AIR TRAFFIC CONTROL AND AERODROME DESIGN

PROFESSIONAL ELECTIVE - VI

VIII Semester

Course Code	Category	Hours / Week			Credits	Maximum Marks		
		L	T	P	C	CIE	SEE	Total
A5AE60	PCC	3	0	0	3	30	70	100

COURSE OBJECTIVES:

The purpose of this subject is to provide the students with the theoretical background and engineering applications.

1. Overview on Aviation using Electronics
2. Basic understanding about major electronics systems used for communication
3. Basic understanding about major devices, display and flight controls used in aircraft

UNIT-I INTRODUCTION TO ATC

Introduction-basic aspects of present and future Air Traffic Control systems. Basic procedures

UNIT-II THE SYSTEMS-ANALYSIS APPROACH

The systems-analysis approach to problems of capacity and safety, surveillance, the National Airspace System and Automated Terminal Radar Systems

UNIT-III NAVIGATION SUBSYSTEM

Navigation subsystem technology, aircraft guidance and control, communications, collision avoidance systems and sequencing and spacing in terminal areas.

UNIT-IV AERODROME

Introduction -The geometric design of runways and the aerodrome elements normally associated with runways. It discusses runway configuration, runway length, aeroplane performance parameters affecting runway length, and planning to accommodate future aircraft

UNIT-V AERODROME DESIGN

Configuration consideration-Physical characteristics of the runway-airplane performance parameters considering the runway-future developments

Text Books:

Moir, I. and Seabridge, A., Civil Avionics Systems, AIAA Education Series, AIAA, 2002, ISBN 56347589-8.
2. *Collinson, R.P.G*., Introduction to Avionics Systems, second edition, Springer, 2003, ISBN 978-81-8489-795-1
3. *Aerodrome Design Manual - Runways (Doc 9157 - Part 1*

Reference Books:

1. Avionics Systems – Operation & Maintenance, 1994, Wasson, J. W., Jeppesen Sanderson Training Products,ISBN 0-89100-436-X.

COURSE OUTCOMES:

At the end of the course the students are able to:

1 Illustrates the architecture of the avionics.
2 Explain the flight deck display systems used in the aircraft.
3 Describe the communication and navigation systems.
4 Discuss the Navigation and flight management systems.
5 explain the telemeter systems used in the space craft.