CBCS SCHEME

USN | | | | | | | | | |

17AE/AS554

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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