PRESIDENCY UNIVERSITY

BENGALURU

End - Term Examinations – MAY 2025
Date: 23-05-2025   **Time:** 09:30 am – 12:30 pm

School: SOM-PG	**Program:** MBA	
Course Code : MBA2040	**Course Name:** Production and Logistics Management	
Semester: II	**Max Marks**: 100	**Weightage**: 50%

CO - Levels	CO1	CO2	CO3	CO4	CO5
Marks	25	25	25	25	-

Instructions:

(i) Read all questions carefully and answer accordingly.

(ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 3marks.   **10Q x 3M=30M**

1.	How does the Least Cost Method (LCM) differ from the North West Corner Rule (NWCR) in allocating transportation costs?	3 Marks	L1	CO1
2.	Describe what a Bill of Materials (BOM) is and its significance in manufacturing.	3 Marks	L1	CO1
3.	Identify and list down the five key inputs required for running an MRP (Materials Requirement Planning).	3 Marks	L1	CO1
4.	What is the "Seven R's" concept in logistics management, and what does it aim to achieve?	3 Marks	L1	CO1
5.	What are the four primary types of production planning and control systems, and provide an example for two of them?	3 Marks	L1	CO1
6.	Regent Construction Company has a staff of 5, each working 8 hours per day (for a payroll cost of $ 600/ day) and overhead expenses of $ 250 / day. This company processes and closes on 8 titles each day. The company recently purchased a computerized title search system that will allow the processing of 17 titles per day. Although the staff, their working hours, and pay will be same, the overheads expenses are now $ 9000 per day. a) Compute the labor productivity with the old system (in titles / hour).	3 Marks	L2	CO2

	b) Compute the labor productivity with the new system (in titles / hour).			
7.	Explain the ABC analysis method for inventory classification. How does it help in managing inventory more effectively?	3 Marks	L2	CO2
8.	List and explain at least five factors that influence plant location selection for manufacturing facilities.	3 Marks	L2	CO2
9.	Define 4PL logistics and explain how it differs from 3PL.	3 Marks	L2	CO2
10.	If a company has an annual demand of 15,000 units, a cost per order of $60, and a carrying cost per unit of $3, calculate the EOQ.	3 Marks	L2	CO2

Part B

Answer the Questions. **Total Marks 40M**

11.	a.	What are the different modes of transportation used in logistics? Discuss the advantages and disadvantages of each mode.	10 Marks	L2	CO 1
		Or			
12.	a.	How can organizations use forecast error analysis to improve their forecasting processes over time? Provide specific strategies or practices.	10 Marks	L2	CO 1

13.	a.	A company wants to partner with a third-party logistics provider (3PL). List five critical criteria it should consider during the selection process.	10 Marks	L2	CO 2
		Or			
14.	a.	How does inventory control impact warehouse operations? Discuss common inventory control techniques used in warehouses.	10 Marks	L2	CO 2

15.	a.	What role do 4PL providers play in supply chain management? How do they add value beyond traditional logistics services?	10 Marks	L3	CO 2
		Or			
16.	a.	Compute Forecasting and Forecasting errors with formulas for the given sales data calculate the sales forecast for the year 2025 based on three-year simple moving average method. write all steps. Calculate MAD, MSE and MAPE	10 Marks	L3	CO 2

Year	2017	2018	2019	2020	2021	2022	2023	2024	2025
Actual Sales	570	600	450	550	475	400	500	650	
Forecast	450	700	550	450	425	600	575	500	

17.	a.	Under what circumstances should a company choose in-house logistics over outsourcing? Provide examples where each model would be more beneficial.	10 Marks	L3	CO 2
		Or			

18.	a.	Explain in detail the six steps of Warehousing Process. What are the key activities in each of the step. How will an effective Warehouse management will reduce costs and enhance customer experience?	10 Marks	L3	CO2

Part C

Answer all the Questions. Each question carries 15marks   **2Q x 15M=30M**

19.	a.	ABC Classification for Manufacturing Components: 1. Calculate the annual consumption value for each item. 2. Classify into A (top 80% of total value), B (next 15%), and C (remaining 5%)	15 Marks	L3	CO4

Item Number	Annual Usage (units)	Unit Cost ($)
Item_1	526	39
Item_2	434	18
Item_3	565	32
Item_4	689	10
Item_5	519	24
Item_6	427	14
Item_7	935	38
Item_8	944	46
Item_9	252	16
Item_10	454	46
Item_11	643	5
Item_12	579	32
Item_13	210	45
Item_14	925	44
Item_15	456	41

20.	a.	Solve the following transportation problem using the Northwest Corner Method AND Least Cost Method. Suggest which method is cost effective?	15 Marks	L3	CO4

		Distribution Centres				
		D1	D2	D3	D4	Supply
SOURCES	S1	15	13	6	2	425
	S2	12	9	7	1	450
	S3	3	10	5	6	375
	Demand	275	325	275	375	1250