2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice Important Note: 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.

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Eighth Semester B.E. Degree Examination, July/August 2021 Flight Testing

Time: 3 hrs.

Note: Answer any FIVE full questions.

Max. Marks:100

- a. Briefly explain the purpose and scope of flight testing, mentioning types of flight testing.

 (10 Mar)
 - Explain the sources of error related to flight testing and Techniques for minimizing them.
 (10 Marks)
- a. Explain system planning in flight test instrumentation.
 b. Briefly describe the instruments used for measuring pressure and temperature in flight testing.
- 3 a. Briefly explain the methods for in flight calibration of airspeed. (10 Marks)
 - b. Explain the climb performance test methods and data reduction techniques. (10 Marks)
- Explain the methods for determination of drag in flight including the advantages and disadvantages of each method. (20 Marks)
- Explain stick free static longitudinal stability and give the effect of aft mounted engines (or) propellers. (20 Marks)
- 6 a. Explain maneuvering, stability with respect to constant "g' method. (10 Marks)
 - b. Methods of improving Lateral stability through tabs and aerodynamics balance. (10 Marks)
- 7 a. Explain what do you understand by flying qualities of cooper harper pilot testing. (10 Marks)
 - b. Explain in detail MIL and FAR Regulations for flying qualities. (10 Marks)
- 8 a. Explain the flight test method for stall testing and the data requirement. (08 Marks)
 - b. Explain the effect of various airframe components is spin keeping the phases of spin in view.
 (12 Marks)

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