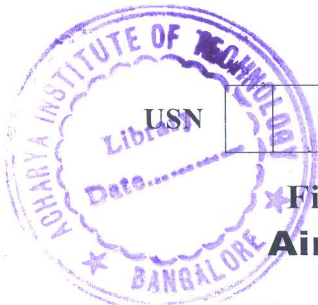


# CBCS SCHEME

17AE/AS554



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## Fifth Semester B.E. Degree Examination, July/August 2021 Aircraft Electrical Systems and Instrumentation

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions.

- 1 a. Describe the following :
  - i) Bell-crank levers
  - ii) idler levers
  - iii) nuisance
  - iv) 'Q' feel unit. (12 Marks)
- b. Where Tensiometer devices situated explain. (08 Marks)
- 2 a. With neat diagram, explain conventional linear actuator with autopilot interface. (10 Marks)
- b. Describe flight control surfaces that are hydraulically powered. (06 Marks)
- c. Describe redundancy. (04 Marks)
- 3 a. Explain brake control system functional elements with neat block diagram. (12 Marks)
- b. Describe advantages and disadvantages of hydraulic system. (08 Marks)
- 4 a. Explain a simple hydraulic system. (10 Marks)
- b. Describe the following :
  - i) orag stay
  - ii) lock roller
  - iii) spring struct
  - iv) touring pin hole
  - v) leg-lock micro switch. (10 Marks)
- 5 a. Explain engine ignition system with neat diagram. (10 Marks)
- b. Describe fuel system for piston engines. (10 Marks)
- 6 a. Explain various components of multi engines. (10 Marks)
- b. Explain the purpose of lubrication. (10 Marks)
- 7 a. Explain vapour cycle cooling system with neat labeled diagram. (10 Marks)
- b. Distinguish between air cycle system and vapour cycle system (10 Marks)
- 8 a. Describe the classes of fires that are likely to occur on board aircraft. (10 Marks)
- b. Explain evaporative air cycle system. (10 Marks)
- 9 a. Describe aneroid barometer principle. (08 Marks)
- b. Explain IAS, CAS, EAS and TAS. (12 Marks)
- 10 a. Explain elements of gyroscope with neat diagram. (12 Marks)
- b. Describe gyroscopic properties. (08 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.