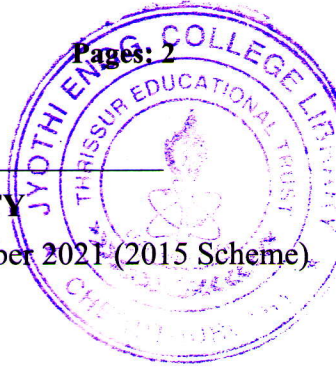


Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Seventh Semester B.Tech Degree Regular and Supplementary Examination December 2021 (2015 Scheme)

**Course Code: AO403****Course Name: AIRCRAFT SYSTEMS AND INSTRUMENTS**

Max. Marks: 100

Duration: 3 Hours

PART A*Answer any three full questions, each carries 10 marks.*

- | | | Marks |
|---|---|-------|
| 1 | a) List out the components of hydraulic system and their functions. | (2) |
| | b) Compare hydraulic and pneumatic systems in aircraft. | (2) |
| | c) Explain the operating principles of hydraulic system with neat sketch. | (6) |
| 2 | a) What are the ways used for shock absorption in landing gear? | (2) |
| | b) What are the components of brake system in aircraft and their functions? | (4) |
| | c) Write the components of Shock absorber unit and their functions. | (4) |
| 3 | Explain the power assisted and fully powered flight controls with figures. | (10) |
| 4 | a) Enumerate the push pull rod control system with neat sketch. | (8) |
| | b) What do you understand by push pull rod system? | (2) |

PART B*Answer any three full questions, each carries 10 marks.*

- | | | |
|---|--|------|
| 5 | a) Explain in detail about digital fly by wire systems with neat sketch. | (6) |
| | b) Why FBW is needed? | (2) |
| | c) What are the modern control systems used in aircraft? | (2) |
| 6 | Explain in detail about various active control technologies used in aircraft with neat sketches. | (10) |
| 7 | Explain in detail about the multi-engine fuel systems in an aircraft with figures. | (10) |
| 8 | a) Distinguish between fuel system of jet and piston engines. | (3) |
| | b) List out the difference between defueling and jettison? | (3) |
| | c) Explain the components of piston and jet engines and their purposes. | (4) |

PART C

Answer any four full questions, each carries 10 marks.

- 9 Write about the construction and working of Turn and Bank Indicator & Gyro Horizon Indicator with suitable figures. (10)
- 10 Explain with neat sketches, construction and working of Accelerometers and Mach meters. (10)
- 11 Explain the construction and working of Direct reading magnetic compass and Remote reading magnetic compass with neat figures. (10)
- 12 Give the explanation on Tachometer and its types with suitable figures. (10)
- 13 Explain about any two temperature measuring indicators used in aircraft systems. (10)
- 14 Write on synchroscope and its working principle with neat sketch. (10)
