Course Name: Digital Switching

Faculty Name: Prof. Yatindra N Singh

Institute Name: IIT Kanpur

Introduction, Basic signaling, Strowger exchange, crossbar, crossbar operation algorithm, Call congestion and time congestion; Lee's approach, Karnaugh's approach, Strictly Non-blocking networks, Rearrangeably non-blocking networks; Clos Network; Paull's matrix; Clos theorem; Strictly non-blocking for f-way multicasting, , Slepian Duguid theorem, its proof; Paull's theorem; Recursive construction; Crosspoint complexity for rearrangebly and strictly non-blocking networks, Cantor network; proof; Wide-sense non-blocking network – example network and proof, Packet Switching, Buffering strategies, Input Queued Switch, Output Queued switch, Banyan Networks, Delta Network, Shufflenet as Delta network – proof, Buffered Banyan network (buffering at each switching element), Computational analysis.