Anurag
ENGINEERING COLLEGE
(An Autonomous Institution)

Engineering   Engineers

Accredited By
A+ Grade

TELECOMMUNICATION SWITCHING SYSTEM (EC621PE) COURSE FILE

B.Tech.	R18
ELECTRONICS AND COMMUNICATION ENGINEERING	Regulation Under

CBCS

COURSE FILEON

TELECOMMUNICATION SWITCHING SYSTEM(EC621PE)

III B. TECH – II SEMESTER ECE
(AEC – Autonomous)
A.Y: 2023-24

SUBMITTED BY

Mr. B. NAGA RAJU M. TECH

ASSISTANT PROFESSOR

ANURAG ENGINEERING COLLEGE

An Autonomous Institution

(Affiliated to JNTUH-Hyderabad, Approved by AICTE-New Delhi)
ANANTHAGIRI (V&M), SURYAPET (D), TELANGANA-508206.

Telecommunication Switching System

Check List

Department of Electronics and Communication Engineering

Telecommunication Switching System

Course Code:(EC621PE)   **L T/P/D C: 3 - / - / - 3**
III Year II Semester

UNIT I

Switching Systems: Evolution of Telecommunications; Basics, functions, types anddesign parameters of switching system. 100/1000/10,000 Line exchange. Principles of Crossbar switching; A general trunking; Electronic and digital switching systems.

UNIT II

Telecommunications Traffic: Introduction; Unit of traffic; congestion; Trafficmeasurement; Mathematical model; Lost call systems-Theory; Traffic performance; Loss systems in Tandem; Use of traffic tables; Queuing systems-the second Erlang distribution ; Probability of delay; Finite queue capacity; some other useful results; Systems with a single server; queues in tandem; Delay tables; Applications of delay formulae.

Switching Networks: Introduction, Single stage networks; Grading Principles; Designof progressive grading; other forms of grading; Traffic capacity of Grading; Applications of grading; Link systems-grading; Two, Three and four stage networks; Grades of service of link systems.

UNIT III

Time Division switching: Basics of time division space switching; basics of timedivision time switching; Time multiplexed space switch; Time multiplexed time switch; Combination switching; Three stage Combination switching. Control of switching systems; call processing functions; sequence of operations; signal exchanges; State transition diagrams; common control; reliability; availability and security; Stored program control.

UNIT IV

Signalling: Introduction; Customer Line signalling; Audio frequency Junction and trunkcircuits; FDM carrier systems-Out band signalling; In band (VF) signalling; PCM signalling; Inter Register signalling; Common channel signalling principles- General signalling networks; CCITT signalling system number 6; CCITT signalling system number 7; High level data link control; Signal units; The signalling information field.

UNIT V

Packet Switching: Introduction; Statistical multiplexing; Local and wide Areanetworks- network topologies and their comparison; Routing; Flow control; Standards; Frame relay;

Broadband networks-general; Asynchronous Transfer mode; ATM switches; ISDN; Cellular radio networks; private networks; charging; Routing-general, automatic, Alternative routing.

TEXT BOOKS

1. Telecommunication Switching and Traffic Networks, J.E Flood, Pearson Eduction, 2006.
2. Telecommunication Switching system and Networks, Tyagarajan Viswanathan Prentice hall of India Pvt. Ltd., 2006

REFERENCES

1. Digital Telephony, John C Bellamy, John Wiley International Student Edition, 3rd Edition,2000.
2. Data Communications and Networking, Behrouz A. Ferouzan, TMH, 2nd Edition,2000.
3. Introduction to Data Communications and Networking, Tomasi, Pearson Education, 1st Edition, 2007

Department of Electronics and Communication Engineering

Class Timetable

ANURAG Engineering College
(An Autonomous Institution)
(Approved by AICTE, New Delhi, Affiliated to JNTUH, Hyderabad)
Ananthagiri(V&M), Kodad, Surya pet(Dt)-508206

Department of Electronics & Communication Engineering

ANRK/TT/04/23-24/3-2   Time Table: B.Tech III Year II Semester (A Sec)

DAY	9:30-10:20	10:20-11:10	11:20-12:10	12:10-1:00	1:00-1:40	1:40-2:25	2:25-3:10	3:15-4:00
MON	MWE	WM/TV	CN	DSP	LUNCH	MWE&DC/DSP LAB		
TUE	DSP	TSS/SE	CN	WM/TV	LUNCH	MEFA	MWE	IPR
WED	CN	MEFA	DSP	TSS/SE	LUNCH	SDP	CRT-E	IPR
THU	DSP	CN	WM/TV	TSS/SE	LUNCH	MWE&DC/DSP LAB		
FRI	MEFA	MWE	CN	TSS/SE	LUNCH	MWE	CRT-C	WM/TV
SAT	MWE	CRT-M	DSP	WM/TV	LUNCH	MEFA	TSS/SE	SPORTS/LIB

S.No	Course Code	Course Name	Faculty Name
1	AE601HS	MANAGERIAL ECONOMICS AND FINANCIAL ANALYSIS(MEFA)	Mr.S.KOTI REDDY
2	EC602PC	MICROWAVE ENGINEERING(MWE)	Mr.M.BASHA
3	EC603PC	COMPUTER NETWORKS(CN)	Dr.G.V.HARI PRASAD
4	EC604PC	DIGITAL SIGNAL PROCESSING(DSP)	Mrs.V.KALYANI
5	EC621PE	(PE-I)TELECOMMUNICATION SWITCHING SYSTEMS	Mr.B.NAGARAJU
	EC622PE	(PE-I) TELEVISION ENGINEERING	Mrs.D.SHIRISHA
6	CE612OE	(OE-I) WASTE MANAGEMENT	SK.RAHMAN
	CS611OE	(OE-I) SOFTWARE ENGINEERING	Mr.K.BIKSHA PATHI
7	EC605PC	MICROWAVE ENGINEERING AND DIGITAL COMMUNICATION LAB	Mrs.G.SHOBHA
8	EC606PC	DIGITAL SIGNAL PROCESSING LAB	Mr.B.NAGARAJU
9	HS607MC	INTELLECTUAL PROPERTY RIGHTS(IPR)	Mr.V.DAVID
10	CRT-M	CAMPUS RECRUITMENT MATHEMATICS	Dr.Y.HARIKRISHNA
11	CRT-E	CAMPUS RECRUITMENT ENGLISH	Mr.J.PURNA KUMAR
12	CRT-C	CAMPUS RECRUITMENT C LANGUAGE	Mr.B.ANAND KUMAR

III B.Tech. II Semester Academic Calendar		
I Spell Instruction	22.01.2024	16.03.2024
I Mid Examinations	18.03.2024	20.03.2024
II Spell Instruction	21.03.2024	08.05.2024
Industry oriented mini project/internship	09.05.2024	05.06.2024
Summer Vacation	23.05.2024	05.06.2024
II Spell Instruction Continuation	06.06.2024	12.06.2024
II Mid Examinations	13.06.2024	15.06.2024
Preparation Holidays	18.06.2024	24.06.2024
Semester End Examinations (Theory & Practical's)	25.06.2024	20.07.2024

Academic Counselor	Mrs.V.Kalyani (9903107049)
CR's	Nikam.Balaji
	Bolla Kavya

ROOM NUMBERS	Lecture Hall (E-307)	DSP Lab (E-401)	MWE & DC Lab (D-216)

Time Table I/c   Academic Counselor   HoD-ECE   Principal

Department of Electronics and Communication Engineering

Individual Time Table

II B.Tech. I Semester – TSS (A&B Sec)

Day/Hour	9:30-10:20	10:20-11:10	11:20-12:10	12:10-1:00	01:40-2:25	2:25 - 3:10	3:15 - 4:00
Monday				TSS			TSS
Tuesday							
Wednesday				TSS		TSS	
Thursday			TSS				
Friday				TSS			
Saturday					TSS		

7

Department of Electronics and Communication Engineering

Vision of the Institute
To be a premier Institute in the country and region for the study of Engineering, Technology and Management by maintaining high academic standards which promotes the analytical thinking and independent judgment among the prime stakeholders, enabling them to function responsibly in the globalized society.

