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18EI641

Sixth Semester B.E. Degree Examination, July/August 2022 Aeronautical Instrumentation

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Compare between Quantitative and Qualitative displays. (02 Marks)
- b. What is Quantitative display? Explain the different types of Quantitative displays in Aircraft. (10 Marks)
- c. With a neat diagram, explain the working of Horizontal Situation Indicator. (08 Marks)

OR

- 2 a. With a neat schematic block diagram, explain the working of Air Data Computer. (10 Marks)
- b. What is Machmeter? Explain the working of Machmeter. (10 Marks)

Module-2

- 3 a. With a neat diagram, explain the working of Pneumatic type altimeter. (10 Marks)
- b. Explain the different types of 'Q' code for altimeter setting. (05 Marks)
- c. Explain Altitude, Elevation and height of an Aircraft, with a neat diagram. (05 Marks)

OR

- 4 a. With a neat diagram, explain the working of Mach Warning system in Air Data Warning System. (10 Marks)
- b. With a block diagram, explain the working of Airspeed Warning System. (10 Marks)

Module-3

- 5 a. What is Earth's Total Force? Explain the relationship between Magnetic components and dip. (08 Marks)
- b. With a neat diagram, explain the working of Compass Construction and Location. (12 Marks)

OR

- 6 a. Explain the different types of errors in Compass Construction. (10 Marks)
- b. With a neat block diagram, explain the working of Gyro Stabilized direction indicating system. (10 Marks)

Module-4

- 7 a. What is Gyroscope? Explain the working of Ring Laser Gyroscope with a neat diagram. (10 Marks)
- b. Explain the principle of Gyro Horizon, with a neat diagram. (10 Marks)

OR

- 8 a. With a neat diagram, explain the working of Pneumatic type of Gyro Horizon. (10 Marks)
- b. With neat sketches, explain the working of Gimbal errors in Aircraft. (10 Marks)

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.

Module-5

- 9 a. With a diagram, explain the working of synchronous transmission – type pressure indicating system. (10 Marks)
b. With a neat circuit diagram, explain the working of wheat stone bridge system. (10 Marks)

OR

- 10 a. What is Densitometer? Explain the working of Densitometer, with a neat diagram. (10 Marks)
b. What is Torque? Explain the working of Torque meter principle, with a diagram. (10 Marks)

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