

CBCS SCHEME

15AE561

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Fifth Semester B.E. Degree Examination, June/July 2023 History of Flight and Technology Forecast

Max. Marks: 80

Time: 3 hrs.

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

Module-1

- 1 a. Discuss the early developments of aircrafts with examples. (06 Marks)
b. Write the contribution of Sir George Cayley to the field of aeronautics in detail with necessary illustrations. (10 Marks)

OR

- 2 a. Write a short note on OTTO LILENTHAL – The glider man. (08 Marks)
b. Explain briefly the extension of the glider tradition by Percy Pilches. (08 Marks)

Module-2

- 3 Discuss about the first practical Airplane invented by Wilbur weight and Orville weight. (16 Marks)

OR

- 4 a. Describe the biplane and monoplane aircrafts with neat sketch. (08 Marks)
b. Write a short notes on development of aircrafts with respect to (i) Aerodynamic (ii) Structures (iii) Propulsion (iv) Materials (08 Marks)

Module-3

- 5 Classify and explain different types of flight vehicles. (16 Marks)

OR

- 6 Explain the main components of the aircraft with a neat sketch. (16 Marks)

Module-4

- 7 Explain Hooke's law with the supporting graph and sketch. (16 Marks)

OR

- 8 Explain the following : (16 Marks)
a. Monocoque
b. Semi monocoque
c. Geodesic construction
d. Metallic and non-metallic material

Module-5

- 9 a. What is the difference between rocket propulsion and jet propulsion? Can rocket work in vacuum? (04 Marks)
b. Describe briefly the basic ideas about turboprop and turbojet engines with comparative merits and applications. (12 Marks)

OR

- 10 a. Classify rockets engines and explain the principle of rockets. (04 Marks)
b. Explain with neat sketch the solid rocket propulsion engine and liquid rocket propulsion engine with applications. (12 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and/or equations written eg, 42+8 = 50, will be treated as malpractice.