Reg. No. : | | | | | | | | | | | | |

Question Paper Code : P 1014

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2009

Fifth Semester

Aeronautical Engineering

AE 1301 — FLIGHT DYNAMICS

(Regulation 2004)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Explain why streamlined bodies have less pressure drag compared to bluff bodies.

2. How is induced drag generated and how it is minimized in airplanes?

3. In straight and level flight plot the variation of L/D ratio with flight speed and explain.

4. What are the parameters that influence the Range of a Jet powered airplane?

5. Explain with a sketch the conditions under which an airplane descends in powerless glide so as to cover maximum horizontal distance.

6. What is the significance of Neutral point?

7. What is the need for aerodynamic balancing of a control surface?

8. Explain with an example how rolling and yawing are coupled.

9. What is phugoid motion?

10. Graphically (Displacement Vs Time) represent spiral divergence and briefly explain.