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) PAPER No. 8 (enrolment code - CPM, CPS)

Operations Management

Date: 19.12.2024 Time : 10.00 am to 1.00 pm

Max. Marks : 70 Duration : 3 Hrs.

Instructions:

1. From Part A – answer all questions (compulsory). Each sub questions carries 1 mark. Total: 20 Marks 2. From Part B - Answer any 3 questions out of 5 questions. Each question carries 10 marks. Total :30 Marks

3. Part C is a case study (compulsory) with questions. Read the case study carefully and answer the questions Total: 20 Marks

	Part –	Α	[20 Marks]		
(Attem) lect the right answer f Operations Strategy is	pt all questions. Eac from the given option astrategy	h sub question carriens.	es 1 mark.) [5 marks]		
(i) Functional level	(ii) Business level	(iii) Corporate level	(iv) Divisional level		
All of the following are	phases of project life o	cycle EXCEPT			
(i) Planning	(ii) Execution	(iii) Controlling	(iv) Stability		
c) "Services" cannot be stored. This is a feature of of service characteristics.					
(i) Perishability	(ii) Heterogeneity	(iii) Inseparability	(iv) Intangibility		
In which type of facility	layout, the machines	are placed based on th	neir functions?		
(i) Product Layout	(ii) Process Lay	yout (iii) Fixed position	Layout (iv) Hybrid Layout		
Cost consideration is u	sed in the	model for facility loc	ation decision		
(i) Factor rating	(ii) Load-distance	(iii) center of gravity	(iv)Weighted factor rating		
	(Attem lect the right answer f Operations Strategy is (i) Functional level All of the following are (i) Planning "Services" cannot be (i) Perishability In which type of facility (i) Product Layout Cost consideration is u (i) Factor rating	Part – (Attempt all questions. Eac lect the right answer from the given option Operations Strategy is a strategy (i) Functional level (ii) Business level All of the following are phases of project life of (i) Planning (ii) Execution "Services" cannot be stored. This is a featu (i) Perishability (ii) Heterogeneity In which type of facility layout, the machines (i) Product Layout (ii) Process Lay Cost consideration is used in the	Part – A (Attempt all questions. Each sub question carried Iect the right answer from the given options. Operations Strategy is a		

Q2 Match the following -

Q2 Match the following –			[5 marks]
	Column A		Column B
1.	Master Production Schedule	Α	Taguchi method
2.	Design for robustness	В	Labor intensive
3.	Factor rating method	С	Time phased plan for producing goods
4	Mass services	D	Assembly lines
5	Line balancing	E	Facility location

Q3 Write the full form of -

a) CRP b. ICT c. TOC d. SPT e. TSP

Q4 State "true" or "False"

- a) Efficiency and Effectiveness mean the same thing.
- b) Bill of Materials is an input for Material Requirement Planning
- c) Cost incurred for inspection of a product during processing is an example of cost of prevention
- d) The critical path method is a probabilistic model.
- e) Throughput time is also referred to as lead time



[5 marks]

Dec 2024

PART B

[30 marks]

(Attempt any 3. Each question carries 10 marks)

a)	Discuss the main functions of Operations Management.	[5 marks]
b)	What factors influence operations strategy?	[5 marks]

Q 6

Q 5

- 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) Explain with a neat diagram, the classification of service processes on the basis of Service Process Matrix. Illustrate your answer with suitable examples of services falling in each quadrant.

[5 marks]

- a) What factors would you take into account while considering capacity planning for your organization? [5 marks]
- b) Compare and contrast process layout with product layout. Which type of layout would be preferred for a company making made-to-order products? Why? [5 marks]

Q 8

Q 7

- a) Explain the relevance of Quality Function Deployment as a quality improvement process[5 marks]
- b) Facility location is one of the crucial decisions of an organization as it affects the delivery of goods and services. In this context, explain the role of break-even analysis in deciding the optimal facility location.

Q 9

- a) Operations Research (OR) is not an absolute method of making decisions. Discuss this statement and explain the framework proposed in OR to help in decision-making. **[5 marks]**
- b) Discuss the common methods of project scheduling and bring out the advantages and disadvantages of project scheduling. [5 marks]

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 capabilities
 - What 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?