DIGITAL SWITCHING AND TELECOMUNICATION NETWORKS

MODULE – I **(16 hours)**

Introduction: Fundamentals of switching system, telecommunication networks.

Electronic space division switching: Stored program control, centralized and distributed SPC, application software architecture, enhanced services, two and three stage & n stage networks.

Time Division Switching: Basic time division space switching, time division time switching, time multiplexed space and time switching, combination switching, three-stage & n stge combination switching. (Chapter 1, 4 and 6)

MODULE – II **(12 hours)**

Traffic Engineering: Network traffic load and parameters, Grade of services & blocking probability, modeling of switching systems, incoming traffic & service time characterization, blocking models and loss estimates, Delay systems (Chapter 8)

Telephone Networks: Subscriber loop systems, switching hierarchy and routing, transmission plan, transmission systems, Signaling techniques : in channel & common channel signaling (Chapter 9)

MODULE – III **(12 hours)**

Data Networks: Data transmission in PSTN, switching techniques, Data communication architecture, link-to-link layers, end-to-end layers, satellite based data networks, an overview of data network standards. (Chapter 10)

Integrated Service Digital Network: Motivation, new services, transmission channels, signalling, service characterization, ISDN standards, broad band ISDN, voice data integration (Chapter 11)

Text Books :

1. Thiagarajan Viswanathan, Telecommunication Switching Systems and Networks
   by, PHI Learning Pvt. Ltd., New Delhi.

References:

1. Communication Networks, A Leon-Garcia and Indra Widiaja, TMH, New Delhi
2. Data and Computer Communications by W Stallings, Pearson Education