Mission of the Institute
To be a world-class Institute, achieving excellence in teaching, research and consultancy in cutting-edge Technologies and be in the service of society in promoting continued education in Engineering, Technology and Management.

Quality Policy
To ensure high standards in imparting professional education by providing world-class infrastructure, top-quality-faculty and decent work culture to sculpt the students into Socially Responsible Professionals through creative team-work, innovation and research

Vision of the Department

Our vision is to develop the department into a full-fledged centre of learning in various fields of Electronics & Communication Engineering keeping in view the latest development.

Mission of the Department

The Mission of the department is to turn out full-fledged Engineers in the field of Electronics & Communication Engineering with an overall back-ground suitable for making a successful career either in industry/research or higher education in India and abroad. To inculcate professional behavior, strong ethical values, innovative research capabilities and leadership abilities in the young minds so as to work with a commitment to the progress of the nation.

Department of Electronics and Communication Engineering

Program Educational Objectives (B.Tech. – ECE)

Graduates will be able to

PEO 1	**:**	Excel in professional career & higher education, by acquiring knowledge in related fields of Electronics & Communication Engineering.
PEO 2	**:**	Exhibit leadership in their profession, through technological ability and contemporary knowledge for solving real life problems appropriately that are technically sound, economically feasible & socially acceptable.
PEO 3	**:**	Adapt to the emerging technologies for sustenance by exhibiting professionalism, ethical attitude & communication skills in their relevant areas of interest by engaging in lifelong learning.

Department of Electronics and Communication Engineering

Program Outcomes (B.Tech. – ECE)

At the end of the Program, a graduate will have the ability to

PO 1 : An ability to apply knowledge of mathematics, science, fundamentals of engineering to solve electronics and communication engineering problems.

PO 2 : An ability to identify, formulate and analyze and solve complex electronics and communication Engineering using the first principles of mathematics and engineering sciences.

PO 3 : An ability to develop solutions to electronics and communication systems to meet the specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.

PO 4 : An ability to design and perform experiments of electronic circuits and systems, analyze and interpret data to provide valid conclusions.

PO 5 : An ability to learn, select and apply appropriate techniques, resources and modern engineering tools including prediction and modelling, to complex electronics and communication systems.

PO 6 : An ability to assess the knowledge of contemporary issues to the societal responsibilities relevant to the professional practice.

PO 7 : An ability to understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge for the need of sustainable development.

PO 8 : An ability to demonstrate the understanding of professional, ethical responsibilities and norms of engineering practice.

PO 9 : An ability to function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary settings.

PO 10 : An ability to communicate effectively with the engineering community and with society at large.

PO 11 : An ability to demonstrate knowledge and understanding of engineering and management principles and apply these to manage projects.

PO 12 : An ability to recognize the need for, and engage in lifelong learning in the broadest context of technological change.

Department of Electronics and Communication Engineering

COURSE OBJECTIVES

On completion of this Subject/Course the student shall be able to:

S.No	Objectives
1	To study about the basic concepts of telephony switching.
2	To learn about the telecommunication networks.
3	To learn about the Time division switching.
4	To learn about the telecommunication signaling.
5	To learn about the packet switching

COURSE OUTCOMES

The expected outcomes of the Course/Subject are:

S.No	Outcomes
1.	Describe the Elements of switching systems.
2.	Calculate network traffic load and parameters.
3.	Classify different switching systems and Interpret the switching network configurations.
4.	Understand the signalling techniques.
5.	Understand the subscriber loop systems, routing and protocol for ISDN.

Signature of faculty

Note: Please refer to Bloom's Taxonomy, to know the illustrative verbs that can be used to state the outcomes.

Department of Electronics and Communication Engineering

GUIDELINES TO STUDY THE COURSE / SUBJECT

<u>**Course Design and Delivery System (CDD):**</u>
- The Course syllabus is written into number of learning objectives and outcomes.
- Every student will be given an assessment plan, criteria for assessment, scheme of evaluation and grading method.
- The Learning Process will be carried out through assessments of Knowledge, Skills and Attitude by various methods and the students will be given guidance to refer to the text books, reference books, journals, etc.

The faculty be able to –
- Understand the principles of Learning
- Understand the psychology of students
- Develop instructional objectives for a given topic
- Prepare course, unit and lesson plans
- Understand different methods of teaching and learning
- Use appropriate teaching and learning aids
- Plan and deliver lectures effectively
- Provide feedback to students using various methods of Assessments and tools of Evaluation
- Act as a guide, advisor, counselor, facilitator, motivator and not just as a teacher alone

Signature of HOD   Signature of faculty

Date: Date:

Department of Electronics and Communication Engineering

COURSE SCHEDULE

The Schedule for the whole Course / Subject is:

S. No.	Description	Duration (Date)		Total No. of Periods
		From	To	
1.	**UNIT-I: Switching Systems**: Evolution of Telecommunications; Basics, functions, types and design parameters of switching system. 100/1000/10,000 Line exchange. Principles of Crossbar switching; A general trunking; Electronic and digital switching systems.	22/01/2024	31/01/2024	7
2.	**UNIT-II: Telecommunications Traffic** Introduction; Unit of traffic; congestion; Traffic measurement; Mathematical model; Lost call systems-Theory; Traffic performance; Loss systems in Tandem; Use of traffic tables; Queuing systems-the second Erlang distribution ; Probability of delay; Finite queue capacity; some other useful results; Systems with a single server; queues in tandem; Delay tables; Applications of delay formulae. **Switching Networks**: Introduction, Single stage networks; Grading Principles; Design of progressive grading; other forms of grading; Traffic capacity of Grading; Applications of grading; Link systems-grading; Two, Three and four stage networks; Grades of service of link systems.	05/02/2024	28/02/2024	17
3.	**UNIT-III: Time Division switching** Basics of time division space switching; basics of time division time switching; Time multiplexed space switch; Time multiplexed time switch; Combination switching; Three stage Combination switching. Control of switching systems; call processing functions; sequence of operations; signal exchanges; State transition diagrams; common control; reliability; availability and security; Stored program control.	29/02/2024	22/03/2024	14

Department of Electronics and Communication Engineering

4.	**UNIT-IV: Signalling:** Introduction; Customer Line signalling; Audio frequency Junction and trunkcircuits; FDM carrier systems-Out band signalling; In band (VF) signalling; PCM signalling; Inter Register signalling; Common channel signalling principles- General signalling networks; CCITT signalling system number 6; CCITT signalling system number 7; High level data link control; Signal units; The signalling information field.	26/03/2024	05/06/2024	10
5.	**UNIT -V Packet Switching:** Introduction; Statistical multiplexing; Local and wide Area networks- network topologies and their comparison; Routing; Flow control; Standards; Frame relay; Broadband networks-general; Asynchronous Transfer mode; ATM switches; ISDN; Cellular radio networks; private networks; charging; Routing-general, automatic, Alternative routing.	06/06/2024	12/06/2024	09

