

Satellite Communication

Written by Administrator
Saturday, 07 November 2009 07:24 -

Subject Code

:

| | |
|-----------------|---------------|
| | 06TE63 |
| IA Marks | |

:

25

No. of Lecture Hrs/ Week

:

04

Exam Hrs

:

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03

Total no. of Lecture Hrs.

:

52

Exam Marks

:

100

PART - A

Unit - 1&2

Radio Wave Propagation: Introduction, Ground wave propagation, free space propagation, ground reflection, surface wave, diffraction.

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Troposphere Wave Propagation: Troposcopic scatter, Ionosphere propagation, electrical properties of the ionosphere, effects of earth's magnetic field.

12 Hours

unit - 3&4

Over view of Satellite Systems: Introduction, frequency allocation, INTEL Sat.

Orbits: Introduction, Kepler laws, definitions, orbital element, apogee and perigee heights, orbit perturbations, inclined orbits, calendars, universal time, sidereal time, orbital plane, local mean time and sun synchronous orbits, Geostationary orbit: Introduction, antenna, look angles, polar mix antenna, limits of visibility, earth eclipse of satellite, sun transit outage, leandiag orbits.

4 Hours

part - b
Unit - 5

Propagation impairments and space link: Introduction, atmospheric loss, ionospheric effects, rain attenuation, other impairments.Space link: Introduction, EIRP, transmission losses, link power budget, system noise, CNR, uplink, down link, effects of rain, combined CNR.

8 Hours

Unit - 6

Space Segment: Introduction, power supply units, altitude control, station keeping, thermal control, TT&C, transponders, antenna subsystem.

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2nd Edition, John Wiley & Sons, 2003.
2. Satellite Communication Systems engineering – W.L. Pitchand, H.L.
Snyderhoud, R.A. Nelson, , 2nd Edition, Pearson Education., 2007.

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