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**Sixth Semester B.E. Degree Examination, Dec.2024/Jan.2025**  
**History of Flight and Technology Forecast**

Time: 3 hrs.

Max. Marks: 100

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

**Module-1**

- 1 a. Write a short notes about Ornithopters design by Leonardo Davinci and Hot air ballon flight with sketch. (10 Marks)
- b. Write short notes about sir George Cayley and his contributions in the field of aviation. (10 Marks)

**OR**

- 2 a. Explain the contribution made by "The Glider Man". (10 Marks)
- b. Explain about the development in the Interregnum period (1853 to 1891). (10 Marks)

**Module-2**

- 3 a. Write about "The Aeronautical Triangle" and explain their contributions. (10 Marks)
- b. Draw the two views of Wright tye A concept developed in 1908. (10 Marks)

**OR**

- 4 a. Draw and explain about typical flight velocity and flight altitude Improvement over the years. (12 Marks)
- b. Explain about the problem of propulsion happed in 19<sup>th</sup> century. (08 Marks)

**Module-3**

- 5 a. Draw neat sketch of typical passenger aircraft and explain its components and their functions. (10 Marks)
- b. Explain the different types of flying vehicles. (10 Marks)

**OR**

- 6 a. Draw and explain about primary control systems of an aircraft. (10 Marks)
- b. Write about secondary control systems in an aircraft and its importance. (10 Marks)

**Module-4**

- 7 a. Draw and explain about general types of construction for fuselage of an aircraft. (10 Marks)
- b. Write about metallic and non-metallic materials used in aircraft and their applications. (10 Marks)

OR

- 8 a. Define the following :  
i) Stress ii) Strain iii) Hooke's law iv) Poisson's Ratio v) Elastic constant. (10 Marks)
- b. Draw and explain stress – strain curve. (10 Marks)

**Module-5**

- 9 a. Explain the operation of Turbojet engine with the help of PV and T-S diagram. (10 Marks)
- b. Draw and explain the operation of RAMJET and Scramjet engine. (10 Marks)

OR

- 10 a. Compare the merits and demerits of piston engine and Jet engines. (10 Marks)
- b. Write about the principles of operation of Rocket and its types. (10 Marks)

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