



PRESIDENCY UNIVERSITY

BENGALURU

Roll No.														
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End - Term Examinations – May / June 2026

Date: 23- 05- 2026

Time:09:30am – 12:30pm

School: SOIS-PG	Program: MCA	
Course Code : MEC3251	Course Name: Supply Chain Management	
Semester: IV	Max Marks: 100	Weightage: 50%

CO - Levels	C01	C02	C03	C04	C05	C06
Marks	14	14	14	12	22	24

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 2marks.

10Q x 2M=20M

1.	State any four objectives of Supply Chain Management.	2 Marks	L1	C01
2.	What do you mean by push pull boundary?	2 Marks	L2	C01
3.	Name any four organizations that have leveraged distribution strategies to improve their business performance.	2 Marks	L1	C02
4.	What is the role of demand forecasting in supply chain network design?	2 Marks	L2	C02
5.	Name any two qualitative forecasting methods.	2 Marks	L1	C03
6.	What do you mean by forecast error?	2 Marks	L2	C03
7.	List the different modes of freight transportation.	2 Marks	L1	C04
8.	What do you understand by the term 'logistics sourcing'?	2 Marks	L2	C05
9.	Differentiate between virtual reality and augmented reality.	2 Marks	L2	C06
10.	How do sensors and IoT devices help in supply chain digitalization?	2 Marks	L2	C06

Part B

Answer the Questions.

Total Marks 80M

11.	a.	Consider any service industry of your choice. For the selected case, describe the various stages involved in its supply chain and illustrate them with a suitable schematic diagram.	10 Marks	L2	CO1										
Or															
12.	a.	Explain the primary drivers that shape supply chain performance and illustrate how each driver affects both efficiency and responsiveness.	10 Marks	L2	CO1										
Or															
13.	a.	Apply appropriate distribution network strategies to a real-world logistics scenario by illustrating and explaining the following designs using suitable diagrams: (i) Manufacturer storage with direct shipping and in-transit merge (ii) Manufacturer/Distributor storage with customer pickup	10 Marks	L3	CO2										
Or															
14.	a.	Apply the four-phase framework of supply chain network design to a assumed scenario by drawing the framework and explaining how each phase contributes to developing an effective supply chain structure.	10 Marks	L3	CO2										
Or															
15.	a.	The sales details of the car model of 'Venus' manufactured by the car maker JUDO for the past 5 months is given below: <table border="1" style="margin: 10px auto; width: 80%;"><tr><td>Jan 2025</td><td>Feb 2025</td><td>Mar 2025</td><td>Apr 2025</td><td>May 2025</td></tr><tr><td>8540</td><td>7920</td><td>8205</td><td>9722</td><td>8890</td></tr></table> Based on the past data, estimate the demand for the month of June 2024 using both the methods of Moving average and Exponential smoothing. Assume the value of smoothing constant as 0.2. Also, calculate the forecast error for both the methods, if the company realized the actual sale as 8720 in the month of June 2025.	Jan 2025	Feb 2025	Mar 2025	Apr 2025	May 2025	8540	7920	8205	9722	8890	10 Marks	L3	CO3
Jan 2025	Feb 2025	Mar 2025	Apr 2025	May 2025											
8540	7920	8205	9722	8890											
Or															
16.	a.	A home appliance retailer sells a popular model of microwave oven with a steady demand of 2,400 units per month. Every time the retailer places an order, a fixed ordering cost of \$2,200 is incurred. Each microwave oven costs \$250, and the retailer faces an annual holding cost rate of 18% of the unit cost. Determine the Economic Order Quantity (EOQ) and the total annual cost.	10 Marks	L3	CO3										

17.	a.	Apply your understanding of waterways as a mode of freight transport to a real-world logistics scenario and explain their role by outlining the major merits and demerits in practical operations.	10 Marks	L3	CO4
Or					
18.	a.	In a given logistics scenario, apply your understanding of railway transport to demonstrate its role and discuss the major advantages and limitations in practical operations.	10 Marks	L3	CO4
Or					
19.	a.	In a real-world e-commerce scenario, apply IT-enabled logistics solutions to resolve issues related to delayed deliveries and incorrect shipments using appropriate technologies.	20 Marks	L3	CO5
Or					
20.	a.	Consider a real-world transportation procurement case and apply auction mechanism to select carriers, explaining their influence on pricing and service outcomes.	20 Marks	L3	CO5
Or					
21.	a.	Analyze a food supply chain to examine how blockchain and additive manufacturing (3D printing) can enhance traceability, transparency, and trust at different stages, using suitable real-world examples.	20 Marks	L4	CO6
Or					
22.	a.	Analyze existing challenges in logistics operations and examine how autonomous vehicles address issues related to efficiency, accuracy, safety, and operational effectiveness.	20 Marks	L4	CO6