



**K.S. INSTITUTE OF TECHNOLOGY, BANGALORE - 560109**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**TEACHING AND LEARNING**

**Details of Content beyond syllabus Activities-2022-23 Odd Semester**

**3<sup>rd</sup> Semester**

III/A	Transform Calculus, Fourier Series And Numerical Techniques (TCFSNT) Mathematics Course (Common to all) 21MAT31	Mini Project	4,9,10,11,12	Mrs. Mamatha N
III/B	Transform Calculus, Fourier Series And Numerical Techniques (TCFSNT) Mathematics Course (Common to all) 21MAT31	Mini Project	4,9,10,11,12	Mr. Naveen V
III/A	Digital System Design using Verilog 21EC32	Add on programs	4,9,11	Mr. Santhosh Kumar B R
III/B	Digital System Design using Verilog 21EC32	Add on programs	4,9,11	Mrs. Suma Santosh
III/A	Basic Signal Processing 21EC33	Poster Presentation	9,10,11,12	Mrs. Anita P
III/B	Basic Signal Processing 21EC33	Quiz	5,9	Mr. Christo Jain
III/A&B	Analog Electronic Circuits 21EC34	Mini Project	6,9,10,11,12	Dr. Chanda V Reddy

## 5<sup>th</sup> Semester

V/A&B	Technological Innovation Management And Entrepreneurship 18ES51	Activity based Project on “Management functions in various Organization”	6,9,10,11,12	Mrs. Vishalini Divakar
V/A&B	Digital Signal Processing 18EC52	Mini Project	1,2,3,5,9,10,11,12	Mrs. Sangeetha.V
V /A&B	Principles of Communication Systems 18EC53	Presentation	9,10,12	Dr. Rekha N
V/A&B	Information Theory & Coding 18EC54	Mini Project	4,9,10,11,12	Mrs. Bhargavi Ananth
V/A	Electromagnetic Waves 18EC55	Poster Presentation	9,10,12	Mrs. Bhanumathi A
V/ B	Electromagnetic Waves 18EC55	Poster Presentation	9,10,12	Mrs. Kavya B M
V/ A&B	Verilog HDL 18EC56	Mini Project	6,7,9,10,11,12	Dr. B.Sudharshan



## 7<sup>th</sup> Semester

<b>Semester/ Section</b>	<b>Course Name</b>	<b>Content beyond syllabus activity conducted</b>	<b>POs Covered</b>	<b>Faculty</b>
VII A&B	Computer Networks 18EC71	Literature Survey	1,2,5,9,10,12	Dr. Dinesh Kumar D S
VII A	VLSI Design 18EC72	Poster Presentation	9,10,12	Mr. Praveen.A.
VII B	VLSI Design 18EC72	Poster Presentation	9,10,12	Mr. Aswini Kumar G
VII A&B	Satellite Communication 18EC732	Poster Presentation	9,10,12	Mrs. Pooja S
VII A&B	Cryptography 18EC744	Mini Poject	1,2,3,5,7,9,10,11,12	Dr. P.N Sudha
VII A&B	Energy and Environment 18ME751	Poster Presentation	9,10,12	Dr. B Surekha

**3<sup>rd</sup> semester**

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

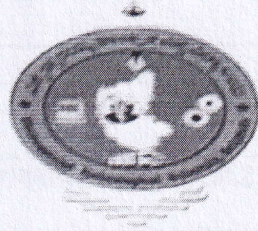
TEACHING AND LEARNING

## CONTENT BEYOND SYLLABUS

Academic Year	2022-23 (ODD)
Name of the Faculty	Mrs. MAMATHA N & Mr. NAVEEN V
Course Name /Code	FOURIER SERIES, FOURIER TRANSFORMS & NUMERICAL TECHNIQUES (21MAT31)
Semester/Section	III/A & B
Activity Name	Mini Project with report
Topic Covered	Analysis of continuous time signal using Fourier Series
Date	22/2/2023
No. of Participants	124
Objectives/Goals	<ul style="list-style-type: none"><li>To improve the self-learning skills of students</li><li>To improve the communication skills of students.</li></ul>
ICT Used	MATLAB
Appropriate Method/Instructional materials/Exam Questions	<ul style="list-style-type: none"><li>Initially delivered lecture on given topics.</li><li>Later students were given a mini project which had to be simulated by a group of 4-5 students and present a report for the same</li></ul>
Relevant PO's	4,9,10,11,12
Significance of Results/Outcomes	<ul style="list-style-type: none"><li>Students tried to open up and develop self learning and communication skills.</li><li>26 groups submitted a report.</li></ul>
Reflective Critique	<ul style="list-style-type: none"><li>The activity improved the learning and communication skills of students</li><li>The activity provided a platform for students to interact with peers, improve their communication skills and work as individuals.</li><li>The activity enabled students to apply their learning through MATLAB.</li></ul>



VISVESVARAYA TECHNOLOGICAL UNIVERSITY  
Jnana Sangama, Belgavi-590018



ACTIVITY

FOR Mathematics Course (21MAT31)