Total No. of Instructional periods available for the course: 57 Hours

Department of Electronics and Communication Engineering

SCHEDULE OF INSTRUCTIONS - COURSE PLAN

Unit No.	Lesson No.	Date	No. of Periods	Topics / Sub-Topics	Objectives & Outcomes Nos.	References (Textbook, Journal)
1.	1	22/01/2024	1	UNIT I : Switching Systems: Evolution of Telecommunications	1 1	Telecommunication Switching system by - J.E Flood, Tyagarajan
	2	23/01/2024	1	types and design parameters of switching system	1 1	Telecommunication Switching system by- J.E Flood, Tyagarajan
	3	24/01/2024	1	100/1000/10,000 Line exchange	1 1	Telecommunication Switching system by - J.E Flood, Tyagarajan
	4	25/01/2024	1	100/1000/10,000 Line exchange	1 1	Telecommunication Switching system by - J.E Flood, Tyagarajan
	5	29/01/2024	1	Basics, functions, Principles of Crossbar switching,	1 1	Telecommunication Switching system by - J.E Flood, Tyagarajan
	6	30/01/2024	1	A general trunking	1 1	Telecommunication Switching system by - J.E Flood, Tyagarajan
	7	31/01/2024	2	Electronic and digital switching systems, Electronic and digital switching systems	1 1	Telecommunication Switching system by - J.E Flood, Tyagarajan
2.	1	05/02/2024	1	Introduction; Unit of traffic, congestion; Traffic measurement	2 2	Telecommunication Switching system by- J.E Flood, Tyagarajan
	2	06/02/2024	1	Mathematical model, Lost call systems-Theory	2 2	Telecommunication Switching system by - J.E Flood, Tyagarajan
	3	07/02/2024	1	traffic performance; Loss systems in Tandem	2 2	Telecommunication Switching system by -

Department of Electronics and Communication Engineering

						J.E Flood, Tyagarajan
	4	08/02/2024	2	Use of traffic tables, Queuing systems-the second Erlang distribution	2 2	Telecommunication Switching system by - J.E Flood, Tyagarajan
	5	09/02/2024	1	Probability of delay; Finite queue capacity	2 2	Telecommunication Switching system by - J.E Flood, Tyagarajan
	6	12/02/2024	1	some other useful results; Systems with a single server	2 2	Telecommunication Switching system by- J.E Flood, Tyagarajan
	7	13/02/2024 & 15/02/2024	2	Queues in tandem; Delay tables, Applications of delay formulae.	2 2	Telecommunication Switching system by - J.E Flood, Tyagarajan
	8	20/02/2024 & 21/02/2024	2	Single stage networks; Grading Principles; Design of progressive grading	2 2	Telecommunication Switching system by - J.E Flood, Tyagarajan
	9	22/02/2024	1	other forms of grading; Traffic capacity of Grading; Applications of grading	2 2	Telecommunication Switching system by
	10	23/02/2024	1	Link systems-grading	2 2	Telecommunication Switching system by - J.E Flood, Tyagarajan
	11	26/02/2024 & 27/02/2024	2	Two, Three and four stage networks	2 2	Telecommunication Switching system by- J.E Flood, Tyagarajan
	12	28/02/2024	2	Grades of service of link systems.	2 2	Telecommunication Switching system by - J.E Flood, Tyagarajan
3.	1	29/02/2024 & 1/03/2024	2	Basics of time division space switching, basics of timedivision time switching	3 3	Telecommunication Switching system by - J.E Flood, Tyagarajan
	2	02/03/2024 & 04/03/2024	2	Time multiplexed space switch, Time multiplexed time switch,	3 3	Telecommunication Switching system by- J.E Flood, Tyagarajan
	3	05/03/2024 &	2	Combination switching, Three	3 3	Telecommunication

Department of Electronics and Communication Engineering

		06/03/2024		stage Combination switching	Switching system by - J.E Flood, Tyagarajan
	4	07/03/2024	2	Control of switching systems	3 3	Telecommunication Switching system by- J.E Flood, Tyagarajan
	5	11/03/2024	1	call processing functions	3 3	Telecommunication Switching system by - J.E Flood, Tyagarajan
	6	12/03/2024	1	sequence of operations, signal exchanges	3 3	Telecommunication Switching system by - J.E Flood, Tyagarajan
	7	13/03/2024	2	State transition diagrams; common control	3 3	Telecommunication Switching system by - J.E Flood, Tyagarajan
	8	15/03/2024 & 21/03/2024	2	Reliability; availability and security, Stored program control.	3 3	Telecommunication Switching system by- J.E Flood, Tyagarajan
4	1	26/03/2024 & 06/04/2024	2	Customer Line signalling, Audio frequency Junction and trunkcircuits	4 4	Telecommunication Switching system by - J.E Flood, Tyagarajan
	2	08/04/2024 & 09/04/2024	2	FDM carrier systems-Out band signalling	4 4	Telecommunication Switching system by - J.E Flood, Tyagarajan
	3	03/06/2024	1	In band (VF) signalling	4 4	Telecommunication Switching system by - J.E Flood, Tyagarajan
	4	04/06/2024	2	PCM signalling, Inter Register signalling; Common channel signalling	4 4	Telecommunication Switching system by - J.E Flood, Tyagarajan
	5	05/06/2024	1	principles- General signalling networks, CCITT signalling system number 6, CCITT signalling system number 7	4 4	Telecommunication Switching system by- J.E Flood, Tyagarajan

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	6	06/06/2024	2	High level data link control, Signal units; The signalling information field	4 4	Telecommunication Switching system by - J.E Flood, Tyagarajan
5	1	06/06/2024	2	Introduction; Statistical multiplexing; Local and wide Area networks-	5 5	Telecommunication Switching system by - J.E Flood, Tyagarajan
	2	07/06/2024	2	network topologies and their comparison, Routing, Flow control	5 5	Telecommunication Switching system by - J.E Flood, Tyagarajan
	3	08/06/2024	1	Standards; Frame relay, Broadband networks-general; Asynchronous Transfer mode; ATM switches	5 5	Telecommunication Switching system by - J.E Flood, Tyagarajan
	4	10/06/2024	2	ISDN; Cellular radio networks, private networks, charging	5 5	Telecommunication Switching system by - J.E Flood, Tyagarajan
	5	12/06/2024	2	Routing-general, automatic, Alternative routing	5 5	Telecommunication Switching system by - J.E Flood, Tyagarajan

Signature of HOD   Signature of faculty

Date: Date:

Note:
1. Ensure that all topics specified in the course are mentioned.
2. Additional topics covered, if any, may also be specified in bold.
3. Mention the corresponding course objective and outcome numbers against each topic.

Department of Electronics and Communication Engineering

LESSON PLAN (U-I)

Lesson No: 01, 02   Duration of Lesson: 1hr 40 min

Lesson Title: Principles of Crossbar switching
Instructional / Lesson Objectives:

- Students Can Able to understand while processing a call, the common control system helps in the sharing of resources.
- The flexible system design helps in the appropriate ratio selection is allowed for a specific switch.
- Fewer moving parts ease the maintenance of Crossbar switching systems.

