SEMESTER - IV

Paper - V : Communication Systems

Max. Marks: 55
Time: 3 Hrs.

Note: Nine questions will be set and students will attempt 5 questions. Question No. 1 will be compulsory consisting of 4 parts based on the conceptual aspects of the whole syllabus. The answers should not be in yes/no. In addition to Question No. 1 there will be four Units in the question-paper each containing two questions belonging to four Units in the syllabus. Students will select one question from each unit.

UNIT - I

Pulse Communication - PAM, PWM, PPM, PCM and applications, Digital Communication (characteristic of data transmission circuit), Model of communication system, Analysis and Design of communication system, classification of signal and systems.

UNIT - II

System response and filters, spectral analysis of modulation and Demodulation operations, Random Signal theory, Information and channel capacity, Base band data transmission - Base band Binary PAM system, Modulation schemes - Binary ASK, PSK, FSK schemes, comparison of Digital Modulation schemes.

UNIT- III

Error control coding, Methods of controlling errors. Facsimile - Introduction, transmission and reception. Satellite Communication - Introduction, orbits, station keeping, satellite Altitude, Transmission path, path losses, Noise consideration.

UNIT - IV

Point to Point Communication: Telephone networks, Automatic exchange switching systems, Introduction to Computer based communication - ISDN (integrated Service Digital Network), LAN (Local Area Network), Basic RADAR concept - RADAR system (introduction). Primary radar,

Secondary surveillance radar (SSR), Introduction to TV systems and standards.

References

1. Foundations of Electromagnetic theory - J.R. Reiz and Milford, Addition Wesley.
2. Microwave Devices and Circuits - Samuel Y. Liao, PHI Pvt. Ltd.
3. Electronic Communications - Roody and Coolon.
4. Electronic Communication - George Kennedy.
5. Digital and Analog Communication System - K. Sam Shanmugan, John Wiley and Sons 1994.
6. Electronic Engineers Reference Book - FF Mazda (Sixth Edition), Butter Worth International.
7. Monochroms and Colour TV - R.R. Gulati.