ON

**Analysis Of Continuous Time Signal Using  
Fourier Series**

Submitted by

PRAJWAL HS

SATHYAM KUMAR MANDAL S

V SHREYAS

VARSHITH S

YASHWANTH M

1KS21EC064

1KS21EC088

1KS21EC091

1KS21EC113

1KS21EC121



**KSIT**

K.S. INSTITUTE OF TECHNOLOGY

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
K.S. INSTITUTE OF TECHNOLOGY, BENGALURU-560109

2022-23



# K.S.INSTITUTE OF TECHNOLOGY

No14,Raghuvanahalli, KanakapuraRoad,Bangalore-560109

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



**KSIT**  
K.S. INSTITUTE OF TECHNOLOGY

## CERTIFICATE

This is to certify that the Basic Electrical Engineering Activity based Mini project work entitled **obstacle detector** carried out by **PRAJWAL HS [1KS21EC064]**, **SATHYAM [1KS21EC088]**, **SHREYAS [1KS21EC091]**, **VARSHITH.S [1KS21EC113]**, **YASHWANTH .M [1KS21EC121]** are bonafide students of Electronics & Communication Engineering department, KSIT affiliated to Visvesvaraya Technological University, Belagavi during the year 2022-2023. It is certified that all suggestions indicated for **Activity based Assignment for the 3<sup>rd</sup> Semester Basic Electrical Engineering course** have been incorporated in the report submitted to the department. The mini project report has been approved as it satisfies the academic requirements.

**Mr. Naveen V**  
Course In-charge  
Department of  
Mathematics  
KSIT

**Dr. P N Sudha**  
Professor & Head  
Department of ECE  
KSIT

**Dr. Dilip Kumar K**  
Principal and Director  
KSIT



# K.S.INSTITUTE OF TECHNOLOGY

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



## CERTIFICATE

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**Mr. Naveen V**  
Course In-charge  
Department of  
Mathematics  
KSIT

**Dr. P N Sudha**  
Professor & Head  
Department of ECE  
KSIT

**Dr. Dilip Kumar K**  
Principal and Director  
KSIT



# Introduction

## Fourier Series

- Fourier series is an expansion of a periodic function  $f(x)$  in terms of an infinite sum of sines and cosines. Fourier Series makes use of the orthogonality relationships of the sine and cosine functions.
- Convergence of Fourier series means that as more and more components from the series are summed, each successive partial Fourier series sum will better approximate the function, and will equal the function with a potentially infinite number of components
- The result of the summation is a periodic function whose functional form is determined by the choices of cycle length (or period), the number of components, and their amplitudes and phase parameters. With appropriate choices, one cycle (or period) of the summation can be made to approximate an arbitrary function in that interval (or the entire function if it too is periodic)

## Applications

- › It is used in designing electrical circuits, solving differential equations, signal processing, signal analysis, image processing & filtering.
- › Fourier series is broadly used in telecommunications system, for modulation and demodulation of voice signals, also the input, output and calculation of pulse and their sine or cosine graph.
- › Fourier series is used to realize the filtering, modulation and sampling of the signal, which is the most important application of Fourier transform in signal processing.



# Methodology

## FOURIER SERIES

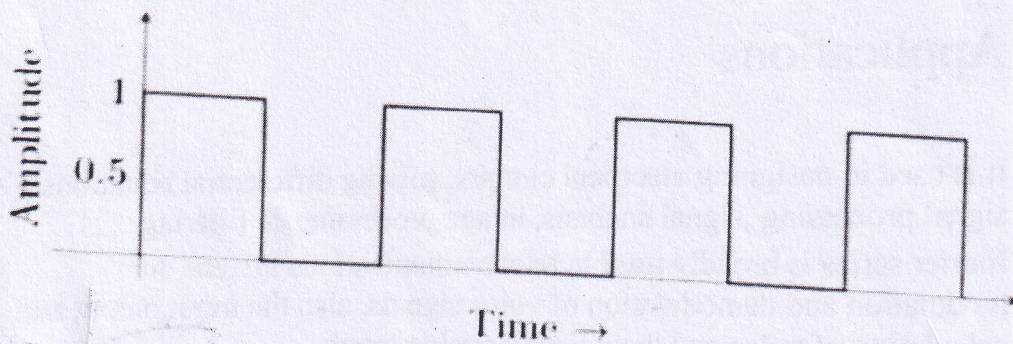
$$x(t) = x(t + T) = a_0 + \sum_{n=1}^{\infty} a_n \cos(n\omega_0 t) + b_n \sin(n\omega_0 t)$$

