

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI  
(MID SEMESTER EXAMINATION)

CLASS: BTECH  
BRANCH: PIE

SEMESTER : VII  
SESSION : MO/2025

SUBJECT: PE411 SUPPLY CHAIN MANAGEMENT

TIME: 02 Hours

FULL MARKS: 25

**INSTRUCTIONS:**

1. The question paper contains 5 questions each of 5 marks and total 25 marks.
  2. Attempt all questions.
  3. The missing data, if any, may be assumed suitably.
  4. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates
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		CO	BL
Q.1(a) Write any two disadvantages of Decentralized Supply Chains.	[2]	1	2
Q.1(b) What is 'Inventory Turnover'? Justify it as a supply chain KPI.	[3]	1	3
Q.2(a) How important is 'economies of scale (EoS)' in supply chain decisions. Briefly explain.	[2]	1	3
Q.2(b) The fundamental trade-off that managers face when making inventory decisions is between responsiveness and efficiency. Discuss.	[3]	2	3
Q.3(a) What do you mean by IT-driven models of supply chain?	[2]	2	2
Q.3(b) Briefly write about the three cross-functional and three logistical drivers of supply chain.	[3]	2	2
Q.4(a) Describe the relationship between Transportation Costs and Number of Facilities in a supply chain.	[2]	1	2
Q.4(b) Discuss about the distribution model 'Manufacturer Storage with Direct Shipping and In-Transit Merge' and various causes behind its popularity.	[3]	2	3
Q.5(a) Give the justification for 'cross-docking'.	[2]	3	2
Q.5(b) Describe the various steps of the Sweep method of solving a vehicle routing problem (VRP).	[3]	3	3

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