

Roll No.....

Total No. of Printed Pages: 1

Total No. of Questions: [09]

B. Tech. (Aeronautical Engg.) (Semester – 4th)
AIRCRAFT SYSTEMS AND INSTRUMENTATION
Subject Code: BANES1-404
Paper ID: [18110218]

Time: 03 Hours

Maximum Marks: 60

Instruction for candidates:

1. Section A is compulsory. It consists of 10 parts of two marks each.
2. Section B consist of 5 questions of 5 marks each. The student has to attempt any 4 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

Section – A

(2 marks each)

Q1. Attempt the following:

- a. What is Push Pull rod control system?
- b. What is fly by wire system?
- c. What is the use of hydraulic system?
- d. What are the main components of a pneumatic system?
- e. What is the role of fluid in Landing gear?
- f. What are the main parts of oxygen system?
- g. Draw thermodynamic cycle for gas turbine engine?
- h. What are the various control system parameters of engine?
- i. What is a rate gyro?
- j. How do we measure EGT?

Section – B

(5 marks each)

- Q2. How does a gyroscope work? What are the various instruments that use gyro system?
- Q3. How does an Autopilot system? Explain with the help of a diagram.
- Q4. Describe deicing and ant icing system?
- Q5. Explain navigation of an aircraft?
- Q6. Describe briefly the engine starting systems.

Section – C

(10 marks each)

- Q7. Describe basic air cycle and pressurization system.
- Q8. Explain the what way the instrument landing system differ from ground-controlled approach.
- Q9. What is the gyroscopic principle? Describe different gyro based instruments. How does a turn and bank indicator work?