

# CBCS SCHEME

USN

|  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|

18AE/AS651

## Sixth Semester B.E. Degree Examination, July/August 2022 History of Flight & 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. With relevant figure, briefly explain about the ornithopters. (10 Marks)  
b. Write a short note on Balloon flight. (10 Marks)

OR

- 2 a. Write short note on:  
(i) The Glider man.  
(ii) The Interregnum. (10 Marks)  
b. Briefly explain the following:  
(i) The true inventor of Airplane.  
(ii) Extending the Glider tradition. (10 Marks)

### Module-2

- 3 a. Discuss briefly about the development of aircraft over the years. (10 Marks)  
b. Write short note on biplanes and monoplanes. (10 Marks)

OR

- 4 a. Explain the concept of aircraft triangle with relevant sketches. (10 Marks)  
b. Write short note on first practical approach on Airplane by Wright brothers. (10 Marks)

### Module-3

- 5 a. Draw a neat labeled sketch of an airplane, name its components and briefly explain about their functions. (12 Marks)  
b. Write a short note on conventional control. (08 Marks)

OR

- 6 Briefly explain the following:  
a. Powered control.  
b. Basic instrument for flying.  
c. Different types of flight vehicles.  
d. Control actuation. (20 Marks)

### Module-4

- 7 a. Briefly explain :  
(i) Monocoque.  
(ii) Semi monocoque.  
(iii) Geodesic constructions. (15 Marks)  
b. Briefly explain Hooke's law with relevant figure. (05 Marks)

OR

- 8 a. Write a short note on metallic and non metallic materials. (10 Marks)  
b. Discuss the importance and application of aluminium alloy in aircraft. (10 Marks)

**Module-5**

- 9 a. With relevant sketch, explain the working principles of operation of rocket. (10 Marks)  
b. List out the different types of rockets and explain about it with applications. (10 Marks)

OR

- 10 Write short note on:  
a. Piston engines.  
b. Jet engines.  
c. Turbo prop.  
d. Exploration into space. (20 Marks)

\* \* \* \* \*