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10AE848

**Eighth Semester B.E. Degree Examination, June/July 2019**  
**Aircraft System and Instrumentation**

Time: 3 hrs.

Max. Marks: 100

**Note:** Answer any FIVE full questions, selecting atleast TWO questions from each part.

**PART - A**

- 1 a. What do you mean by flight control system? Explain with figures the primary and secondary flight control system. (14 Marks)  
b. Explain with a neat sketch, the mechanical flight control system. (06 Marks)
- 2 a. Explain with necessary diagrams, the hydraulic system components. (12 Marks)  
b. Write a detail note on pneumatic system used in an Aircraft. (08 Marks)
- 3 a. Explain the gravity feed system and pressure feed system, with neat sketches. (10 Marks)  
b. What are fuel pumps used for? Explain with neat sketches, the different types of fuel pumps. (10 Marks)
- 4 a. Explain Vapour Cycle system, with a neat diagram. (08 Marks)  
b. Explain Typical Anti - icing and De - icing system with figures. (12 Marks)

**PART - B**

- 5 a. Explain in detail both qualitative and quantitative displays under instruments. (14 Marks)  
b. Explain under grouping Flight instrument and power plant instruments. (06 Marks)
- 6 Explain the following with neat diagrams :  
a. Airspeed Indicator.  
b. Vertical speed Indicator.  
c. Mach meter.  
d. Altimeter. (20 Marks)
- 7 a. What do you mean by Attitude gyros? Explain with figures :  
i) Altitude Indicator ii) Heading Indicator. (12 Marks)  
b. What is Rate gyros? Explain Turn and Slip Indicators. (08 Marks)
- 8 Explain in detail the engine power and control instruments with necessary figures. (20 Marks)

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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.