Code No: R05422101 **R05** **Set No. 4**

IV B.TECH II SEM – REGULAR / SUPPLEMENTARY EXAMINATIONS MAY -2010

AIRCRAFT SYSTEMS AND INSTRUMENTS

Aeronautical Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions

All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. Write short notes on the following: [16]
   (a) Pressure switches
   (b) Pressure regulators
   (c) Thermal relief valves
   (d) Accumulators.
2. Write short notes on the following: [16]
   (a) Oxygen masks.
   (b) Basic air-conditioning.
   (c) Fire extinguisher
   (d) Ventilation system.
3. Write short notes on the following: [4 × 4]
   (a) Mechanical type fuel quantity indicators
   (b) Oil pressure indicator
   (c) Tachometer
   (d) Exhaust temperature indicator.
4. Using a simple block diagram explain the Aero-engine performance and Health monitoring system of a modern airplane. [16]
5. (a) With the help of a neat sketch explain the working of the retractive system for landing gear assembly in an aircraft.
   (b) Describe the working principle of a pneumatic braking system employed in aircraft. [8+8]
6. Draw a comprehensive block diagram of a communication and navigation system and explain how safe en-route navigation is achieved. [16]
7. Write short notes on the following: [16]
   (a) Spark plugs.
   (b) Inertia starter.
   (c) High tension magneto system.

(d) Magneto ignition timing devices.

8. (a) What is the principle of operation of altitude alerting system. [8]
   (b) Explain the Q-code for altimeter setting as per ICAO. [8]

⋆ ⋆ ⋆ ⋆ ⋆