

**Seventh Semester B.E./B.Tech. Degree Examination, Dec.2024/Jan.2025**  
**Air Traffic and Weather**

Time: 3 hrs.

Max. Marks: 100

**Note: Answer any FIVE full questions, choosing ONE full question from each module.**

**Module-1**

- 1 a. With a neat sketch, explain about the different layers of Earth's atmosphere. (10 Marks)
- b. Briefly explain about the different local and small scale winds encountered in weather. (10 Marks)

**OR**

- 2 a. What is latent heat? Elucidate the role of latent heat in the change of state of substance. (10 Marks)
- b. Illustrate the life cycle and movements of a cyclone caused by frontal waves with a neat diagram. (10 Marks)

**Module-2**

- 3 a. Describe the factors causing turbulence in an aircraft weather with a neat sketch. (10 Marks)
- b. Explain with neat diagram the effect of icing on aircraft instruments and engine parts. (10 Marks)

**OR**

- 4 a. With a relevant diagram, explain in brief about the stages of lifecycle progress in a thunderstorm cell. (10 Marks)
- b. Write a note on different weather phenomena associated with high altitude weathers. (10 Marks)

**Module-3**

- 5 a. Give a brief description about day to day problems faced by the Air Traffic control system. (10 Marks)
- b. What is Airport capacity? Discuss the various factors affecting airport capacity. (10 Marks)

**OR**

- 6 a. Briefly describe the types and working of Ground Delay Programs (GDP) in air traffic management. (10 Marks)
- b. Illustrate the overview of Time-Based Flow Management (TBFM) used in Air traffic. (10 Marks)

**Module-4**

- 7 a. Elucidate the different weathers information tools used in making traffic management decisions. (10 Marks)
- b. Discuss the Severe Weather Avoidance Plan (SWAP) used in the ATC system. (10 Marks)

**OR**

- 8 a. Write short note on : i) Routes ii) Coded Departure Routes (CDR) iii) National Playbook. (10 Marks)
- b. Illustrate the concept and operation of Global air traffic management. (10 Marks)

**Module-5**

- 9 a. List the basic technologies used in air traffic control systems. Describe in detail. (10 Marks)
- b. Give brief discussion about purpose and features of Aviation call signs. (10 Marks)

**OR**

- 10 a. Describe about the modes used for privatization of ATC service providers. (10 Marks)
- b. Discuss and describe about METAR for reporting weather informations. (10 Marks)

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