



INDIAN INSTITUTE OF MATERIALS MANAGEMENT

Post Graduate Diploma in Logistics & SCM
Post Graduate Diploma in Materials Management - 2 years
PAPER No. 10(enrolment code- PMM, PSM, CMM,CSM)

Dec 2025

Operations Management

Date: 19.12.2025

Time : 10.00 am to 1.00 pm

Max. Marks : 70

Duration : 3 Hrs.

Instructions:

- From Part A – answer all questions (compulsory). Each sub questions carries 1 mark. **Total: 20 Marks**
- From Part B – Answer any 3 questions out of 5 questions. Each question carries 10 marks. **Total :30 Marks**
- Part C is a case study (compulsory) with questions. Read the case study carefully and answer the questions **Total: 20 Marks**

Part – A

[20 Marks]

(Attempt all questions. Each sub question carries 1 mark.)

Q1 Select the right answer from the given options.

[5 marks]

- a) ----- is **not** generally considered as an aspect of operations management.
(i) Work methods (ii) maintain quality, (iii) secure financial resources, (iv) product design
- b) Which of the following is true?
(i) Corporate strategy is shaped by functional strategies
(ii) Corporate mission is shaped by corporate strategy
(iii) Functional strategies are shaped by corporate strategy
(iv) External conditions are shaped by corporate mission
- (c) ----- is the system in which items are processed in lots
(i) Job production (ii) Batch production (iii) Mass production (iv) Flow production
- (d) ----- is a time table for performing activities utilizing resources or allocating activities.
(i) Scheduling (ii) Reporting (iii) Engineering (iv) Communication
- 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.	Effectiveness	A	Cause and Effect
2.	Ishikawa diagram	B	Charles Babbage
3.	Specialization of tasks	C	Achieving desired results
4	Aggregate Production Planning	D	Assembly lines
5	Line balancing	E	Changes in market demand for products

Q3 Write the full form of –

[5 marks]

- a) PLM b. APP c. VRP d. SLA e. FTA

Q4 State “true” or “False”

[5 marks]

- Master Production Schedule (MPS) is an output of Material Requirement Planning (MRP)
- External failure costs are those costs that are incurred after the product is delivered to the end customer.
- Efficiency is essentially concerned with achieving the end result.
- Project Evaluation and Review Technique (PERT) is a deterministic model
- Data Analytics provides valuable, reliable, and timely information for decision making

PART B**[30 marks]****(Attempt any 3. Each question carries 10 marks)****Q 5**

- a) Achieving efficiency and effectiveness is one of the objectives of Operations Management. In this context, compare and contrast between efficiency and effectiveness with suitable examples. **(5 marks)**
- b) In today's globalized business environment, technology has changed the traditional ways of conducting business operations. In this context, discuss some of the important strategies adopted by organizations to incorporate technology and optimize 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) What do you understand by "Service Design Process"? As a service provider, what steps would you follow to design your service process? What are the benefits of service process design? **(5 marks)**

Q 7

- c) For a manufacturing company, demand for its product directly affects its capacity planning. Explain what do you understand by "capacity augmentation" and what steps would you follow to ensure maximum utilization of capacity and also maintain the market share demand? **(5 marks)**
- a)
- b) The cost of quality is wrongly understood as the amount spent on producing quality products and services. Explain this statement and identify the different types of costs of quality. **(5 marks)**

Q 8

- a) Facility location decision for any organization affects the delivery of goods and services and is the backbone of operational success of the organization. Discuss the importance of this statement and illustrate with a neat diagram, the factors affecting facility location. **(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 9Write short notes on: **(Any two)****(2 x 5 = 10 marks)**

- a) Role of analytics in the decision-making process
- b) Scope and applications of operations research
- c) Cloud computing
- d) Data Mining

PART –C (Compulsory) [20 marks]

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

The Los Angeles Toy Company (LATC) manufactures a standardized line of high quality, unique toys that last for long. Generally, LATC introduces new toys every year. In August 2000, the company's toy inventors informed that they have designed a Jay Leno Doll, which will stand two feet high and is capable of telling jokes via an electronic voice synthesizer. One of LATC's staff feels that they can make the product from moulded plastic using the firm's new all-purpose moulders. In the past, the company has relied heavily on its skilled workforce to make the product. Production runs have been short to fill customer orders. If the Jay Leno doll is to go into production, the production run size will have to be large, and assembly and testing procedures will have to be more refined. The engineering department believes that the assembly of the new toy is well within the skill levels of the current workforce but that the voice synthesizer and battery-operated movement mechanism will have to be subcontracted. The production departments are favourable to the new product and willing to make any quantity. The marketing department has forecast a demand of 50000 Jay Leno dolls for the Christmas rush. The dolls should sell at retail for \$29.50. Cost analysis indicates that the dolls will cost no more than \$7 each to manufacture. The company is currently operating at 70% capacity. Financing is available, and there is no problem with cash flow.

Questions

1. How consistent is the Jay Leno doll order with the current capabilities and focus of LATC?
2. LATC is considering following options:
 - Manufacture the doll itself
 - Subcontract the work to another firm at a cost of \$8 each to LATC
 - Look for another product more in line with its capabilitiesWhat is your advice to LATC? Justify your answer.
3. If LATC decides to manufacture itself, what process they should adopt?
4. What other factors should LATC consider while taking its decision?