AMTC19 TELECOMMUNICATION SWITCHING AND SIGNAL

UNIT-1 INTRODUCTION
1.1 Evolution of Telecommunications, Simple Telephone Communication,
1.2 Basics of a Switching System, Manual Switching System,
1.3 Major Telecommunication Network.

UNIT-2 STROWGER SWITCHING SYSTEMS:
2.5 Rotary Dial Telephone, Signalling Tones, Strowger Switching Components, Step-by-step Switching, Design Parameters,
2.6 100-line Switching System, 1000-line Blocking Exchange, 10,000 – Line Exchange.

UNIT-3 CROSSBAR SWITCHING:
3.1 Principles of common Control , Touch Tone Dial Telephone, Principles of crossbar Switching,
3.2 Crossbar Switch Configurations, Cross point Technology, Crossbar Exchange Organization.

UNIT-4 ELECTRONIC SPACE DIVISION SWITCHING:
4.1 Stored Program Control, Centralized SPC, Distributed SPC, Software Architecture,
4.2 Application Software, Enhanced Services,
4.3 Two-stage Networks, Three-stage Networks, n-Stage Networks.

UNIT-5 SPEECH DIGITIZATION AND TRANSMISSION
5.1 Sampling, Quantization and Binary coding, Quantization Noise, Companding,
5.2 Differential Coding, Vocoders, Pulse Transmission, Line Coding, Time division Multiplexing.

UNIT-6 TIME DIVISION SWITCHING & OPTICAL FIBRE SYSTEMS:
6.1 Basic Time Division Space Switching, Basic Time Division Time Switching,
6.2 Time Multiplexed Space Switching, Time Multiplexed Time Switching, Combination Switching.
6.3 Types of Optical Fibres, Fibre Optic Transmission.

UNIT-8 TRAFFIC ENGINEERING
8.1 Network Traffic Load and ParAMET-ers, Grade of Service and Blocking Probability,
8.2 Modelling Switching Systems, Incoming Traffic and Service Time Characterization,
8.3 Blocking Models and Loss Estimates, Delay Systems.

UNIT-9 TELEPHONE NETWORKS:
9.1 Subscriber Loop Systems, Switching Hierarchy and Routing,
9.2 Transmission Plan, Transmission Systems, Numbering Plan, Charging Plan.

Reference Book:
1. EC_8th_Sem_Electronic Switching _ P_Gnanasivam- Telecommunication Switching and Networks _2nd-Edition-2008.pdf