Teaching AIDS   : PPTs, Digital Board
Time Management of Class   :

5 mins for taking attendance
130 min for the lecture delivery
15 min for doubts session

Assignment / Questions:
(Note: Mention for each question the relevant Objectives and Outcomes Nos.1, 2, 3, 4 & 1, 3.)

Refer assignment – I & tutorial-I sheets

Signature of faculty

Department of Electronics and Communication Engineering

LESSON PLAN (U-I)

Lesson No: 03, 04   Duration of Lesson: 1hr40 MIN

Lesson Title: Grading Principles; Design of progressive grading

Instructional / Lesson Objectives:

- Truly understand what grades mean, we'll take a quick look at the history of grades,
  What a traditional grading system is, and the pros and cons of grading systems on students.
- The effects of grading systems on students has both upsides and downsides. In some cases, they are
  unavoidable, and in others, it may be better to learn without incorporating grades into the picture.

Teaching AIDS   : PPTs, Digital Board
Time Management of Class   :

5 mins for taking attendance
15 for revision of previous class
55 min for lecture delivery
15 min for doubts session

Assignment / Questions:
(Note: Mention for each question the relevant Objectives and Outcomes Nos.1,2,3,4 & 1,3..)

Refer assignment – I & tutorial-I sheets

Signature of faculty

Department of Electronics and Communication Engineering

LESSON PLAN (U-II)

Lesson No: 05, 06   Duration of Lesson: 1hr30 MIN

Lesson Title: Network topologies

Instructional / Lesson Objectives:

- Students will be able to describe basic network topologies.
- Students will be able to identify basic network hardware
- Students will be able to define basic network protocols
- Students will be able to implement basic network security

Teaching AIDS   : PPTs, Digital Board
Time Management of Class   :

5 mins for taking attendance 15 for revision of previous class 55 min for lecture delivery 15 min for doubts session

Assignment / Questions:
(Note: Mention for each question the relevant Objectives and Outcomes Nos.1,2,3,4 & 1,3..)

Refer assignment-II & tutorial-II sheets.

Signature of faculty

Department of Electronics and Communication Engineering

	ANURAG ENGINEERING COLLEGE **Ananthagiri(V&M),Suryapet(Dt),(AN AUTONOMOUS INSTITUTION)**

		LESSON PLAN FOR THE ACADEMIC YEAR 2023-2024 SEM-II		

LESSON PLAN FOR THE ACADEMIC YEAR 2023-2024 SEM-II

NAME OF THE FACULTY	B Naga Raju
CLASS	III B.Tech. II Sem. ECE
NAME OF THE SUBJECT	TELECOMMUNICATION SWITCHING SYSTEM (CS403PC)

Date	Week	Day	Classes in a week	Topics Covered
22-Jan-24		MON		UNIT I : Switching Systems: Evolution of Telecommunications
23-Jan-24		TUE		
24-Jan-24	1	WED	4	types and design parameters of switching system
25-Jan-24		THU		100/1000/10,000 Line exchange
26-Jan-24		FRI		**Republic Day**
27-Jan-24		SAT		100/1000/10,000 Line exchange
28-Jan-24		SUN		
29-Jan-24		MON		Basics, functions, Principles of Crossbar switching,
30-Jan-24		TUE		NO CLASS
31-Jan-24		WED		A general trunking
1-Feb-24	2	THU	5	Electronic and digital switching systems
2-Feb-24		FRI		UNIT-II:Telecommunications Traffic: Introduction
3-Feb-24		SAT		nit of traffic; congestion; Traffic measurement, Mathematical model
4-Feb-24		SUN		
5-Feb-24		MON		Lost call systems-Theory, Traffic performance
6-Feb-24		TUE		NO CLASS
7-Feb-24		WED		Loss systems in Tandem; Use of traffic tables, Queuing systems-the second Erlang distribution
8-Feb-24	3	THU	4	Probability of delay, Finite queue capacity, some other useful results
9-Feb-24		FRI		Systems with a single server, queues in tandem, Delay tables.
10-Feb-24		SAT		Applications of delay formulae, Introduction, Single stage networks
11-Feb-24		SUN		

Department of Electronics and Communication Engineering

Date	Week	Day	Periods	Topic
12-Feb-24	4	MON	5	Grading Principles; Design of progressive grading; other forms of grading
13-Feb-24		TUE		NO CLASS
14-Feb-24		WED		Traffic capacity of Grading, Applications of grading, Link systems-grading
15-Feb-24		THU		Two, Three and four stage networks
16-Feb-24		FRI		Grades of service of link systems
17-Feb-24		SAT		UNIT III: Time Division switching: Introduction to time division switching
18-Feb-24		SUN		
19-Feb-24	5	MON	5	Time Division switching: Introduction to time division switching
20-Feb-24		TUE		NO CLASS
21-Feb-24		WED		basics of time division time switching
22-Feb-24		THU		basics of time division time switching
23-Feb-24		FRI		Time multiplexed space switch
24-Feb-24		SAT		Time multiplexed space switch
25-Feb-24		SUN		
26-Feb-24	6	MON	5	Time multiplexed time switch
27-Feb-24		TUE		NO CLASS
28-Feb-24		WED		Time multiplexed time switch
29-Feb-24		THU		Combination switching
1-Mar-24		FRI		Combination switching
2-Mar-24		SAT		Three stage Combination switching
3-Mar-24		SUN		
4-Mar-24	7	MON	4	Three stage Combination switching
5-Mar-24		TUE		NO CLASS
6-Mar-24		WED		Control of switching systems
7-Mar-24		THU		Control of switching systems
8-Mar-24		FRI		MAHA SHIVARATRI
9-Mar-24		SAT		call processing functions
10-Mar-24		SUN		
11-Mar-24	8	MON	5	sequence of operations
12-Mar-24		TUE		NO CLASS
13-Mar-24		WED		sequence of operations
14-Mar-24		THU		signal exchanges
15-Mar-24		FRI		State transition diagrams
16-Mar-24		SAT		common control
17-Mar-24		SUN		
18-Mar-24	9	MON		MID-I EXAMINATION
19-Mar-24		TUE		
20-Mar-24		WED		

