

Code No: 56073

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**B. Tech III Year II Semester Examinations, May - 2019****AIRCRAFT SYSTEMS**
(Aeronautical Engineering)**Time: 3 hours****Max. Marks: 75****Answer any five questions**
All questions carry equal marks

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- 1.a) Classify Airframe systems and explain any two with their subsystems using neat sketches.
- b) Explain how an aircraft system or subsystems will be influenced by operating environment conditions [9+6]
2. Write short notes on the following related to modern electrical power generation types:
- a) DC power generation using an Engine-Driven Integrated Drive-Generator (IDG)
- b) Variable speed-constant frequency power generation. [8+7]
- 3.a) Explain the working principle of aircraft hydraulic system with the help of neat circuit diagram showing its principal components.
- b) Explain the concept of Fly-by-Wire actuation in aircraft hydraulic system. [8+7]
4. Write short notes on the following:
- a) RAM air cooling
- b) Bleed air system isolation valve. [8+7]
5. Write a note on the following with reference to an aero engine starting and operation:
- a) Ignition control
- b) Engine starting
- c) Engine re-start. [5+5+5]
- 6.a) Explain the terms trim and artificial feels related to flight control system.
- b) Explain primary and secondary flight controls for a military aircraft with the help of neat sketches. [8+7]
7. Write short notes on the following related to typical aircraft product life cycle:
- a) Design phase
- b) Build phase. [8+7]
8. What is the need for system integration? Explain various levels of integration. [15]