

Register No.:

198

April 2024

Time – Three hours
(Maximum Marks: 100)

- [N.B. 1. Answer all questions under Part-A. Each question carries 3 marks.
2. Answer all the questions either (A) or (B) in Part-B. Each question carries 14 marks.]

PART – A

1. Write about the dynamics of an aircraft.
2. What is aircraft equilibrium?
3. What is aircraft navigation?
4. How to determine the position of an aircraft?
5. What are the components of radio navigation system?
6. What does ADF mean in aviation?
7. What is auto piloting?
8. Compare Stability augmentation system (SAS) and Control Augmentation system.
9. What is flight management?
10. What is weight and balance control in aircraft?

[Turn over.....

PART - B

11. (a) Illustrate the conditions and constraints to obtain aircraft equilibrium during flight.
(Or)
(b) Distinguish aircraft equation of motion and aircraft stability.
12. (a) Describe the basic concept of navigation process with control and guidance.
(Or)
(b) Discuss about the determination of aircraft positioning measurement and its geometric configuration.
13. (a) Explain about the different types of radio navigation in aviation?
(Or)
(b) Discuss about the aircraft navigation frequency spectrum used in ADF, VOR, LORAN, ILS and MLS.
14. (a) Distinguish Inertial Navigation System and Global Positioning System.
(Or)
(b) Discuss about longitudinal stability, lateral stability and directional stability of an aircraft.
15. (a) Discuss about the aerodynamic performance of an aircraft.
(Or)
(b) Discuss about the optimisation of fuel consumption using flight management system.