$$a_0 = \frac{1}{T} \int_0^T f(t) dt$$

$$a_n = \frac{2}{T} \int_0^T f(t) \cos(n\omega_0 t) dt$$

$$b_n = \frac{2}{T} \int_0^T f(t) \sin(n\omega_0 t) dt$$

Square wave



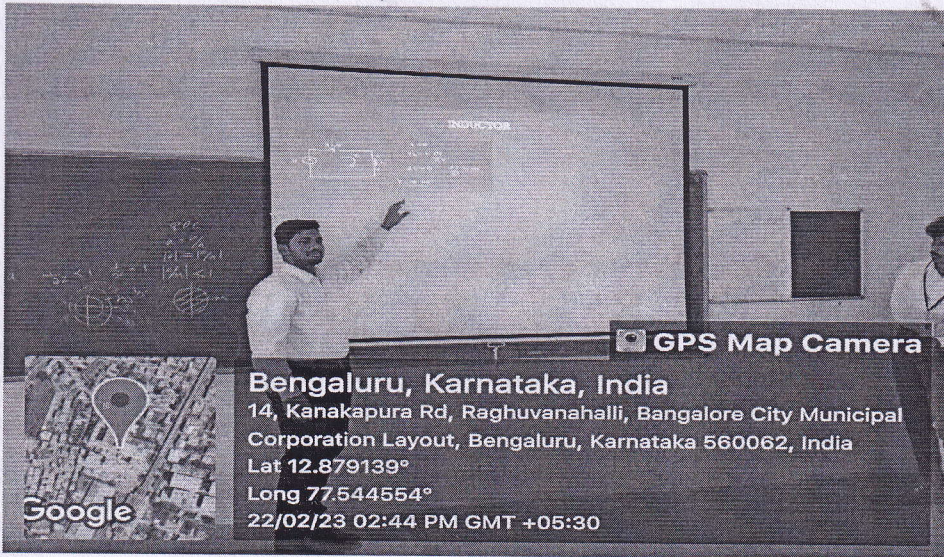


## Conclusion

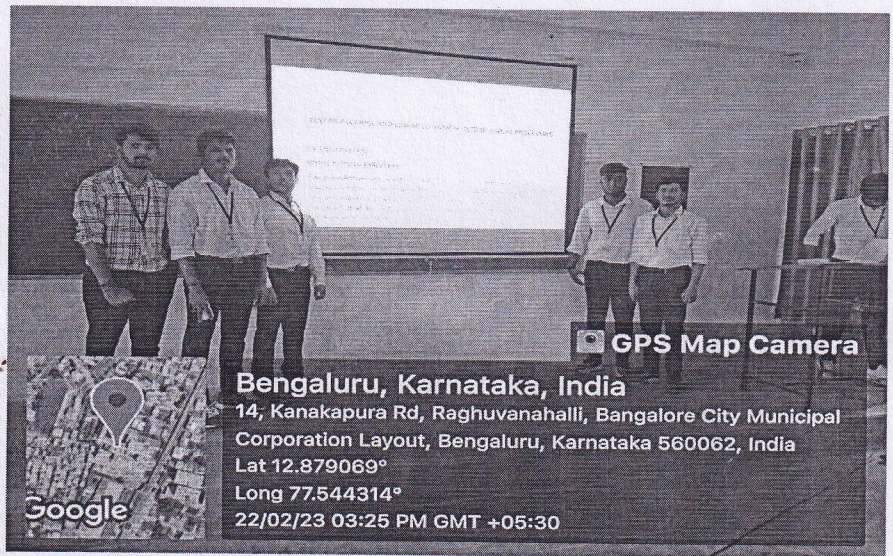
The Fourier transform itself predicts a continuous form of given discrete data, and the transform here performs a nonstationary shift on this continuous function. Just as in the stationary case, nonstationary shifts can be viewed as convolution with a Dirac delta function.







**Bengaluru, Karnataka, India**  
14, Kanakapura Rd, Raghuvanahalli, Bangalore City Municipal Corporation Layout, Bengaluru, Karnataka 560062, India  
Lat 12.879139°  
Long 77.544554°  
22/02/23 02:44 PM GMT +05:30



**Bengaluru, Karnataka, India**  
14, Kanakapura Rd, Raghuvanahalli, Bangalore City Municipal Corporation Layout, Bengaluru, Karnataka 560062, India  
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Long 77.544314°  
22/02/23 03:25 PM GMT +05:30

*Uamatha*  
Signature of Course Incharge

*P. S. S.*  
Signature of HOD ECE





**K.S. INSTITUTE OF TECHNOLOGY, BANGALORE - 560109**

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**

**CONTENT BEYOND SYLLABUS**


<b>Academic Year</b>	<b>2022-23 (Odd)</b>
<b>Name of the Faculty</b>	<b>Santhosh Kumar B R/Suma Santosh</b>
<b>Course Name /Code</b>	<b>DSD USING VERILOG/21EC32</b>
<b>Semester/Section</b>	<b>III/A &amp;B</b>
<b>Activity Name</b>	<b>ADD ON PROGRAMMES</b>
<b>Topic Covered</b>	<b>All Modules</b>
<b>Date</b>	<b>10/3/23</b>
<b>No. of Participants</b>	<b>130</b>
<b>Relevant PO's</b>	<b>4,9,11</b>
<b>LIST OF PROGRAMMES</b>	<b>1.Verilog code to simplify the Boolean Expression obtained from minterms or given expression 2. Verilog code to simplify the 4 bit Carry Look ahead Adder 3. Verilog code to generate a counter from 0 to given USN number.</b>




