NOT** an objective of operations management?
(i) Customer satisfaction (ii) Timeliness (iii) Profitability (iv) Employee punishment

(d) Which of the following is true?
(i) Functional strategies are shaped by corporate strategy
(ii) Corporate strategy is shaped by functional strategies
(iii) Corporate mission is shaped by corporate strategy
(iv) External conditions are shaped by corporate mission

e) Cost consideration is used in the ---------- model for facility location decision
(i) Factor rating (ii) Load-distance (iii) center of gravity (iv)Weighted factor rating

Q2 Match the following – [5 marks]

	Column A		**Column B**
1.	Control charts	**A**	High Labor intensity
2.	Mass services	**B**	Scheduling of jobs
3.	Gantt Chart	**C**	Shewhart
4	Cause and effect	**D**	Assembly lines
5	Line balancing	**E**	Ishikawa diagram

Q3 Write the full form of – [5 marks]

a) CRP b. QFD c. FMEA d. VCM e. PDCA

Q4 State "true" or "False" [5 marks]

a) Manufacturing organizations generally produce standardized products
b) The correct sequence of stages in a product life cycle is introduction-maturity-growth-decline.
c) MRP helps to improve the performance of production.
d) Operations Research is an approach to solving complex decisions using advanced analytics.
e) Throughput time is considered as a limiting factor affecting the overall cycle time

PART B [30 marks]

(*Attempt* ***any three questions.*** *Each question carries 10 marks****)***

Q 5

a) The main motive of Operations Management is to improve productivity while minimizing cost. In this context discuss the objectives of operations management. **(5 marks)**

b) In today's globalized business environment, technology-driven strategies have radically changed the traditional ways of conducting business operations. In this context, discuss the role of Big Data and Cloud computing in business operations. **(5 marks)**

Q 6

a) Cellular manufacturing is an approach where the workstations are arranged within a cell. In this context, bring out the benefits of cellular manufacturing. **(5 marks)**

b) How the service processes are classified on the basis of their characteristics? Explain with the help of "Service process matrix" and illustrate your answer with examples of services in each quadrant. **(5 marks)**

Q 7

a) For a business organization, capacity can be understood in its different types. In this context, explain the different types of capacity. **(5 marks)**

b) Compare and contrast process layout with product layout. Which type of layout would be preferred for a FMCG product? Why? **(5 marks)**

Q 8

a) Various organizations use different types of quality control and improvement tools and techniques. In this context explain some of the commonly used tools and techniques for quality control and improvement. **(5 marks)**

b) The table below shows the X and Y coordinates of seven retail locations of a retail chain. Information regarding the quantity to be shipped to each of the seven locations is given in the table. Using the center of gravity method, identify the coordinates of the optimal location for the warehouse. **(5 marks)**

Retail Outlet	X	Y	Volume
A	4	10	80
B	3.5	15	100
C	4	6	120
D	10	2	130
E	16	6	100
F	8	5	150
G	14	13	90

Q 9

Write short notes on: **(Any two)** **(2 x 5 = 10 marks)**

a) Design of experiment in manufacturing
b) Predictive analytics in operations management
c) Cloud computing
d) Scope and applications of operations research

PART –C [20 marks]

Q 10 Make a careful study of the following case and answer the questions, which follow.

Mr. Govind, GM Operations of Precision Parts Company, convened a meeting of all executives. He was upset that customers have complained that supplies are not coming in time. He knew that the customers' demands were known much earlier and there is no reason for the failure. He was also under compulsion to reduce prices to get fresh orders and wanted his people to look into all avenues of materials cost and operations cost reduction.

Mr. Ramkumar, Production Manager, said that material supply was the problem. The shafts received were rejected for quality reasons. The gear wheels have not been supplied since the supplier is facing capacity constraints.

Mr. Chandran, Purchase Manager, said they have not properly communicated our schedules to vendors because of change in production plan.

While walking through the plant, Mr. Govind pointed out huge stocks of pressed parts kept in various bins. Mr. Ramkumar said that since the set-up time is very high, they have to run bigger batch of Sealing Covers. When all of them went to Stores, they could see huge stocks of various materials stored. Mr. Chandran explained that they are all safety stocks procured anticipating supply failures.

Questions

1. What are the objectives of the company? **(4 marks)**
2. What are the two major issues that they need to address urgently? **(4 marks)**
3. What immediate steps to take for ensuring regular continuous supplies? **(4 marks)**
4. How to reduce WIP inventory? **(4 marks)**
5. What can be done for Safety stock reduction? **(4 marks)**