



## P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belgaum)

**Seventh Semester, B.E. - Industrial and Production Engineering**

**Semester End Examination ; Dec. - 2014**

**Supply Chain Management**

*Time: 3 hrs*

*Max. Marks: 100*

*Note: Answer FIVE full questions selecting at least TWO full questions from each part.*

### PART - A

1. a. What are the stages of supply chain? Explain with the block diagram the stages of a detergent supply chain. 10
- b. Explain with the help of a block diagram supply chain decision making frame work for structuring drivers and briefly explain the obstacles to achieve this. 10
2. a. What are the factors influencing distribution network design. Explain distribution network design. Explain with a suitable example. 10
- b. Explain the following factors influencing the network design decision. 10
  - (i) Strategic factors
  - (ii) Macro economic factors.
3. a. Explain the network optimization model for facility location. 10
- b. Explain the procedure for evaluation network design decisions using decision trees. 10
4. a. Derive an expression for Economic order quantity and clearly state assumptions made. Write an expression for total yearly cost. 10
- b. Explain briefly the following concept of supply chain (i) Managerial levers to improve supply chain profitability (ii) Replenishment policies on safety inventory. 10

### PART - B

5. a. Explain briefly the role of sourcing and transportation in a supply chain. 10
- b. Explain with the help of a suitable illustration any two types of contracts used in supply chain performance. Enhancement. 10
6. a. Explain in detail the modes of transportation and their performance and their performance characteristics in the supply chain management. 10
- b. Explain the following concepts of supply chain management. 10
  - (i) Revenue management for perishable assets
  - (ii) Dynamic pricing with example.
7. a. Explain the concept of bullwhip effect and discuss its role in the coordination in the supply chain. 10

- b. Explain with an example the ways of building strategic partnership and briefly discuss the obstacles. 10
- 8 a. Explain the role of IT supply chain and discuss its characteristics. 10
- b. Explain the following emerging concepts in supply chain.
  - (i) Lean supply chain 10
  - (ii) Six Sigma in supply chain.

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