

CBCS Scheme

USN

--	--	--	--	--	--	--	--	--	--

15AE554

Fifth Semester B.E. Degree Examination, Dec.2017/Jan.2018 Aircraft Electrical Systems and Instrumentation

Time: 3 hrs.

Max. Marks: 80

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

Module-1

- 1 a. Describe about the push pull rod and cable and pulley system with neat diagram. (08 Marks)
b. With neat diagram, discuss about power assisted and fully powered system. (08 Marks)

OR

- 2 a. Give detail description about FBW with suitable diagram. (08 Marks)
b. Describe about the three axis autopilot system. (08 Marks)

Module-2

- 3 a. Describe about the open centre and closed centre hydraulic system with suitable diagrams. (08 Marks)
b. List out the applications of pneumatic system and also explain about the low pressure pneumatic system with a figure. (08 Marks)

OR

- 4 Discuss about the landing gear systems and also give details about shock struts, torque links, orifice, axle and retraction system. (16 Marks)

Module-3

- 5 a. Give explanation about the fuel pump classification with neat diagrams and also explain about the fuel feed system. (10 Marks)
b. With a suitable diagram, explain about the turbofan engine and its components. (06 Marks)

OR

- 6 a. Explain about the starters and igniters used for Gas Turbine Engine. (08 Marks)
b. With a neat diagram, describe about the engine starting sequence. (08 Marks)

Module-4

- 7 a. Describe about the vapour cycle system with neat diagram. (08 Marks)
b. Explain about the indirect evaporative cooling system with clear illustration. (08 Marks)

OR

- 8 a. Write notes on the following:
(i) Continuous loop detector. (ii) Kidde system.
(iii) Systron Donner. (iv) Lindberg system. (08 Marks)
b. Discuss about pneumatic Boot De-icing system and Electro impulse ice protection system. (08 Marks)

Module-5

- 9 Discuss the operation and working principle of flight instruments like ASI, VSI, Mach meter and Altimeter with neat diagram. (16 Marks)

OR

- 10 Elucidate the working principle of engine instruments like Tachometer and pressure gauges with suitable diagrams. (16 Marks)

* * * * *

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank page.
2. Do not write answers in the margin of the question paper.
3. Do not use correction fluid or white out for corrections.
4. Do not use staples or paper clips for binding the question paper.
5. Do not use any other writing instrument like pencil, ball pen, etc. for writing answers.
6. Do not use any other writing instrument like pencil, ball pen, etc. for writing answers.
7. Do not use any other writing instrument like pencil, ball pen, etc. for writing answers.
8. Do not use any other writing instrument like pencil, ball pen, etc. for writing answers.
9. Do not use any other writing instrument like pencil, ball pen, etc. for writing answers.
10. Do not use any other writing instrument like pencil, ball pen, etc. for writing answers.