

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI  
(END SEMESTER EXAMINATION)**

**CLASS: BTECH  
BRANCH: PROD & INDUSTRIAL ENGINEERING**

**SEMESTER : VII  
SESSION : MO/2025**

**SUBJECT: PE411 SUPPLY CHAIN MANAGEMENT**

**TIME: 3 Hours**

**FULL MARKS: 50**

**INSTRUCTIONS:**

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
  2. Attempt all questions.
  3. The missing data, if any, may be assumed suitably.
  4. Before attempting the question paper, be sure that you have got the correct question paper.
  5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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		CO	BL
Q.1(a)	Construct a supply chain model configuration for a hypothetical soft drink producer.	[5]	1 3
Q.1(b)	What Is Supply Chain Modeling? Discuss about various types of it.	[5]	1 2
Q.2(a)	How to decide optimum number of warehouses? Plot a cost verses number of warehouse to explain it.	[5]	2 4
Q.2(b)	Describe about various classes of vehicle routing problem (VRP).	[5]	2 2
Q.3(a)	What are the three building blocks or strategies of logistics network design? Briefly discuss about each.	[5]	3 2
Q.3(b)	Present a comparison among 3PL, 4PL and 5PL service providers using salient points.	[5]	3 2
Q.4(a)	Mention the steps for Strategic Sourcing Process and briefly explain each step.	[5]	4 3
Q.4(b)	What is Bullwhip effects? Discuss major factors that contributes to it.	[5]	4 3
Q.5(a)	Explain the concept of De-coupling point in a supply chain with the help of a figure to understand a Leagile supply chain.	[5]	5 4
Q.5(b)	Mention and briefly explain any FIVE green practices in supply chain management.	[5]	5 2

:::24/11/2025:::M