

04/06/2025 BE MECHANICAL SEM-VII C-SCHEME QP CODE: 10080993

Time: 3 Hours

Max. Marks: 80

Note :

- Question no.1 is compulsory.
- Solve any three questions from the remaining five questions.
- Figure to the right indicates full marks.
- Assume suitable data wherever required, but justify the same.

Marks

- Q. 1** Solve any four of the following five questions
(Each question carries 5 marks): **20**
- Summarize the concepts of Contract Management and Non-Disclosure agreement and their importance with the help of suitable examples.
 - Explain the method of ABC analysis used for selective inventory control.
 - Contrast the different types of transport methods used in Logistics.
 - Differentiate between TMS and WMS with the help of diagram.
 - List the six different types of distribution network designs and show their working with the help of neat sketches.
- Q. 2** **a)** Illustrate the six stages of supply chain and show their contributions to increasing the value of the Supply Chain with the help of a neat diagram. Also show the importance of Money, Information and Material flow in a suitable Supply Chain case study. **10**
- b)** Summarize the concept, causes and categories of Supply Chain Risk management in detail. **10**
- Q. 3** **a)** Summarize the concept of Bullwhip effect and list the factors responsible for its reduction. **5**
- b)** Define the concept of MOQ and list its benefits using suitable examples. **5**
- c)** Summarize the concept of ABC analysis used for selective inventory control, using a suitable case study. **10**
- Q. 4** **a)** Define outsourcing, list its types and explain and compare the 3PL and 4PL concepts in supply chain. **10**
- b)** Differentiate between P system and Q system in inventory control. **5**
- c)** A company has a demand of 12000 units per year for an item and it can produce the items at a unit cost of Rs. 120. The cost of one setup is Rs. 400 and the holding cost per unit per month is Rs. 0.15. Determine the optimum lot size and total cost per year. **5**
- Q. 5** **a)** Define CSR and recall the initiatives and actions done under CSR. **10**
- b)** List the different mathematical models used in SCM and recall their important points. **10**
- Q. 6** **a)** List the Key issues in SCM and explain the four process cycles of Supply Chain using neat sketches. **10**
- b)** Summarize the Role of IT in a supply chain. **10**