Department of Electronics and Communication Engineering

Date	Week	Day	No.	Topic
21-Mar-24		THU		Reliability
22-Mar-24		FRI	3	availability and security
23-Mar-24		SAT		Stored program control.
24-Mar-24		**SUN**		
25-Mar-24	10	MON		**HOLI**
26-Mar-24		TUE		NO CLASS
27-Mar-24		WED	3	UNIT IV: Signalling: Introduction
28-Mar-24		THU		Customer Line signalling
29-Mar-24		FRI		**GOOD FRIDAY**
30-Mar-24		SAT		Audio frequency Junction and trunkcircuits
31-Mar-24		SUN		
1-Apr-24	11	MON		Audio frequency Junction and trunkcircuits
2-Apr-24		TUE		NO CLASS
3-Apr-24		WED	4	FDM carrier systems-Out band signalling
4-Apr-24		THU		FDM carrier systems-Out band signalling
5-Apr-24		FRI		**BABU JAGJIVAN RAM JAYANTHI**
6-Apr-24		SAT		In band (VF) signalling
7-Apr-24		**SUN**		
8-Apr-24	12	MON		PCM signalling
9-Apr-24		TUE		**UGADI**
10-Apr-24		WED	3	Inter Register signalling
11-Apr-24		THU		**RAMZAN**
12-Apr-24		FRI		**FOLLOWING DAY OF RAMZAN**
13-Apr-24		SAT		Inter Register signalling
14-Apr-24		SUN		
15-Apr-24	13	MON		Common channel signalling principles
16-Apr-24		TUE		NO CLASS
17-Apr-24		WED	4	**RAM NAVAMI**
18-Apr-24		THU		General signalling networks
19-Apr-24		FRI		CCITT signalling system number 6
20-Apr-24		SAT		CCITT signalling system number 6
21-Apr-24		**SUN**		
22-Apr-24	14	MON		CCITT signalling system number 7
23-Apr-24		TUE		NO CLASS
24-Apr-24		WED	5	CCITT signalling system number 7
25-Apr-24		THU		High level data link control
26-Apr-24		FRI		Signal units
27-Apr-24		SAT		The signalling information field.
28-Apr-24		SUN		
29-Apr-24	15	MON	5	UNIT V : Packet Switching: Introduction
30-Apr-24		TUE		NO CLASS

24

Department of Electronics and Communication Engineering

Date	Week	Day	Unit	Topic
1-May-24		WED		Statistical multiplexing
2-May-24		THU		Local and wide Area networks- network topologies and their comparison
3-May-24		FRI		Local and wide Area networks- network topologies and their comparison
4-May-24		SAT		Routing
5-May-24		**SUN**		
6-May-24	**16**	MON	2	Routing
7-May-24		TUE		NO CLASS
8-May-24		WED		Flow control
9-May-24		THU		
10-May-24		FRI		
11-May-24		SAT		
12-May-24		SUN		
13-May-24	**17**	MON		
14-May-24		TUE		
15-May-24		WED		
16-May-24		THU		
17-May-24		FRI		
18-May-24		SAT		
19-May-24		**SUN**		
20-May-24	**18**	MON		
21-May-24		TUE		
22-May-24		WED		**INDUSTRIAL ORIENTED MINI PROJECT/ INTERNSHIP / SUMMER OCCASSION**
23-May-24		THU		
24-May-24		FRI		
25-May-24		SAT		
26-May-24		SUN		
27-May-24	**19**	MON		
28-May-24		TUE		
29-May-24		WED		
30-May-24		THU		
31-May-24		FRI		
1-Jun-24		SAT		
2-Jun-24		**SUN**		
3-Jun-24	**20**	MON		
4-Jun-24		TUE		
5-Jun-24		WED		
6-Jun-24		THU	3	Flow control
7-Jun-24		FRI		Frame relay
8-Jun-24		SAT		Frame relay, Broadband networks-general
9-Jun-24		SUN		

25

Department of Electronics and Communication Engineering

Date	Week	Day		Topic
10-Jun-24		MON		Asynchronous Transfer mode, ATM switches
11-Jun-24		TUE	2	NO CLASS
12-Jun-24	21	WED		ISDN; Cellular radio networks, private networks, charging, Routing-general, automatic, Alternative routing.
13-Jun-24		THU		**MID-II EXAMINATION**
14-Jun-24		FRI		
15-Jun-24		SAT		
16-Jun-24		**SUN**		
17-Jun-24		MON		**BAKRID**
18-Jun-24		TUE		
19-Jun-24	22	WED		
20-Jun-24		THU		
21-Jun-24		FRI		**PREPARATION HOLIDAYS**
22-Jun-24		SAT		
23-Jun-24		SUN		
24-Jun-24		MON		
25-Jun-24		TUE		
26-Jun-24	23	WED		
27-Jun-24		THU		
28-Jun-24		FRI		
29-Jun-24		SAT		
30-Jun-24		SUN		
1-Jul-24		MON		
2-Jul-24		TUE		
3-Jul-24	24	WED		
4-Jul-24		THU		
5-Jul-24		FRI		
6-Jul-24		SAT		
7-Jul-24		SUN		**SEMESTER END EXAMINATION (THEORY & PRACTICAL)**
8-Jul-24		MON		
9-Jul-24		TUE		
10-Jul-24	25	WED		
11-Jul-24		THU		
12-Jul-24		FRI		
13-Jul-24		SAT		
14-Jul-24		SUN		
15-Jul-24		MON		
16-Jul-24		TUE		
17-Jul-24	26	WED		
18-Jul-24		THU		
19-Jul-24		FRI		
20-Jul-24		SAT		

Department of Electronics and Communication Engineering

ASSIGNMENT – 1

This Assignment corresponds to Unit No. 1

Question No.	Question	Objective No.	Outcome No.
1	Explain in detail about Strowger switching system.	1	1
2	Explain the Concept of Cross-bar switching with its block diagram.	1	1

Signature of HOD   Signature of faculty

Date: Date:

Department of Electronics and Communication Engineering

ASSIGNMENT – 2

This Assignment corresponds to Unit No. 2

Question No.	Question	Objective No.	Outcome No.
1	Discuss about Queuing systems-the second Erlang distribution.	2	2
2	Explain the Principle of Grading to improve Trunking efficiency.	2	2

Signature of HOD   Signature of faculty

Date: Date:

Department of Electronics and Communication Engineering

ASSIGNMENT – 3

This Assignment corresponds to Unit No. 3

Question No.	Question	Objective No.	Outcome No.
1	Summarize basic Time Division time switching and bring out its merits and demerits.	3	3
2	Write briefly on stored program control.	3	3

Signature of HOD   Signature of faculty

Date: Date:

Department of Electronics and Communication Engineering

ASSIGNMENT – 4

This Assignment corresponds to Unit No. 4

Question No.	Question	Objective No.	Outcome No.
1	Explain the concept of inter-register signaling?	4	4
2	Write a brief note on out band signaling in a Telecommunication Network.	4	4

Signature of HOD   Signature of faculty

Date: Date:

Department of Electronics and Communication Engineering

ASSIGNMENT – 5

This Assignment corresponds to Unit No. 5

Question No.	Question	Objective No.	Outcome No.
1	Discuss about network topologies with their comparison.	5	5
2	State and explain the routing techniques in packet switching.	5	5

Signature of HOD   Signature of faculty

Date: Date:

Department of Electronics and Communication Engineering

TUTORIAL – 1

This tutorial corresponds to Unit No. 1 (Objective Nos.: 1, Outcome Nos.: 1)

Q1. A local telephone network is an example of a _____ network.

  a) Line switched   b) Circuit switched   c) Bit switched   d) Packet switched

Q2. Most packet switches use this principle _____
a) Stop and wait   b) Store and forward c) Store and wait   d) Stop and forward

Q3. In _____ systems, resources are allocated on demand.
  a) frequency switching   b) circuit switching   c) packet switching   d) line switching

Q4. Which of the following layers does the HTTP protocol work on?
  a) Data-link layer   b) Application layer   c) None of the these   d) Physical layer

Q5. Which of the following is not an application layer service?
  a) Error control b) File transfer, access, and management c) Network virtual terminal d) Mail service

Signature of HOD   Signature of faculty

Date: Date:

Department of Electronics and Communication Engineering

TUTORIAL – 2

This tutorial corresponds to Unit No. 2 (Objective Nos.: 2, Outcome Nos.: 2)

