GUJARAT TECHNOLOGICAL UNIVERSITY

B.E. SEMESTER : VIII

AERONAUTICAL ENGINEERING

Subject Name: **AIRCRAFT CONTROL AND NAVIGATION**

Sr. No.	Course Contents	Total Hrs
1.	**Longitudinal Dynamics** : Introduction, Development of Equation of motion, Aircraft attitude with respect to earth, Longitudinal Transfer Function for Elevator displacement, Transient response of Aircraft.	**07**
2.	**Longitudinal Autopilot** : Pitch orientation control system, Acceleration control System, Guide slop coupler, Automatic Fuel Control	**07**
3.	**Lateral Auto Pilot:** Introduction, Damping of Dutch roll, Yaw orientation control system, Turn compensation.	**07**
4.	**Inertial Cross coupling:** Introduction, Determination of Aircraft parameters affecting stability, System for controlling cross coupling condition of Aircraft.	**10**
5.	**Aircraft Auto Pilot Systems:** Principle and applications, Integration with Flight Management and Flight Direction system, Automatic approach and landing.	**10**
6.	**Navigation:** Navigation principles and applications, Types of Navigation.	**15**

Reference Books:

1. Automatic control of Aircraft and Missiles by John H Blakelock :: John Wiley and Sons, Inc.
2. Avionics Navigational Systems II Edn By Myron Kayton, Walter R Fried :: John Wiley and Sons, Inc.
3. Automatic Flight Control by EHJ Pallet & Shawn Coyle :: Blackwell Publishing.