

GUJARAT TECHNOLOGICAL UNIVERSITY

B. E. SEMESTER: VI Aeronautical Engineering

Subject Name: **Avionics**

Subject Code: **160106**

Teaching Scheme				Evaluation Scheme		
Theory	Tutorial	Practical	Total	University Exam (Theory) (E)	Mid Sem Exam (Theory) (M)	Practical (I)
3	0	2	5	70	30	50

Sr. NO.	Course Contents	Total Hrs
1.	Navigation and Approach Aids: Evolution of avionics, Avionics as total system Non Directional Beacons (NDB) Automatic Direction Finders (ADF) Very High Frequency Omni Range (VOR), DVOR, Errors in Direction Finding Distance Measuring Equipment (DME) Instrument Landing System (ILS) Microwave Landing Systems (MLS) Tactical Air Navigation (TACAN) VOR & TACAN (VORTAC)	15
2.	Radar: Primary ground radar Secondary surveillance radar (SSR) Radar display & data processing systems Radar altimeter, Radar Ground Proximity Warning System (GPWS) Doppler radar Airborne Weather Radar (AWR) Traffic Collision Avoidance System (TCAS)	11
3.	Long range navigation (Hyperbolic Navigation Systems) Decca Navigator The Loran Systems, Omega system	3
4.	Airborne Systems	2

5.	Space Systems Global Positioning Systems Satellite communication systems	4
6.	Miscellaneous systems Digital communication & Networking Head-Up Displays, Head-Mounted Displays Fly-By-Wire Flight Controls Flight Management System	5
7.	Military Avionics Military Avionics Airborne early warning system Evolution of avionics architecture Avionics Architecture by Joint Integrated Avionics Working Group	5

Text Books:

1. Manual of Avionics By Brian Kendal
2. Digital Avionics Systems by C R Spitzwer

Reference Books:

1. Avionics Systems by D H Middleton
2. From the ground up by Himalayan Books