Q1) If a group of trunk is offered 1200 calls during the busy hour & 20 calls are lost along with
The average call duration of about 7 min, then what would be the total duration of congestion
Period?
         a) 98.2 sec   b) 42.2 sec   c) 57.6 sec   d) 21.6 sec

Q2) Which model of loss system allows the usage of Poisson distribution model for traffic
   analysis especially by assuming infinite number of users?
   a) Lost Calls Cleared (LCC)   b) Lost Calls Returned (LCR)
   c) Lost Calls Held (LCH)   d) None of the above

Q3) Which type of holding time distribution is assumed for the voice conversation on telephone?
 a) Exponential   b) Both a and b   c) Constant   d) None of the above

Q4) If the queuing systems are connected in tandem configuration, what would be the nature of delay?
   a) Deductive   b) Commutative   c) Distributive   d) Cumulative

Q5) By which name/s is the Grade of Service (GOS) well-known?
   a) Call congestion   b) Time congestion   c) Both a and b   d) None of the above
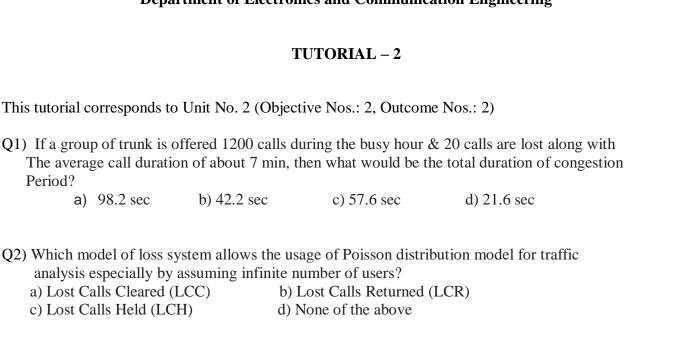
Signature of HOD   Signature of faculty

Date: Date:

Department of Electronics and Communication Engineering

TUTORIAL SHEET – 3

This tutorial corresponds to Unit No. 3 (Objective Nos.: 3, Outcome Nos.: 3)

Q1) the time slot interchange uses _____ multiplexing to achieve switching
　　a) frequency division 　　b) time division 　　c) switch division 　　d) asynchronous division

Q2) The TDM bus uses _____ multiplexing to achieve switching.
　　a) frequency division 　　b) asynchronous division 　　c) time division 　　d) switch division

Q3) In a TDM bus, the _____ opens an input gate and an output gate to allow data transfer.
　　a) control unit 　　　　b) RAM 　　　　c) ROM 　　　　d) bus

Q4) the disadvantage of _____ switching is the processing delay.
　　a) time division 　　　　b) space division 　　c) asynchronous division 　　　　d) b or c

Q5) In a TST switch, if there are x first stage switches, one second stage switch, and y third stage switches, the second stage must have _____ cross points.
　　a) X2 (X square) 　　　　b) y2 (Y Square) 　　　　c) xy 　　　　d) x/y

Signature of HOD 　　　　　　　　　　　　　　　　Signature of faculty

Date: 　　　　　　　　　　　　　　　　　　　　　Date:

Department of Electronics and Communication Engineering

TUTORIAL – 4

This tutorial corresponds to Unit No. 4 (Objective Nos.: 3, Outcome Nos.: 3)

Q1) Which of the following is not a service offered by SS7?
  a) 800 services   b) Alternate billing services   c) Touchstar   d) 400 services

Q2) SS7 was first developed by _____
  a) ITU   b) Motorola   c) CCITT   d) Ericsson

Q3) Which of the layer of OSI is associated with NSP of SS7?
  a) Lowest three   b) All layers   c) Middle two   d) Upper three

Q4) The function of _____ is to transfer and deliver signalling network.
  a) CDPD   b) MTP   c) ARDIS   d) CCS

Q5) The TCAP part in SS7 refers to _____ layer of OSI
  a) Network   b) Physical   c) Application   d) Data Link

Signature of HOD   Signature of faculty

Date: Date:

Department of Electronics and Communication Engineering

TUTORIAL SHEET – 5

This tutorial corresponds to Unit No. 5 (Objective Nos.: 5, Outcome Nos.: 5)

Q1) a local telephone network is an example of a _____ network.
    a) Line switched   b) Circuit switched   c) Bit switched   d) Packet switched

Q2) Most packet switches use this principle _____
    a) Stop and wait   b) Store and forward   c) Store and wait   d) Stop and forward

Q3) what are the Methods to move data through a network of links and switches?
    a) Circuit switching and Line switching   b) Line switching and bit switching
    c) Packet switching and Circuit switching   d) Packet switching and Line switching

Q4) In _____ systems, resources are allocated on demand.
    a) frequency switching   b) circuit switching   c) packet switching   d) line switching

Q5) Which one of the following switching is not transparent?
    a) Both a and b   b) Circuit switching   c) Packet switching   d) None of the above

Signature of HOD   Signature of faculty

Date: Date:

Department of Electronics and Communication Engineering

EVALUATION STRATEGY

Target (s)

    a. Percentage of Pass   : 95%

Assessment Method (s) (Maximum Marks for evaluation are defined in the Academic Regulations)

    a. Daily Attendance

    b. Assignments

    c. Online Quiz (or) Seminars

    d. Continuous Internal Assessment

    e. Semester / End Examination

List out any new topic(s) or any innovation you would like to introduce in teaching the subjects in this semester

Case Study of any one existing application

Signature of HOD   Signature of faculty

Date: Date:

Department of Electronics and Communication Engineering

COURSE COMPLETION STATUS

Actual Date of Completion & Remarks if any

Units	Remarks	Objective No. Achieved	Outcome No. Achieved
Unit 1	completed on 31.01.2024	1	1
Unit 2	completed on 28.02.2024	2	2
Unit 3	completed on 22.03.2024	3	3
Unit 4	completed on 05.06.2024	4	4
Unit 5	completed on 12.06.2024	5	5

Signature of HOD   Signature of faculty

Date: Date:

Department of Electronics and Communication Engineering

Mappings

1. **Course Objectives-Course Outcomes Relationship Matrix**
   (Indicate the relationships by mark "X")

Course-Objectives \ Course-Outcomes	1	2	3	4	5
1	H				
2		H			
3			M		
4				H	
5					H

2. **Course Outcomes-Program Outcomes (POs) & PSOs Relationship Matrix**
   (Indicate the relationships by mark "X")

C-Outcomes \ P-Outcomes	a	b	c	d	e	f	g	h	i	j	k	l	PSO 1	PSO 2
1	H	M										M		
2	M	H												
3	M											M	M	M
4	M	H											M	M
5	M	H										M	M	M

Department of Electronics and Communication Engineering

Rubric for Evaluation

Performance Criteria	Unsatisfactory	Developing	Satisfactory	Exemplary
	1	2	3	4
Research & Gather Information	Does not collect any information that relates to the topic	Collects very little information some relates to the topic	Collects some basic Information most relates to the topic	Collects a great deal of Information all relates to the topic
Fulfill team role's duty	Does not perform any duties of assigned team role.	Performs very little duties.	Performs nearly all duties.	Performs all duties of assigned team role.
Share Equally	Always relies on others to do the work.	Rarely does the assigned work - often needs reminding.	Usually does the assigned work - rarely needs reminding.	Always does the assigned work without having to be reminded
Listen to other team mates	Is always talking— never allows anyone else to speak.	Usually doing most of the talking-- rarely allows others to speak.	Listens, but sometimes talks too much.	Listens and speaks a fair amount.

Department of Electronics and Communication Engineering

III B.TECH VI SEMESTER I MID EXAMINATIONS - MARCH 2024

Branch : B.Tech. (ECE)	Subject : TELECOMMUNICATION SWITCHING SYSTEMS,EC621PE	Max. Marks : 20M
Date : 21.03.2024 FN		Time : 90 Minutes

PART - A

ANSWER ALL THE QUESTIONS.   **5 X 1M = 5M**

Q.No	Question	CO	BTL
1.	Define what is trunk?	CO1	1
2.	What are the advontages and dis-advontages of strowger switching system?	CO1	1
3.	What is CCR?	CO2	1
4.	Define what is Busy Hour?	CO2	1
5.	What is ISDN?	CO3	2

PART - B

ANSWER ALL THE QUESTIONS.   **3 X 5M = 15M**

Q.No	Question	CO	BTL
6.	Write a brief note on design parameters of switching system.	CO1	3
	OR		
7.	Discuss the evolution of telecommunications.	CO1	2
8.	Discuss about Queuing systems-the second Erlang distribution.	CO2	2
	OR		
9.	Explain the procedure of queuing system.	CO2	2
10.	Explain about the space switches in detail.	CO3	2
	OR		
11.	Explain the operation of Time switches in space division equivalent.	CO3	2

Department of Electronics and Communication Engineering

III B.TECH VI SEMESTER II MID EXAMINATIONS - JUNE 2024

Branch : B.Tech. (ECE)
Date : 20-Jun-2024   Session : Morning
Subject : TELECOMMUNICATION SWITCHING SYSTEMS,EC621PE

Max. Marks : 20M
Time : 90 Min

PART - A

ANSWER ALL THE QUESTIONS   5 X 1M – 5M

Q.No	Question	CO	BTL
1.	define what is slotted operation?	CO3	1
2.	what are the types of common channel signalling?	CO4	1
3.	what are the advantages of SS7?	CO4	2
4.	list the advantages of ATM.	CO5	2
5.	what are the various types of network topologies.	CO5	1

PART - B

ANSWER ALL THE QUESTIONS   3 X 5M – 15M

Q.No	Question	CO	BTL
6.	summarize basic time division time switching and bring out its merits and demerits.	CO3	2
	OR		
7.	write briefly on control of switching system.	CO3	2
8.	discuss various features and applications of PCM signalling.	CO4	2
	OR		
9.	explain the architecture of SS7.	CO4	1
10.	discuss about different types of routing in brandbacd networks.	CO5	2
	OR		
11.	explain the routing techniques in packet switching.	CO5	1

Anurag
ENGINEERING COLLEGE
(An Autonomous Institution)

Department of Electronics and Communication Engineering

S.No.	H.T.No.	Name of the Student	Mid - I	Assignment - I	Mid - I Total	Mid - II	Assignment - II	Mid - II Total	AVG
1	19C11A0422	MOUNIKA MADDI	19	5	24	18	5	23	24
2	20C11A0427	MAHESH KUMAR GUNJA	AB	AB	0			0	0
3	21C11A0402	AKHIL SAI KORLAPTI			0			0	0
4	21C11A0403	ANIL SIRAMSETTI			0			0	0
5	21C11A0404	ANIL BORRA			0			0	0
6	21C11A0405	ANUSHA THURAKA	12	5	17	19	5	24	21
7	21C11A0406	ARCHITHA REDDY MANDADI			0			0	0
8	21C11A0407	ASIF SAYED	13	5	18	16	5	21	20
9	21C11A0408	ASRA BEGUM SHEK			0			0	0
10	21C11A0410	BALAJI UTHARADHI	12	5	17	9	5	14	16
11	21C11A0411	BALAJI NIKAM			0			0	0
12	21C11A0412	BANGARU BABU BHUKYA			0			0	0
13	21C11A0413	BHANU PRAKASH CHOWGANI			0			0	0
14	21C11A0415	BHARGAV AKULA	13	5	18	14	5	19	19
15	21C11A0416	BHAVANA GOUD BANDI			0			0	0
16	21C11A0417	BHAVANA SATHULURI			0			0	0
17	21C11A0418	BHAVANI ELAVALA			0			0	0
18	21C11A0419	BHAVYA SRI VANGAVETI	20	5	25	19	5	24	25
19	21C11A0420	CHAITANYA KARNATI			0			0	0
20	21C11A0421	CHAKRADHAR SAI PEDDOJU			0			0	0
21	21C11A0422	CHARAN CHENNOJU			0			0	0
22	21C11A0423	CHETAN SAI GAVINI			0			0	0
23	21C11A0424	DEEPAK JUPUDI			0			0	0
24	21C11A0425	DEVIKA BOMMU	19	5	24	18	5	23	24

Department of Electronics and Communication Engineering

25	21C11A0426	DHANUSH TANNEERU			0			0	0
26	21C11A0428	DRAKSHAYANI VEMULA			0			0	0
27	21C11A0429	DURGA BHAVANI DODDAPANENI	17	5	22	16	5	21	22
28	21C11A0430	GEETHANJALI BORRA			0			0	0
29	21C11A0431	GNANESHWAR KOSURU			0			0	0
30	21C11A0432	GOPIRAJU GAVINI			0			0	0
31	21C11A0433	INDRASENA REDDY KURAKULA			0			0	0
32	21C11A0434	JARINA BEGAM SHAIK			0			0	0
33	21C11A0435	KALYAN PAMULAPARTHI			0			0	0
34	21C11A0436	KARISHMA SHAIK	18	5	23	20	5	25	24
35	21C11A0438	KAVYA BOLLA			0			0	0
36	21C11A0440	LAHARI DEVINENI			0			0	0
37	21C11A0441	LAVANYA KASARLA			0			0	0
38	21C11A0442	LIKHITH KUMAR SANGAPU			0			0	0
39	21C11A0443	LOKESH THUMMA	16	5	21	17	5	22	22
40	21C11A0444	MAHENDER REDDY VUSTELLA			0			0	0
41	21C11A0445	MANOHAR KOMMINENI			0			0	0
42	21C11A0446	MANOJ KUMAR KOLA			0			0	0
43	21C11A0447	MANOJ SAI KETHAM			0			0	0
44	21C11A0449	NARESH REDDY BEDEDALA			0			0	0
45	21C11A0450	NASEERUDDIN BABA SHAIK			0			0	0
46	21C11A0451	NAVEEN REDDY SANKALAMADDI			0			0	0
47	21C11A0452	NAVEEN YARASANGI	16	5	21	15	5	20	21
48	21C11A0453	NAVYA VURUKONDA	15	5	20	15	5	20	20
49	21C11A0454	NAVYASRI POTLAPALLI	12	5	17	15	5	20	19
50	21C11A0455	NAZIYA BUSHRA SHAIK			0			0	0
51	21C11A0456	NITHIN REDDY BOMMAREDDY			0			0	0
52	21C11A0457	POOJITHA ANANTHU	18	5	23	19	5	24	24

