AMET-19 : TELECOMMUNICATION SWITCHING AND SIGNAL

1: Introduction:
Evolution of Telecommunications, Simple Telephone Communication, Basics of a Switching System, Manual Switching System, Major Telecommunication Networ.

2: Strowger Switching Systems:
Rotary Dial Telephone, Signalling Tones, Strowger Switching Components, Step-by-step Switching, Design ParAMET-ers, 100-line Switching System, 1000-line Blocking Exchange, 10,000 – Line Exchange.

3:Crossbar Switching:
Principles of common Control , Touch Tone Dial Telephone, Principles of crossbar Switching , Crossbar Switch Configurations, Crosspoint Technology, Crossbar Exchange Organization.

4: Electronic Space Division Switching:
Stored Program Control, Centralized SPC, Distributed SPC, Software Architecture, Application Software, Enhanced Services, Two-stage Networks, Three-stage Networks , n-Stage Networks.

5: Speech Digitization and Transmission:
Sampling , Quantization and Binary coding , Quantization Noise, Companding, Differential Coding, Vocoders, Pulse Transmission, Line Coding, Time division Multiplexing.

6: Time Division Switching:
Basic Time Division Space Switching, Basic Time Division Time Switching, Time Multiplexed Space Switching, Time Multiplexed Time Switching, Combination Switching.

7:Optical Fibre Systems:
Types of Optical Fibres, Fibre Optic Transmission.

8: Traffic Engineering :
Network Traffic Load and ParAMET-ers, Grade of Service and Blocking Probability, Modelling Switching Systems, Incoming Traffic and Service Time Characterisation, Blocking Models and Loss Estimates, Delay Systems.

9:Telephone Networks:
Subscriber Loop Systems, Switching Hierarchy and Routing, Transmission Plan, Transmission Systems, Numbering Plan, Charging Plan.