TV & SATELLITE COMMUNICATIONS

Course Code: 13EC1128

Pre requisites:

Course Educational Objectives:

✦ Study of TV Principles and Broadcasting Requirements
✦ Overview of satellite systems in relation to other terrestrial systems.
✦ Study of satellite orbits and launching.
✦ Study of earth segment and space segment components
✦ Study of DTH and compression standards

Course Outcomes:

✦ Understand the existing Satellite Communication Applications
✦ Undertake Projects based on GPS and TV Broadcasting.

UNIT-I (12 Lectures)

PRINCIPLES OF TV & BROADCASTING:

UNIT-II (10 Lectures)

SATELLITE ORBITS:
Kepler’s Laws, Newton’s Law, Orbital Parameters, Orbital Perturbations, Station Keeping, Geo Stationary And Non Geo-Stationary Orbits, Look

UNIT-III  
(14 Lectures)

SPACE SEGMENT AND SATELLITE LINK DESIGN:

UNIT-IV  
(12 Lectures)

SATELLITE ACCESS:

EARTH SEGMENT:
Earth Station Technology— Terrestrial Interface, Transmitter and Receiver, Antenna Systems TVRO, MATV, CATV, Test Equipment Measurements on G/T, C/No, EIRP, Antenna Gain.

UNIT-V  
(12 Lectures)

SATELLITE APPLICATIONS:
INTELSAT Series, INSAT, VSAT, Mobile satellite services: GSM, GPS, INMARSAT, LEO, MEO, Satellite Navigational System. Direct Broadcast satellites (DBS) - Direct to home Broadcast (DTH), Digital audio broadcast (DAB)- World space services, Business TV (BTV), GRAMSAT, Specialized services – E –mail, Video conferencing, Internet.

TEXT BOOKS:
REFERENCES:


