



SWARNANDHRA COLLEGE OF ENGINEERING & TECHNOLOGY (AUTONOMOUS)

Accredited by National Board of Accreditation, AICTE, New Delhi, Accredited by
NAAC with "A" Grade – 3.32 CGPA, Recognized under 2(f) & 12(B) of UGC Act 1956,
Approved by AICTE, New Delhi, Permanent Affiliation to JNTUK, Kakinada
Seetharampuram, W.G.D.T., Narsapur-534280, (Andhra Pradesh)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



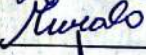

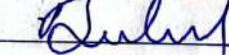
TEACHING PLAN

Course Code	Course Title	Semester	Branches	Contact Periods/Week	Academic Year	Date of commencement of Semester	
20EC7E04	TELECOMMUNICATION SWITCHING NETWORKS	VII	ECE	5	2024-2025	05-06-2024	
COURSE OUTCOMES							
After completion of the course students can able to							
1	Demonstrate the operation of basic switching networks. (K3)						
2	Differentiate the signaling techniques in Switching networks (K4)						
3	Analyze ISDN and BISDN (K4)						
4	Illustrate DSL and SONET (K3)						
UNIT	Out Comes / Bloom's Level	Topics No.	Topics/Activity	Text Book / Reference	Contact Hour	Delivery Method	
I	CO 1: Explain the basic switching system and the operation of various switching techniques. (K2, K3)	UNIT-1: TELECOMMUNICATIONS TRANSMISSION					
		1.1	Basic Switching System	T1, T2,R1	1	Chalk & Talk, PPT Tutorial, & Case Study	
		1.2	Simple Telephone Communication,	T1, T2,R1	1		
		1.3	Evolution of switching systems	T1, T2,R1	1		
		1.4	Stronger switching systems,	T1, T2,R1	1	Video leactures	
		1.5	Cross bar switching,	T1, T2,R1	1	Chalk & Talk, PPT Tutorial, & Case Study	
		1.6	Electronic Switching	T1, T2,R1	1		
		1.7	Space Division Switching,	T1, T2,R1	1		
		1.8	Time Division Switching,	T1, T2,R1	1		
		1.9	Combination Switching,	T1, T2,R1	1		
		1.10	Control of Switching Systems	T1, T2,R1	1		
		1.11	Call processing functions,	T1, T2,R1	1		
		1.12	Common control	T1, T2,R1	1		
		1.13	Stored program control.	T1, T2,R1	1		
Total					13		

		UNIT – 2: TELEPHONE NETWORKS				
II	CO2: Analyze the signaling techniques like routing, transmission plan, numbering plans and charging plans in telephone networks.(K2)	2.1	Subscriber Loop System Common	T1,T3,R2	1	Chalk & Talk, PPT Tutorial, Active Learning & Case Study
		2.2	Switching Hierarchy And Routing,	T1,T3,R2	1	
		2.3	Transmission Plan,	T1,T2,R1,R2	1	
		2.4	Transmission System Numbering Plan,	T1,T2,R1,R2	1	
		2.5	Charging Plan,	T1, T2, R1,R2	1	
		2.6	Signaling Techniques,	T1,T3,R2	1	
		2.7	In-channel Signaling,	T1,T3,R1,R2	1	
		2.8	Channel Signaling,	T1,T3,R2,R3	1	
		2.9	Network Traffic load and parameters,	T1,T3,R2,R3	1	
		2.10	Grade of service and blocking probability.	T1,T3,R2,R3	1	
				Total	10	
		UNIT – 3: DATA NETWORKS				
III	CO2: Analyze the signaling techniques like routing, transmission plan, numbering plans and charging plans in telephone networks.(K2)	3.1	Data transmission in PSTNs	T1, T2.R1,R2	1	Chalk & Talk, PPT Tutorial
		3.2	Data Rates in PSTNs	T1, T2.R1,R2	1	
		3.3	Modems	T1, T2.R1,R2	1	
		3.4	Switching Techniques for data Transmission	T1, T2.R1,R2	1	
		3.5	Circuit Switching	T1, T3.R1,R2	1	
		3.6	Store and Forward Switching Data communication Architecture	T1, T3.R1,R2	1	
		3.7	ISO-OSI Reference Model	T1, T3.R1,R2	1	
		3.8	LAN, MAN, WAN	T1, T3.R1,R2	1	E-Learning
		3.9	Repeaters	T1, T3.R1,R2	1	Chalk & Talk, PPT Tutorial
		3.10	Bridges	T1, T3.R1,R2	1	
		3.11	Routers and Gateways	T1, T3.R1,R2	1	
				Total	11	

		UNIT – 4 : INTEGRATED SERVICES DIGITAL				
IV	CO3: Describe layered network architecture and various types of data network and analyze ISDN and BISDN.(K1)	4.1	Motivation for ISDN	T1, T3.R1,R2	1	Chalk & Talk, PPT Tutorial
		4.2	New services	T1, T2.R1,R2	1	
		4.3	Network and Protocol architecture	T1, T3.R1,R2	1	
		4.4	NETWORKS Transmission Channels	T1, T3.R1,R2	1	
		4.5	User Network Interface	T1, T3.R1,R2	1	
		4.6	signaling	T1, T3.R1,R2	1	
		4.7	Numbering and Addressing	T1, T3.R1,R2	1	
		4.8	Service characterization	T1, T2.R1,R2	1	
		4.9	Interworking	T1, T2.R1,R2	1	
		4.10	ISDN standards	T1, T2.R1,R2	1	
		4.11	Broadband ISDN	T1, T2.R1,R2	1	
		4.12	Voice data Integration.	T1, T2.R1,R2	1	
				Total	12	
		UNIT – 5 : DSL TECHNOLOGY				
V	CO4: Illustrate DSL and SONET and study respective networks and frame transmissions involved.(K2)	5.1	ADSL	T1, T3.R1,R2	1	Chalk & Talk, PPT Tutorial, Active Learning & Case Study
		5.2	Cable Modem	T1, T3,T3,R1	1	
		5.3	Traditional Cable Networks	T1,T3,R1,R2	1	
		5.4	HFC Networks	T1, T3,R1,R2	1	
		5.5	Sharing	T1, T2.R1,R2	1	
		5.6	CM & CMTS and DOCSIS	T1, T2.R1,R2	1	
		5.7	SONET	T1, T2.R1,R2	1	
		5.8	Devices			
		5.9	Frame	T1, T2.R1,R2	1	
		5.10	Frame Transmission	T1, T2.R1,R2	1	
		5.11	Synchronous Transport Signals	T1, T2.R1,R2	1	
		5.12	STS I	T1, T2.R1,R2	1	
		5.13	Synchronous Transport Signals	T1, T2.R1,R2	1	
		5.14	Virtual Tributaries and Higher rate of service	T1, T2.R1,R2	1	
				Total		
CUMULATIVE PROPOSED PERIODS					60	

Text Books:	
S.No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION
1.	Thiagarajan Vishwanathan, "Telecommunication Switching Systems and Networks"; PHI Publications, 2015.
2.	J.E.Flood, "Telecommunications Switching, Traffic and Networks", Pearson Education, 2012
Reference Books:	
S.No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION
1.	Wayne Tomasi, "Advanced Electronic Communications System", PHI, 2014
2.	Behrouz A Frouzan, "Data Communication and networking", 4th Edition, Tata McGraw Hill.
Web Details	
1.	https://www.iete.org/
2.	https://en.wikipedia.org/wiki/Telecommunications_engineering
3.	https://www.tec.gov.in/

	Name	Signature with Date
i. Faculty i	Mr. M.Murali	
ii. Faculty-ii (For common course)	Mrs.K.APARNA JYOTHI	
iii. Course Coordinator	Mr. M.Murali	
iv. Module Coordinator	Dr. Y.S.V Raman	
v. Programme Coordinator	Dr. B.S.Rao	


 Principal
 Dr. S.Suresh Kumar