Department of Electronics and Communication Engineering

S.No.	H.T.No.	Name of the Student	Mid - I	Assignment - I	Mid - I Total	Mid - II	Assignment - II	Mid - II Total	AVG
53	21C11A0458	PRASANNA KUMAR MEESALA			0			0	0
54	21C11A0459	PRAVEEN REDDY KAKUNURI			0			0	0
55	21C11A0460	PRIYA P			0			0	0
56	21C11A0461	RAGHUVEER NALLANCHAKRAVARTHULA			0			0	0
57	21C11A0463	RAKESH BORRA	18	5	23	20	5	25	24
58	21C11A0465	RAKESH MESHAM	19	5	24	19	5	24	24
59	21C11A0466	RAM KUMAR ANASURI	12	5	17	8	5	13	15
60	21C11A0467	RAMA KRISHNA REDDY AMARAVADI			0			0	0
61	21C11A0468	RAMAKRISHNA MUNDRA			0			0	0
S.No.	H.T.No.	Name of the Student	Mid - I	Assignment - I	Mid - I Total	Mid - II	Assignment - II	Mid - II Total	AVG
1	21C11A0469	RAMASRI CHIMATA	16	5	21	16	5	21	21
2	21C11A0470	ROSHINI REDDYMALLA	19	5	24	18	5	23	24
3	21C11A0471	RUSHITHA TUMURUGOTI	17	5	22	17	5	22	22
4	21C11A0472	SAI GOWTHAM VARMA BADE	14	5	19	18	5	23	21
5	21C11A0473	SAI MADHULATHA PAIDIMARRI	17	5	22	15	5	20	21
6	21C11A0474	SAI MADHURI RAGAM	9	5	14	13	5	18	16
7	21C11A0475	SAIDA KASIM SHAIK	12	5	17	14	5	19	18
8	21C11A0476	SAIDEEPA BANOTHU	13	5	18	17	5	22	20
9	21C11A0477	SAIKIRAN CHINTALA	14	5	19	16	5	21	20
10	21C11A0478	SAIKRISHNA VADAKOPULA	AB		0			0	0
11	21C11A0479	SAMEENA SHAIK	16	5	21	14	5	19	20
12	21C11A0480	SAMEER SHAIK			0			0	0
13	21C11A0481	SAMEER AHMED SHAIK			0			0	0
14	21C11A0482	SANDEEP RANGISETTI	19	5	24	20	5	25	25
15	21C11A0483	SANDHYA DARA	11	5	16	14	5	19	18
16	21C11A0484	SATHWIK VORUGANTI	14	5	19	20	5	25	22
17	21C11A0485	SATHWIKA CHAKILAM	18	5	23	18	5	23	23

Department of Electronics and Communication Engineering

18	21C11A0486	SATYANARAYANA AMARABOINA			0			0	0
19	21C11A0487	SHAREEF SHAIK			0			0	0
20	21C11A0488	SHIVA BARI			0			0	0
21	21C11A0490	SHIVANI GUDISE	17	5	22	19	5	24	23
22	21C11A0492	SHIVASAI BARMAVATH	15	5	20	15	5	20	20
23	21C11A0493	SRAVYA GOVINDU	15	5	20	15	5	20	20
24	21C11A0494	SRI SAI SRINIVASA PANINDRA PIDATHALA	19	5	24	20	5	25	25
25	21C11A0495	SRI SAILAJA PASUPULETI			0			0	0
26	21C11A0496	SRIDHAR BOILLA	17	5	22	18	5	23	23
27	21C11A0497	SRIKANTH MUNAGA			0			0	0
28	21C11A0498	SRIRAM NANDIGAMA			0			0	0
29	21C11A0499	SUJITH KUMAR BOGOJU			0			0	0
30	21C11A04A0	SUNIL PATHANAPU			0			0	0
31	21C11A04A1	SUSHMA THOKALA	16	5	21	19	5	24	23
32	21C11A04A2	TAGORE KHANNA SIDDAMSETTI			0			0	0
33	21C11A04A3	THAMRIN SHAIK			0			0	0
34	21C11A04A4	THARUN THUMMEPALLI	11	5	16	13	5	18	17
35	21C11A04A5	UMA MAHESWARI BATHULA	13	5	18	19	5	24	21
36	21C11A04A6	USHA SRI PATTHIPATI	16	5	21	19	5	24	23
37	21C11A04A7	VAHINI CHOWDARY KOGANTI			0			0	0
38	21C11A04A8	VAMSHI BOLLEPALLI			0			0	0
39	21C11A04A9	VARSHITHA KOMMAINENI	9	5	14	13	5	18	16
40	21C11A04B0	VARUN KUMAR KARNIKANTI	19	5	24	20	5	25	25
41	21C11A04B1	VEERAVENKATA SATYASAI BALAKRISHNA PRASAD P	20	5	25	20	5	25	25
42	21C11A04B5	VENKAT REDDY KANDIMALLA			0			0	0
43	21C11A04B6	VENKAT SAI VALLURI	AB		0			0	0
44	21C11A04B7	VENKATESH MOGARALA			0			0	0

Department of Electronics and Communication Engineering

45	21C11A04B9	VENKATESH KALVAKUNTLA			0			0	0
46	21C11A04C0	VENNELA EATUKURI	13	5	18	17	5	22	20
47	21C11A04C1	VIGNESHWAR REDDY PANDIRI			0			0	0
48	21C11A04C2	VIGNESHWAR REDDY POSHAM			0			0	0
49	21C11A04C3	VIJINITH UPPALA	11	5	16	13	5	18	17
50	21C11A04C4	VIKAS MAMIDI			0			0	0
51	21C11A04C5	VILASH GARA			0			0	0
52	21C11A04C6	VINAY REDDY SAMA	13	5	18	18	5	23	21
53	21C11A04C7	VINITHA KANDULA	10	5	15	15	5	20	18
54	21C11A04C8	VIVEK VALLAPU			0			0	0
55	21C11A04C9	YASHWASRI KOTHA			0			0	0
56	22C15A0401	ASRITHA PONNA			0			0	0
57	22C15A0402	LAHARI BATTU	18	5	23	19	5	24	24
58	22C15A0403	NIKHIL KURDULA	10	5	15	9	5	14	15
59	22C15A0404	NIKHIL SIRIPURAM			0			0	0
60	22C15A0405	SAI MAHESH YERRAMSETTI	16	5	21	19	5	24	23
61	22C15A0407	TRIVENI ERUGU			0			0	0
62	22C15A0408	VENKATA SAI JASWANTH BOMMISETTY	9	5	14	11	5	16	15
63	22C15A0409	YASHWANTH VEGGALAM			0			0	0

Department of Electronics and Communication Engineering

IMPORTANT LINKS

1. SAMPLE ASSIGNMENT AND MID SCRIPTS

2. TELECOMMUNICATION SWITCHING SYSTEM MATERIAL

3. MICRO ANALYSIS SHEETS

S.NO.	TITLE	LINK
1	MID I SAMPLE ANSWER SCRIPTS	
2	MID I SAMPLE ASSIGNMENTS SCRIPTS	SAMPLE EVALUTION SCRIPT.PDF
3	MID II SAMPLE ANSWER SCRIPTS	
4	MID II SAMPLE ASSIGNMENTS SCRIPTS	
5	MATERIAL	..\TSSN Materials
6	TSS A SEC MICRO ANALYSIS	III-II TSS MID-I MICRO ANALYSIS.xlsx
7	TSS B SEC MICRO ANALYSIS	III-II MID-II MICRO ANALYSIS.xlsx
8	PPTS	..\TSS ALL UNITS PPTS