Proofs (Photographs/Videos/Reports/Charts/Models)

Criteria for evaluation & Instruction for students

VISVESVARAYA TECHNOLOGICAL UNIVERSITY  
Jnana Saugama, Belagavi-590018



ACTIVITY BASED  
REPORT  
FOR DIGITAL SYSTEM DESIGN USING VERILOG  
(21EC32)  
ON  
Title of the Report:  
ADD ON PROGRAMS FOR BSDV LAB USING VERILOG  
Submitted by  
NAME ENR  
ASHCHARYA.N.B IKS21EC013



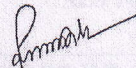
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
K.S. INSTITUTE OF TECHNOLOGY, BENGALURU-560109 2022-  
23


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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING




CERTIFICATE

This is to certify that the Digital System Design using Verilog report entitled ADD ON PROGRAMS is carried out by ASHCHARYA.N.B [IKS21EC013] is a student of Electronics & Communication Engineering department OF KSIT affiliated to Visvesvaraya Technological University, Belagavi during the year 2022-2023. It is certified that all suggestions indicated for Activity based Assignment for the 3<sup>rd</sup> Semester Digital System Design using Verilog course have been incorporated in the report submitted to the department. The report has been approved as it satisfies the academic requirements.

  
Mr. Santosh Kumar B R  
Course In-charge  
Department of ECE  
KSIT

  
Mrs. Suma Santosh  
Course In-charge  
Department of ECE  
KSIT

  
Dr. P.N. Sudha  
Professor & Head  
Department of ECE  
KSIT



VISVESVARAYA TECHNOLOGICAL UNIVERSITY  
Janna Sangama, Belagavi-590018



ACTIVITY BASED  
REPORT

FOR DIGITAL SYSTEM DESIGN USING VERILOG  
(21EC32)

ON

Title of the project:

ADD ON PROGRAMS FOR DSDV LAB USING VERILOG

Submitted by

NAME

ENV

SHWETHA V

IKS21EC092



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
K.S. INSTITUTE OF TECHNOLOGY, BENGALURU-560109  
2022-23

K.S. INSTITUTE OF TECHNOLOGY  
No.14, Raghuvanahalli Kanakapura Road, Bangalore-560109

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



CERTIFICATE

This is to certify that the Digital System Design using Verilog Project entitled ADD ON PROGRAMS is carried out by SHWETHA V [IKS21EC092] is a student of Electronics & Communication Engineering department OF KSIT affiliated to Visvesvaraya Technological University, Belagavi during the year 2022-2023. It is certified that all suggestions indicated for Activity based Assignment for the 3<sup>rd</sup> Semester Digital System Design using Verilog course have been incorporated in the report submitted to the department. The activity based report has been approved as it satisfies the academic requirements.

Mr. Santosh Kumar B R  
Course In-charge  
Department of ECE  
KSIT

Mrs. Suma Sankesh  
Course In-charge  
Department of ECE  
KSIT

Dr. P. S. Sudha  
Professor & Head  
Department of ECE  
KSIT

**Proofs (Photographs/Videos/Reports/Charts/Models)**  
Criteria for evaluation & Instruction for students

Sl. No.	Criteria	Details
1	Report Submission	Each Student has to present Individual report

**Important dates:**

Sl. No.	Details	Date
1.	Date of issue of Add on Program	Date: 20/2/23
2.	Last date for the submission of Report	Date: 10/3/23

**Rubrics**

Sl. No.	Criteria	Marks for assignments
1.	Report not submitted in time	No marks
2.	Report submitted in time, Submitted only 1 Program	3 marks
3.	Report submitted in time, Submitted only 2 Programs	6 marks
4.	Report submitted in time, Submitted 3 Programs	10 marks



