

JAYA GROUP OF INSTITUTION-THIRUNINRAVUR  
4<sup>th</sup> SEM – B.E. / B.Tech  
INTERNAL ASSESSMENT-3(MODEL EXAM-3)

Sub. Name: Aircraft System and Instrument  
Sub. Code: AE 6402  
Duration: 180 minutes

Date: 07/04/2015  
Branch: Aeronautical  
Max.Marks: 100

**PART-A (10 x 2 =20)**

1. Write short notes on check valve and shuttle valve?
2. What is the purpose of an accumulator in a hydraulic system?
3. Define Auto pilot?
4. What is the advantage of fly- by- wire?
5. what is the function of photo voltaic cell?
6. write short notes on fire extinction system?
7. Define anti icing and de-icing?
8. Difference between battery and magneto ignition system?
9. Define TAS, CAS, and IAS.GS?
10. Write short notes on properties of gyro

**PART-B (5x16=80)**

1. a. Explain with neat sketch and working principle of hydraulic landing gear retraction system.  
(Or)  
b. What are the various components of landing gear assembly? Explain with neat sketches
2. a. Explain the working principles of power operated and power assisted actuated systems?  
(Or)  
b. Explain the following with neat sketches
  - i) Autopilot
  - ii) Fly-by-wire
3. a. Explain with neat sketches the principle and working of battery and magneto ignition system?  
(Or)  
b. Classify the different types of inertial starters used in reciprocating engine starting System. Explain the principle and working of any two.
- 4.) a. Briefly explain the air cycle and vapor cycle cooling system?  
(Or)  
What are the different type of fire detector and some detector used in the aircraft with neat sketch?
- 5.) a. Explain the following with neat sketches
  - i) Altimeter
  - ii) ASI
  - iii) VSI  
(Or)  
b. Briefly explain any three types of engine instruments?