



JAYA GROUP INSTITUTIONS-THIRUNINRAVUR  
8<sup>TH</sup> SEMESTER – B.E / B.Tech  
INTERNAL ASSESSMENT-I (MODEL EXAMINATION-I)

Sub.Name: Engine System and Controls  
Sub.Code: AE 2037  
Duration: 180 Minutes

Date: 9.2.15  
Branch: AERONAUTICAL ENGG  
Max.Marks: 100

**PART-A**

- 1) What is Surge Fuel tank?
- 2) What do you mean by “wet wing”?
- 3) What is Vapor lock?
- 4) a) Classify Fuel System? b) Why do we need Primers?
- 5) What is the difference between Defueling & Jettison?
- 6) What is the purpose of Fuel boost over-ride & Scavenge pump in fuel system?
- 7) Classify gas turbine engines Starting System?
- 8) What is Bleed air?
- 9) Differentiate between Supercharger and Turbocharger?
10. Differentiate between Pressure regulator and Relief valve?

**PART – B**

11.a) Give the layout of Piston engine and Turbo-prop gas turbine engines?(16)

(or)

b) Write down the Heat management system of Gas turbine engine?(16)

12 a) Explain in detail about FADEC Fire protection system with neat sketch.(16)

(or)

b) Describe in detail about Engine anti-icing system.(16)

13 a) Describe the various materials used in Compressor, turbine, frames and casing in engine?(16)

(or)

b) Draw a schematic diagram of Pressure dry-sump Lubrication system and explain its operation?(16)

14)a) Explain the Ignition and Starting system of any of the types used in Gas turbine engine? (16)

(or)

b) With the aid of a sketch, explain the operation of Oil system of a gas turbine engine? (16)

15) a) Explain in detail with neat sketch about the Lubricating system. (16)

(or)

b) Write short notes on Air system and Pneumatic system in an aircraft? (16)

