Code	Subject Title	Cr. Hrs	Semester
PHY-429	**COMMUNICATION ELECTRONICS-III (THEORY)**	**3**	**VIII**
Year	Discipline		
4	**Physics**		

Course Outlines:

Satellite Communication: Basic concept, earth station to earth station via satellite, service requirements, orbits, modulation and multiplexing, packetiser and depacketises, special problems in satellite communication.

Optical communication: Introduction of Optical Fibers, Optical sources and detection optical modulation techniques

Digital Communication: Spectral analysis and filtering theory, communication channels, entropy and source coding, data compression techniques, digital radio, spectrum communication systems, mobile wireless communication system.

Communication principles in earth observation: Remote sensing, sensors for optical remote sensing, remote sensing from space, environment and agricultural applications.

Books Recommended:

1. *Electronic Communication* by Kennedy George, McGraw Hill, 1992.
2. *Electronic Fundamentals* by Thomas L. Floyd, 2nd. Ed., Maxwell-Macmillan, New York, 1991.
3. *Essential of Communication Electronics* by M. Slurzberg and W. Osterfield, National Book Foundation, Islamabad, 1991.
4. *Introduction to Linear Electrical Circuits and Electronics* by M. C. Kelly and B. Nichols, John Wiley, New York, 1988.
5. *Electronic Circuits Handbook* by Michael Tooley, BPB Publications, New Delhi, 1994.
6. *Introduction to Electronic Design* by F. H. Mitchell Jr. and Mitchell Sr., Prentice Hall, London, 1988.
7. Digital Principles and Applications by A. P. Malvino and D. P. Leach, 4th Ed., McGraw Hill, New York, 1986.
8. Perspectives in communication by U.R. Rao, Pub. World Scientific, 1987.
9. Digital Electronics By C. E. Strangio, Prentice Hall, London, Latest Edition
10. Digital Computer Electronics By Malvino A. P. and Brown J.A., McGraw Hill School Publishing Company, 1993.
11. Electronics for Today by Tom Duncan, OxfordUniversity Press.