



B.E DEGREE EXAMINATIONS: NOV/DEC 2023

(Regulation 2018)

Seventh Semester

AERONAUTICAL ENGINEERING

U18AET7002: Aviation Logistics and Supply Chain Management

COURSE OUTCOMES

CO1: Describe the role of logistics in a market-oriented society.

CO2: Explain the objectives, types, drivers, and other important factors of supply chain management.

CO3: Discuss the types of airports and demonstrate supply chain management and its relevance to today's global business decision making.

CO4: Describe the role of cargo handling agents and cold chain business.

CO5: Recognize the role of cargo security, risks involved, trends and technology in aviation logistics.

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 2 = 20 Marks)

(Answer not more than 40 words)

- | | | |
|---|-----|-------------------|
| 1. Distinguish between inbound and outbound logistics. | CO1 | [K ₂] |
| 2. What is the role of the HR manager in a logistics company? | CO1 | [K ₁] |
| 3. Name the drivers of supply chain management. | CO2 | [K ₁] |
| 4. Define supply chain integration. | CO2 | [K ₁] |
| 5. List down the various types of airports. | CO3 | [K ₁] |
| 6. Define Globalization. | CO3 | [K ₁] |
| 7. Differentiate between general cargo and special cargo. | CO4 | [K ₂] |
| 8. What is the difference between cold storage and cold chain? | CO4 | [K ₂] |
| 9. Expand the following terms | CO5 | [K ₁] |
| i. AERA | | |
| ii. BCAS | | |
| 10. State the environmental effects of freight with respect to Air transport. | CO5 | [K ₁] |

Answer any FIVE Questions:-

PART B (5 x 16 = 80 Marks)

(Answer not more than 400 words)

- | | | | |
|---|----|-----|-------------------|
| 11. a) Compare the various modes of transportation for the movement of goods. | 8 | CO1 | [K ₃] |
| b) Write short notes on | 8 | CO1 | [K ₃] |
| i. Third party logistics (3PL) | | | |
| ii. Fourth party logistics (4 PL) | | | |
| 12. With a suitable example discuss the goal of the supply chain and explain the impact of supply chain decisions on the success of the firm. | 16 | CO2 | [K ₃] |
| 13. a) Briefly explain the various requirements of an airport. | 8 | CO3 | [K ₃] |
| b) What are the functions of the following regulatory bodies in India? | 8 | CO3 | [K ₂] |
| i. DGCA | | | |
| ii. AAI | | | |

- | | | | | | |
|-----|------|---|----|-----|-------------------|
| 14. | a) | Explain the important factors of cold storage and cold chain business with suitable examples. | 8 | CO4 | [K ₃] |
| | b) | Select an aviation-based company and identify the various roles a cargo handling agent plays. | 8 | CO4 | [K ₃] |
| 15. | a) | Explain any four types of risks associated with air cargo security. | 8 | CO5 | [K ₃] |
| | b) | Describe the current trends and technologies adopted in SCM. | 8 | CO5 | [K ₂] |
| 16. | | <p>Read the following case and answer briefly the questions at the end.</p> <p>The Brazilian Aircraft Manufacturer's Turnaround and Growth :</p> <p>Brazil-based Embraer was the fourth-largest aircraft manufacturer in the World behind Airbus, Boeing, and Bombardier Aerospace. Embraer was set up as a government company in 1969, and privatized in 1994.</p> <p>This case examines Embraer's turnaround and growth after its privatization. It discusses the steps taken by Mauricio Botelho (who became the CEO after the privatization) to return the company to profitability, as well as his handling of various strategic and human resource issues during and after the turnaround. The case then explores Embraer's entry into the regional jet market, where it had to compete against Canadian aircraft major Bombardier. It also talks about Embraer's use of international strategic alliances to gain expertise in aircraft manufacture, and its aggressive marketing of its new regional jets to various airlines.</p> <p>A section of the case discusses the various facets of Embraer's competition with Bombardier in the regional passenger jet market. The implications of the dispute between the two companies – which went before the WTO – and its impact on the political and economic relations between their home countries are also mentioned. The rest of the case includes a commentary on Embraer's future prospects, where issues like airline scope clauses, the resurgence of turboprops in the early 2000s, Embraer's problems with its E-Jets, and the company's excessive dependence on revenues from the export of passenger jets are discussed. The case ends with a description of Embraer's restructuring efforts in early 2006, including the company's new capital structure.</p> | 16 | CO4 | [K ₄] |
| | i. | State the differences in the business environments of developing and developed countries. | | | |
| | ii. | Analyze the competitive advantages and disadvantages of an aircraft manufacturer based in a developing country. | | | |
| | iii. | What is the role of strategic alliances and international partnerships in a highly competitive and technology-intensive industry? | | | |
