

Indian Maritime University
(A Central University, Govt of India)
End Semester Examinations – December 2025
Programme Name: MBA (ITL/PSM)
Semester: I
Subject Code: - PG22/21T4106
Subject Name: OPERATION MANAGEMENT

Date: 17.12.2025

Max Marks: 60

Duration: 03 Hrs

Pass Marks: 30

General Instructions

- (i) All Sections (A, B & C) are to be attempted.
(ii) Options, if any, are specified in respective section.

Section A

Ten MCQs/Fill in the Blanks of 01 Mark each – Choose the correct answer as applicable.

1. Select the following which belongs to demand-based planning option?
[a] Backorder [b] Subcontracting [c] Hiring [d] Overtime
2. Make a sales forecast by using exponential smoothing with $\alpha = 0.4$ for the month of March if February forecast is 30,000 and actual is 22,000.
[a] 30,000 [b] 26,800 [c] 22,000
[d] 25,200
3. In distance measures, the following is the straight-line or shortest path possible between two points:
[a] Euclidean [b] Rectilinear [c] Manhattan [d] Gresham
4. Shipbuilding and large aircraft manufacture use the following layout:
[a] Fixed position layout [b] Process Layout [c] Product layout
[d] Cell layout
5. The following analysis divides the inventory based on the dollar usage:
[a] VED [b] FNSD [c] ABC [d] XYZ
6. The following indicates quantity accepted and quantity received for making appropriate payments:
[a] Provisional Goods Inward Note [b] Materials Received Report
[c] Final Goods Inward Note [d] Work order

7. Work study uses the following to trace and measure the path of workers, material or equipment during a specified sequence of events:

- [a] Simo chart [b] Two-handed process chart [c] Process Flow Chart
[d] String diagram

8. Which of the following is used to see whether a process is generating output, on average, consistent with a target value is called:

- [a] R-Chart [b] x-bar chart [c] p-chart
[d] c-chart

9. The output of a service process is characterised by:

- [a] Low customer contact [b] High customer contact
[c] Capital intensive [d] Physical

10. Choose the law which relates the number of customers in a waiting-line system to the arrival rate and waiting time of customers.

- [a] Engel's Law [b] Gresham's Law [c] Say's Law
[d] Little's Law

Section B

Five Questions of 02 Marks each

11. Calculate the Net Present Value for the following cash flows from an initial investment of USD 60,000 with a discount rate of 10 per cent:

- In Year 1, the incremental cash flow is \$45,000
In Year 2, the incremental cash flow is \$75,000

12. What are the FIVE dominant factors in determining a manufacturing location?

13. List FIVE common inventory reduction tactics.

14. Mention FOUR types of allowance factors added to the basic time to account for legitimate time losses and ensure realistic work standards.

15. Mention FIVE benefits of service blueprinting.

Section C

Seven Questions of 8 Marks each of which any 05 questions to be answered.

16. (i) Distinguish between design capacity and effective capacity. (ii) Explain the features of chase strategy and mention to which type of goods it is suitable.

17. (i) Describe with diagrams FOUR patterns of Time Series data. (ii) Explain Delphi method by differentiating it from Expert Opinion.

18. Explain (i) two methods to determine location decisions and (ii) the features of process layout.

19. (i) Describe how ABC and XYZ analysis are used in Inventory control. (ii) Explain how firms perform tight inventory control by combining these two methods.

20. (i) Outline the procedures followed in Identification, Receipt and Issues systems in stores management including the notes and other documents used. (ii) Describe THREE approaches in costing of materials consumed.

21. Explain along with formulas to compute the (i) control chart for variables and (ii) control chart for attributes

22. (i) Describe different types of service facilities based on channels and phases with suitable example. (ii) List the key characteristics of Waiting Line Models.

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