Code No: **R41045** **R10** **Set No. 1**

IV B.Tech I Semester Regular/Supplementary Examinations, Nov/Dec - 2015

TELECOMMUNICATION SWITCHING SYSTEMS

(Electronics and Communication Engineering)

Time: 3 hours **Max. Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks
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1	a)	Explain the elements of a Switching system.	[8]
	b)	Explain the operations of a single and multistage cross bar switch.	[7]
2	a)	Explain the combination switching and its advantages.	[7]
	b)	Explain Time division multiplexing.	[8]
3	a)	Explain Subscriber loop interface using Balanced circuit and Two-wire-to-four-wire transformer hybrid.	[7]
	b)	Describe the Switching Hierarchy and Routing used in telephone networks.	[8]
4	a)	Write about modes of operation of Common channel Signaling.	[7]
	b)	Explain Grade of Service and Blocking probability	[8]
5	a)	Describe the Data communication circuit configurations.	[7]
	b)	Discuss the Configurations, Topologies and Transmission modes of a Data communication circuits.	[8]
6	a)	Explain about Repeaters, Bridges and gateways.	[8]
	b)	Write the comparisons of Circuit switching, Packet switching and Virtual circuit switching concepts.	[7]
7	a)	Explain the difference between ISDN and BISDN.	[8]
	b)	Explain connection oriented and connectionless services with examples.	[7]
8	a)	Explain SONET Networks.	[8]
	b)	Explain about DSL Technology.	[7]

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Code No: **R41045** **R10** **Set No. 2**

IV B.Tech I Semester Regular/Supplementary Examinations, Nov/Dec - 2015

TELECOMMUNICATION SWITCHING SYSTEMS

(Electronics and Communication Engineering)

Time: 3 hours **Max. Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks
****

1	a)	Write about basics of a Switching system.	[8]
	b)	Write about the Cross point Technology	[7]
2	a)	Explain the operation of space division and time division switches.	[7]
	b)	Describe the three-stage combination switching.	[8]
3	a)	Write a bout the attenuation limits in Subscriber loop system.	[8]
	b)	Explain the operation of an echo suppressor in a Transmission Plan.	[7]
4	a)	Explain the Architecture of SS7 signaling system with its block schematic	[7]
	b)	Discuss the Network Traffic load and parameters.	[8]
5	a)	What are the components of Data communication network? Explain.	[8]
	b)	Explain the UART Transmitter with neat diagram.	[7]
6	a)	Describe the LAN, MAN, and WAN. And list advantages and disadvantages of each network.	[7]
	b)	Define open system interconnection. Name and explain functions of the each of the layers of OSI model.	[8]
7	a)	Explain the Principles and evolution of ISDN.	[8]
	b)	Describe the B-ISDN functional module interconnections with neat diagram and write the Broadband channel rates.	[7]
8	a)	Write about ADSL and Cable modem	[8]
	b)	Write about Synchronous Transport Signals, STS I of SONET.	[7]

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Code No: **R41045** **R10** **Set No. 3**

IV B.Tech I Semester Regular/Supplementary Examinations, Nov/Dec - 2015

TELECOMMUNICATION SWITCHING SYSTEMS

(Electronics and Communication Engineering)

Time: 3 hours **Max. Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks
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1	a)	How are Switching systems classified? In what way is stored program control is superior to hard-wired control?	[8]
	b)	Describe the Switching network configurations.	[7]
2	a)	Write about level2 processing in Distributed Stored program control.	[7]
	b)	Explain time multiplexed space switching	[8]
3	a)	Describe the Subscriber loop systems with neat diagram.	[8]
	b)	Discuss the Numbering plan used in telephone networks.	[7]
4	a)	Discuss the three form of signaling techniques	[7]
	b)	Describe the Formats of Signaling units used in Common channel Signaling.	[8]
5	a)	Explain the Layered Network Architecture.	[8]
	b)	Discuss the Serial and Parallel Data transmission and Two-Wire versus Four-wire operation.	[7]
6	a)	Explain the Principle of operation of circuit Switching concept with example.	[8]
	b)	Explain the principles Repeaters, Bridges, Routers and Gateways used at different layers.	[7]
7	a)	Draw and explain the ISDN architecture.	[8]
	b)	Write about Broadband ISDN and explain the BISDN configuration.	[7]
8	a)	Explain the operation of cable modem.	[8]
	b)	Discuss the features of HFC networks.	[7]

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Code No: **R41045** **R10** **Set No. 4**

IV B.Tech I Semester Regular/Supplementary Examinations, Nov/Dec - 2015

TELECOMMUNICATION SWITCHING SYSTEMS

(Electronics and Communication Engineering)

Time: 3 hours **Max. Marks: 75**

Answer any FIVE Questions

All Questions carry equal marks

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1	a)	Define and find the switching capacity and blocking probability for a two stage switching network with x-inlets and y-outlets.	[8]
	b)	Explain clearly about methods of dialing used in stronger system. Compare them along with the features of switches used.	[7]
2	a)	Discuss various types of switching hierarchy and routing used in Subscriber networks.	[7]
	b)	Discuss about centralized SPC(stored program control) in electronic space division switching.	[8]
3	a)	Write about Coaxial cable Transmission system.	[8]
	b)	Discuss the charging plan for Telecommunication Service.	[7]
4	a)	During a busy hour, 1400 calls were offered to a group of trunks and 14 calls were lost. The average call duration has 3 minutes. Find i) Traffic offered ii) Traffic carried iii) GOS.	[7]
	b)	What is the need for in channel signaling and common channel signaling?	[8]
5	a)	Explain the need for layered network architecture.	[8]
	b)	What is Ethernet? Bring out the differences between 802.3 frame and Ethernet-II Frame and compare their data Transmission standards	[7]
6	a)	Explain the concept of virtual circuit switching and how it is different from circuit switching.	[8]
	b)	Explain public switching data network.	[7]
7	a)	Discuss the features of data transfer format of X.25 protocol.	[8]
	b)	Explain the various layers and frame format of ISDN model.	[7]
8	a)	Write about Traditional Cable Modems.	[8]
	b)	Write about Cable Modem.	[7]

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