**LIST OF STUDENTS****SECTION : A**

SL. NO	USN	NAME OF THE STUDENT
1	1KS21EC001	AADHYA B N
2	1KS21EC002	ABHIJITH R
3	1KS21EC003	ABHISHEK H C
4	1KS21EC004	ABHISHEK T S
5	1KS21EC005	AISHWARYA A
6	1KS21EC006	AKSHAY C
7	1KS21EC007	AKSHAY M S
8	1KS21EC008	ANAGHA PRAKASH
9	1KS21EC009	ANIRUDHA R BHAT
10	1KS21EC010	ARCHANA G M
11	1KS21EC011	ARCHANA M
12	1KS21EC013	ASHCHARYA N B
13	1KS21EC014	ASHWIN S R
14	1KS21EC015	B N JEEVAN
15	1KS21EC016	B P SAMARTH
16	1KS21EC017	B S BHARGAV
17	1KS21EC018	BHAVYA K
18	1KS21EC019	BHUVANA H
19	1KS21EC020	BINDUSHREE S
20	1KS21EC021	CHINTAN D S
21	1KS21EC023	CHIRANTH V V
22	1KS21EC024	DAGGUPATI CHARITHA
23	1KS21EC025	DAMINI S
24	1KS21EC026	DEEKSHA H K
25	1KS21EC027	DEEPIKA D
26	1KS21EC028	GAGAN V
27	1KS21EC029	GAGANA SINDHU N
28	1KS21EC030	GREESHMA S
29	1KS21EC031	GURUSHANKARA M
30	1KS21EC032	HARINI L
31	1KS21EC033	HEMANTH D R
32	1KS21EC035	KAMBHAMPATI VIVEK
33	1KS21EC036	KARAN S
34	1KS21EC037	KEERTHANA S
35	1KS21EC038	KOMALA N
36	1KS21EC039	KUSHAL GOWDA U
37	1KS21EC040	KUSUMA M S
38	1KS21EC041	LIKITHA L
39	1KS21EC042	LOHIT S HOOLAGERI
40	1KS21EC043	LOHITH B
41	1KS21EC044	LOHITH S
42	1KS21EC045	MANOJ T V
43	1KS21EC046	MEGHANA N
44	1KS21EC047	MISBA M



45	1KS21EC048	MITHUN C
46	1KS21EC049	MONISHA D
47	1KS21EC050	MUTTHULURU SAI HIMAJA
48	1KS21EC051	NANDAN K
49	1KS21EC052	NANDAN P B
50	1KS21EC053	NARAHARI N JOSHI
51	1KS21EC054	NAVEEN S
52	1KS21EC055	NAYANA J
53	1KS21EC056	NAYANA S
54	1KS21EC058	OMKAR N BHUJARKAR
55	1KS21EC059	PAVAN M PAI
56	1KS21EC060	POLURU MANJUNATH
57	1KS21EC061	POOJA R

**SECTION : B**

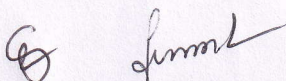
SL.NO	USN	NAME OF THE STUDENT
1	1KS21EC062	PRAJWAL D
2	1KS21EC063	PRAJWAL G V
3	1KS21EC064	PRAJWAL H S
4	1KS21EC065	PRAJWAL R
5	1KS21EC066	PRATHAM R SHANBHAG
6	1KS21EC067	PRAYAG SINGH S
7	1KS21EC068	PREETHAM M
8	1KS21EC069	PREKSHA S
9	1KS21EC070	PUNITH M
10	1KS21EC071	RAGHAVENDRA NARAYAN PUJAR
11	1KS21EC072	RAKSHITH S
12	1KS21EC073	RAKSHITHA M R
13	1KS21EC074	RAYADURG JOISH SHRIYA
14	1KS21EC075	REHAMAN SHARIFF
15	1KS21EC076	RITESH KUMAR SINHA
16	1KS21EC077	RITHIKA M
17	1KS21EC078	S HARI DHANUSH
18	1KS21EC080	S SHAJITH ALI
19	1KS21EC081	SAGAR G S
20	1KS21EC082	SAI RAHUL N

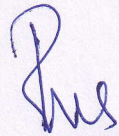


21	1KS21EC083	SAMHITHA PRAKASH
22	1KS21EC084	SANJANA V
23	1KS21EC085	SANJAY G
24	1KS21EC086	SANJAY N
25	1KS21EC087	SANJAY P
26	1KS21EC088	SATHYAM KUMAR MANDAL S
27	1KS21EC089	SHAIK ARFATH
28	1KS21EC090	SHASHANK C U
29	1KS21EC091	SHREYAS RAGHAVENDRA V
30	1KS21EC092	SHWETHA V
31	1KS21EC093	SINDHU M NIMBAL
32	1KS21EC095	SPOORTHY M U
33	1KS21EC096	SRILAKSHMI G
34	1KS21EC097	SRIPRIYA H G
35	1KS21EC098	SUMUKH P
36	1KS21EC099	SUNEETHA
37	1KS21EC100	SUNEHA S
38	1KS21EC101	SUPREETH A
39	1KS21EC102	SURABHI K R
40	1KS21EC103	SUSHEN KRISHNAPUR
41	1KS21EC104	TARUN M
42	1KS21EC105	TEJASHREE N
43	1KS21EC106	THARUN K V
44	1KS21EC107	THEJAS H V
45	1KS21EC108	THUSHAR CHERIAN
46	1KS21EC109	UDAYA KUMAR S R
47	1KS21EC110	VAISHNAVI B A
48	1KS21EC111	VARSHA JAYAKUMAR
49	1KS21EC112	VARSHA S DAVASKAR
50	1KS21EC113	VARSHITH S



