

SARDAR PATEL UNIVERSITY
Programme & Subject: M.Sc (Electronics & Communication)
Semester: III
Syllabus with Effect from: June - 2012

Paper Code: PS03CELC01	Total Credit: 4
Title Of Paper: Satellite Communication	

Unit	Description in detail	Weightage (%)
I	Kepler's law, Satellite Period and Velocity, Calenders, julian days, Some important terms, Orbits, Geostationary Orbits and Satellite Spacing, International and Domestic Satellite Communication Systems, System link model and parameters, Link Budget calculation of satellite system.	20%
II	Baseband transmission system concept, Introduction to Power Efficient Techniques, Equivalence of low pass and band pass channel models, Coherent and Differentially Coherent BPSK and QPSK System, Minimum shift keying. Entropy, Mutual information and Channel capacity, Source encoding, Coding for reliable communications.	20%
III	Introduction, Basic TDMA Architectures, TDMA control Architectures, TDMA Terminal Implementation, Ancillary TDMA Processing, Terrestrial Interfaces.	20%
IV	Introduction to Frequency Division Multiple Access (FDMA), Digital Satellite Systems, SCPC-FDMA Digital Satellite Systems, System Capacity and Trade-offs In SPADE and SCPC Systems	20%

Basic Text & Reference Books:-

- Satellite Communication: Dennis Roody, McGraw Hill.
- Digital Communications-Satellite/Earth Station Engineering: Kamilo Feher, Prentice-Hall Inc.,
- Satellite Communications: T. Pratt and C.W. Bostian, John Wiley & Sons.
- Satellite Communications: Gagliardi, CBS Publishers & Distributors, Delhi

