

Code No: **RT42211****R13****Set No. 1****IV B.Tech II Semester Regular/Supplementary Examinations, April - 2018****AIRCRAFT SYSTEMS AND INSTRUMENTATION****(Aeronautical Engineering)****Time: 3 hours****Max. Marks: 70***Question paper consists of Part-A and Part-B**Answer ALL sub questions from Part-A**Answer any THREE questions from Part-B*

PART-A (22 Marks)

1. a) State and explain the function of various secondary flight control surfaces present in civil aircraft. [4]
b) Define three control problems to be considered for better engine performance. [3]
c) Discuss about the role of hydraulic systems in the landing process of an aircraft. [3]
d) Write briefly on variable frequency power generation. [4]
e) Write briefly on Thrust reversers. [4]
f) Explain the concept of Air Data Computer. [4]

PART-B (3x16 = 48 Marks)

2. a) Discuss about the interrelationship between Flight control, Guidance and Flight management. [8]
b) Explain in detail about B777 primary flight control system implementation. [8]
3. a) Discuss about Fuel Control system with neat sketch. [8]
b) Briefly explain about various parameters to be taken care by Engine Control system. [8]
4. a) With a neat sketch explain about simplified A320 hydraulic system. [8]
b) Discuss about the fluid parameters to be taken care in aircraft hydraulic system. [8]
5. a) Explain in detail about power conversion and energy storage along with various elements involved in them. [8]
b) With a neat sketch explain about general structure of Aircraft Ac Electrical system. [8]
6. a) Explain in detail about Simplified bleed air system and its associated aircraft systems. [8]
b) Discuss briefly about Pitot Static systems with necessary diagrams. [8]
7. a) Explain the working of RLG with neat sketch. [6]
b) With relevant diagram discuss about the working of RADAR Altimeter. [6]
c) Briefly explain about different pressures used by air data system. [4]