51	1KS21EC114	VEERESH K N
52	1KS21EC115	VIDYA I
53	1KS21EC116	VIDYA RAWAL D
54	1KS21EC117	VIDYASHREE R
55	1KS21EC118	VIJAY YADAV R
56	1KS21EC120	VYSHAK G R
57	1KS21EC121	YASHWANTH.M
58	1KS22EC400	GONUGUNTLA SHRUJANA
59	1KS22EC400	VAISHANAVI V
60	1KS22EC400	K JAHNAVI
61	1KS22EC402	B SREEPADREDDI H BULLANGOUDAR
62	1KS22EC403	CHAITRA N
63	1KS22EC400	ADITHYA D
64	1KS22EC400	SANGEETHA H M
65	1KS22EC400	PAVANGOWDA H P
66	1KS22EC400	HEMA K
67	1KS22EC400	SUDEEP P
68	1KS22EC400	SOUNDARYA S
69	1KS22EC401	APOORVA B
70	1KS22EC400	SOWMYA A M
71	1KS22EC400	PRAJWAL PATIL B S
72	1KS22EC400	VARUN K S

  
Signature of Course In charge

  
Signature of HOD ECE



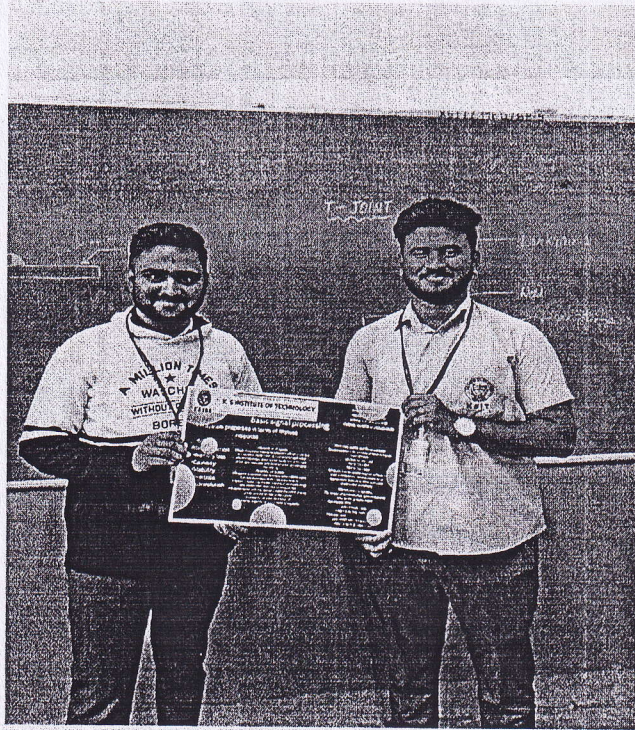


**K.S. INSTITUTE OF TECHNOLOGY, BANGALORE - 560109**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**TEACHING AND LEARNING**  
**PEDAGOGY REPORT**

Academic Year	2022-23 (odd)
Name of the Faculty	ANITA P
Course Name /Code	Basic signal processing/21EC33
Semester/Section	III /A
Activity Name	Poster Presentations
Topic Covered	All Modules
Date	20/02/2023 to 3/03/2023
No. of Participants	57
Objectives/Goals	<ul style="list-style-type: none"><li>• To improve the self-learning and presentation skills of students</li><li>• To improve the communication skills of students.</li></ul>
ICT Used	Posters
Appropriate Method/Instructional materials/Exam Questions	<ul style="list-style-type: none"><li>• Initially delivered lectures on Basic signal processing.</li><li>• Later students were formed into groups, assigned with a topic, asked to prepare A3 size poster, and give oral presentation.</li><li>• Students are given with additional information/sources from which they can prepare.</li></ul>
Relevant PO's	9,10,12
Significance of Results/Outcomes	<ul style="list-style-type: none"><li>• Students tried to explore the importance of Vector space. They understood that signal processing is necessary on the basis for understanding the classification on discrete signal. Students learnt LTI systems and impulse response. They also studied z transform and inverse z transform.</li><li>• Around 57 Students formed 12 teams, submitted posters, and delivered their presentation.</li></ul>
Reflective Critique	<ul style="list-style-type: none"><li>• The activity improved the self-learning of students.</li><li>• The activity provided a platform for students to interact with peers, improve their communication skills, and work as individuals and as team.</li></ul>



**Proofs (Photographs/Videos/Reports/Charts/Models)**



Signature of Course In charge

Signature of HOD ECE





2022-17

**K.S. INSTITUTE OF TECHNOLOGY, BANGALORE - 560109**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**TEACHING AND LEARNING**  
**PEDAGOGY REPORT**

