AMAEE20 AVIONICS

UNIT-1 INTRODUCTION TO AVIONICS
1.1 Need for Avionics in civil and military aircraft and space systems

1.2 Integrated Avionics system- Typical avionics sub systems

1.3 Design approaches and recent advances- Application Technologies.

UNIT-2 PRINCIPLES OF DIGITAL SYSTEMS
2.1 Digital Computers- Digital number system- number systems and codes

2.2 Fundamentals of logic and combinational logic circuits

2.3 Digital arithmetic- interfacing with analogue systems

2.4 Microprocessors- Memories

UNIT-3 DIGITAL AVIONICS ARCHITECTURE
3.1 Avionics system architecture

3.2 Salient features and applications of Data buses MIL–STD 1553 B–ARINC 429–ARINC 629.

UNIT-4 FLIGHT DECK AND COCKPITS 9
4.1 Control and display technologies CRT, LED, LCD, EL and plasma panel

4.2 Touch screen - Direct voice input (DVI)

4.3 Civil cockpit and military cockpit : MFDS, HUD, MFK, HOTAS

UNIT-5 AVIONICS SYSTEMS 10
5.1 Communication Systems - Navigation systems

5.2 Flight control systems - Radar electronic warfare

5.3 Utility systems Reliability and maintainability - Certification.

Reference Books:
1. Malcrno A.P. and Leach, D.P., "Digital Principles and Application", Tata McGraw-Hill, 1990.
2. Gaonkar, R.S., "Microprocessors Architecture – Programming and Application", Wiley and Sons Ltd., New Delhi, 1990.