SARDAR PATEL UNIVERSITY
Programme: B.Sc (Instrumentation-Vocational)
Semester: VI
Syllabus with effect from: June - 2013

Paper Code: US06CINV06	Total Credit: 3
Title of Paper: Signal Conditioning and Communication	

Unit	Description in detail	Weightage (%)
I	**Radio Receiver** Radio transmitters:- Radio frequency spectrum, Modulation, types of modulation, definition, waveforms and expression of AM and FM, block diagram of AM radio transmitters. Radio receiver :- Classification of radio receiver salient features of radio receiver principle of super heterodyne radio receiver, block diagram of AM receiver R.F. amplifier, Frequency mixers, I.F. amp ,Detector.	25%
II	**Principle of Television** Introduction: - aspect ratio rectangular switching, interlaced scanning, composite video signal. TV Camera: TV camera tube characteristics, Image Orthicon tube, and Vidicon tube, Video processing of camera tube output.	25%
III	**Television Receiver** Block diagram of BW TV receiver, RF tuner, RF tuner circuits, Principle of Colour Television, Colour TV Camera, Shadow mask picture tube, Trinitron and In-line picture tube. Colour TV transmission and reception, PAL system.	25%
IV	**Telemetry;-** General Telemetry system, Types of telemetry system (1) Land line telemetry systems:-voltage telemetry system, current telemetry system. Motion, position Telemetry (2)R.F. telemetry:-A.M, FM, Pulse modulation, PAM Telemetry.	25%

Basic Text & Reference Books:

- Electronics Instrumentation and Measurement Techniques - By Cooper and Helfrick.
- Digital Integrated Electronics (TMH) - By Herbert Taub and Donald Schilling.
- Radio Engineering - By G.K. Mithal, (Khanna publisher Delhi).
- A Course in Electrical & Electronic Measurements & Instrumentation. By A.k .SAWHNEY, Dhanpat Rai & Co
- Basic Radio and Television – By S.P. Sharma
- Monochrome and Colour Television – By R.R. Gulati
- Digital Principles and Applications (TMH) – By Malvino and Leach.
- Electrical and Electronics Measurements and Instrumentation – By A.K. Shawny.
- Fundamental of Digital Circuits – By A. Anand Kumar