Academic Year	2022-2023 (Odd)
Name of the Faculty	S.Christo Jain
Course Name /Code	Basic Signal Processing/21EC33
Semester/Section	III/B
Activity Name	Quiz
Topic Covered	Vectors, Eigen Values, SVD, Signals and System
Date	02/07/2023
No. of Participants	54
Objectives/Goals	<ul style="list-style-type: none"><li>• To review students' knowledge</li><li>• To break from traditional classroom activities</li><li>• To effectively unite the classroom using game-based learning platform</li><li>• To engage the students in a positive learning environment.</li></ul>
ICT Used	Projector/Computer Monitor
Appropriate Method/Instructional materials/Exam Questions	<ul style="list-style-type: none"><li>• Team based quiz Activities</li><li>• Team of four(A,B,C,D) and there are <del>seven</del> <sup>seventeen</sup> team</li><li>• Question would be asked from the team and time will be given to answer for the questions</li><li>• Within in the time other team Need to answer else it forward to Next team.</li><li>• Finally team A and C got a first Place and Team B and D at second Posistion.</li></ul>
Relevant PO's	5,9
Significance of Results/Outcomes	<ul style="list-style-type: none"><li>• The activity gathered the students Knowledge and allowed them to use the study materials from classroom learning.</li><li>• The students not only answered the questions, but they also interacted back by asking questions.</li></ul>
Reflective Critique	The students' knowledge is reviewed. All the Team of the students could answer Maximum questions correctly. Need to focus on other set of students.



Proofs (Photographs/Videos/Reports/Charts/Models)



Signature of Course In charge

Signature of HOD ECE



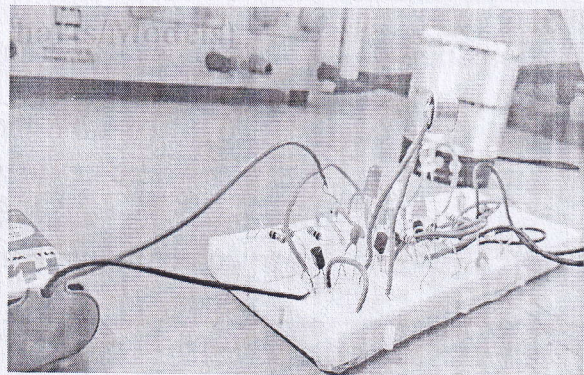
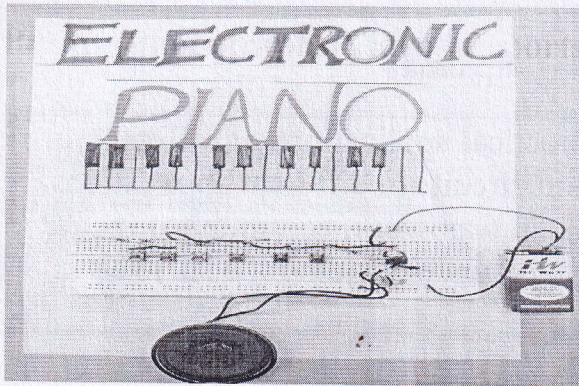
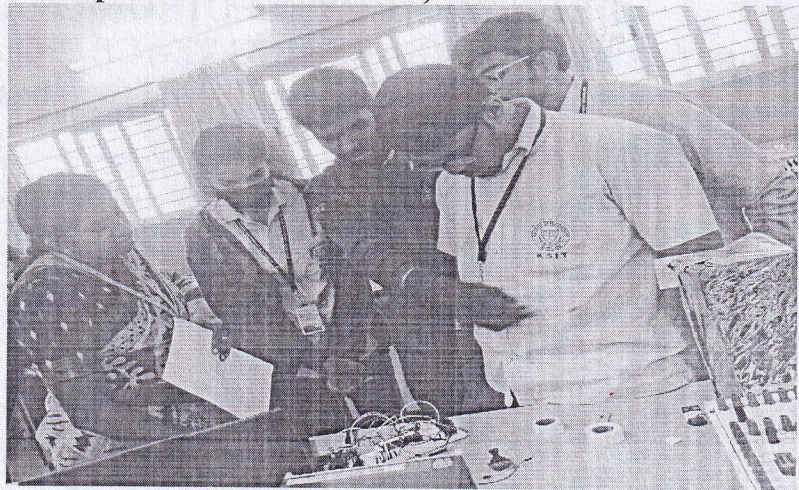
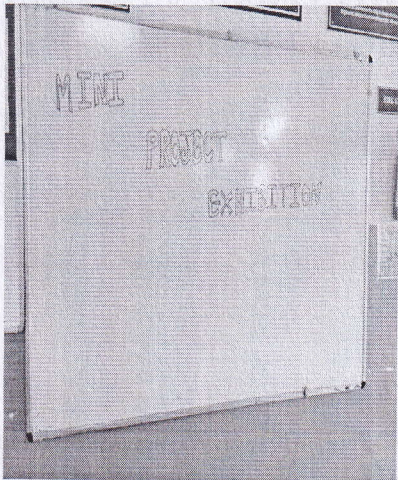


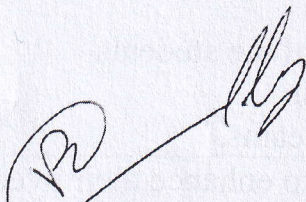
**K.S. INSTITUTE OF TECHNOLOGY, BANGALORE - 560109**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION**  
**ENGINEERING TEACHING AND LEARNING**  
**Content Beyond Syllabus**

