

SARDAR PATEL UNIVERSITY
Programme & Subject: M.Sc (Electronics)
Semester: III
Syllabus with Effect from: June - 2014

Paper Code: PS03CELE02	Total Credit: 4
Title Of Paper: Digital And Microwave Communication Systems	

Unit	Description in detail	Weightage (%)
I	Digital Communication- Information capacity, Frequency Shift Keying, (FSK), Phase Shift Keying (PSK), Binary Phase Shift Keying (BPSK), Quaternary Phase Shift Keying (QPSK), Quadrature Amplitude Modulation (QPSK), Differential Phase Shift Keying (DPSK), Application of Digital Modulation-PCM, Delta Modulation Data Communication- Circuits, Codes, Error Control, Data Communication Hardware- Line Control Unit, UART, Data Modem, Public Data Network, ISO protocol, Hierarchy, CCITTx25 User to Network Interface protocol	25%
II	Multiplexing- Time- Division Multiplexing, T1 Digital Carrier System, Codecs, Combo chip, Line Encoding, Frame Synchronization, Frequency-Division Multiplexing- Composite Base Band Signal, Formation of Group, Super Group, Master Group.	25%
III	Microwave Communication- Simplified Microwave System, Microwave transmitter and receiver, Microwave repeaters, Diversity- frequency, space and polarization, Microwave System Gain, Free Space Path Loss, Fade Margin, Receiver Threshold, Noise Figure.	25%
IV	Satellite Communication- History of orbital satellites, geostationary satellites, Orbital Patterns, Look angles, Orbital spacing and frequency allocation, Satellite system, link models, Satellite system parameters Cellular Communication- The cellular concept and its implementation, Cellular carriers and frequencies- channel allocation and frequency reuse multiple access technologies for cellular system, Mobile call termination, hand off.	25%

Basic Text & Reference Books:-

- **Advanced Electronic Communication System**
Wayne Tomasi, Prentice Hall International
- **Electronic Communication**
Dennis Roddy & John Coolen, Prentice Hall India
- **Electronic Communication System**
George Kennedy, Mcgraw Hill Book Co.