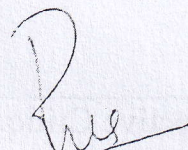
Academic Year	2022-23 (Odd)
Name of the Faculty	Dr. Chanda V. Reddy
Course Name /Code	Analog Electronic Circuits / 21EC34
Semester/Section	III-A & B
Activity Name	Mini Project
Topic Covered	All modules of Analog Electronic Circuits course
Date	20-2-2023
No. of Participants	32 groups (130 including diploma)
Objectives/Goals	To understand the practical applications of different electronic devices and circuits in different applications. To improve the skills in teamwork, communication, project management and understanding the societal needs.
ICT Used	Laptops, smart phones, Wi-Fi.
Appropriate Method/Instructional materials/Exam Questions	
The students were asked to build small projects which are relevant to the topics studied in the course and are useful in real time applications.	
Relevant PO's	PO6, PO9, PO10, PO11, PO12
Significance of Results/Outcomes	Building the projects using the concepts learnt in the course helped the students to improve their understanding of the topics and their relevance Improved the self learning skills of the students Improved the communication skills Improved the skills of working in teams.
Reflective Critique	It was very helpful to the students to enhance their overall performance in exams and real life applications.



Proofs (Photographs/Videos/Reports/Charts/Models)



  
Signature of Course Incharge

  
Signature of HOD(ECE)



## 5<sup>th</sup> Semester

V/A&B	Technological Innovation Management And Entrepreneurship 18ES51	Activity based Project on “Management functions in various Organization”	6,9,10,11,12	Mrs. Vishalini Divakar
V/A&B	Digital Signal Processing 18EC52	Mini Project	1,2,3,5,9,10,11,12	Mrs. Sangeetha.V
V /A&B	Principles of Communication Systems 18EC53	Presentation	9,10,12	Dr. Rekha N
V/A&B	Information Theory & Coding 18EC54	Mini Project	4,9,10,11,12	Mrs. Bhargavi Ananth
V/A	Electromagnetic Waves 18EC55	Poster Presentation	9,10,12	Mrs. Bhanumathi A
V/ B	Electromagnetic Waves 18EC55	Poster Presentation	9,10,12	Mrs. Kavya B M
V/ A&B	Verilog HDL 18EC56	Mini Project	6,7,9,10,11,12	Dr. B.Sudharshan





**K.S. INSTITUTE OF TECHNOLOGY, BANGALORE -  
560109**

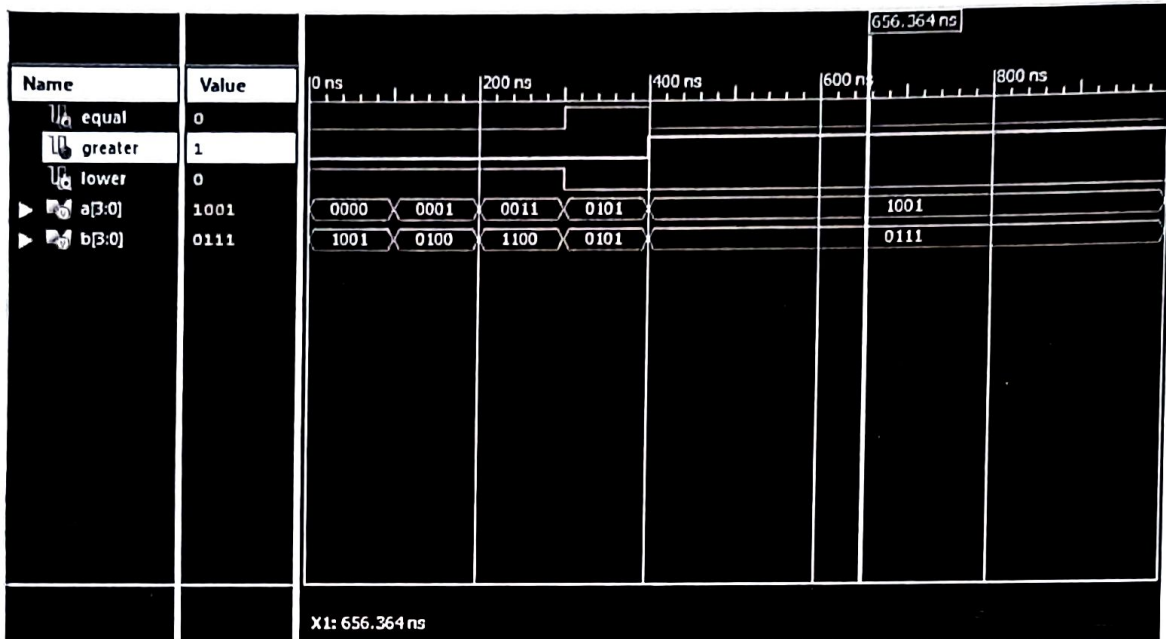
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
TEACHING AND LEARNING**

**Content Beyond Syllabus**

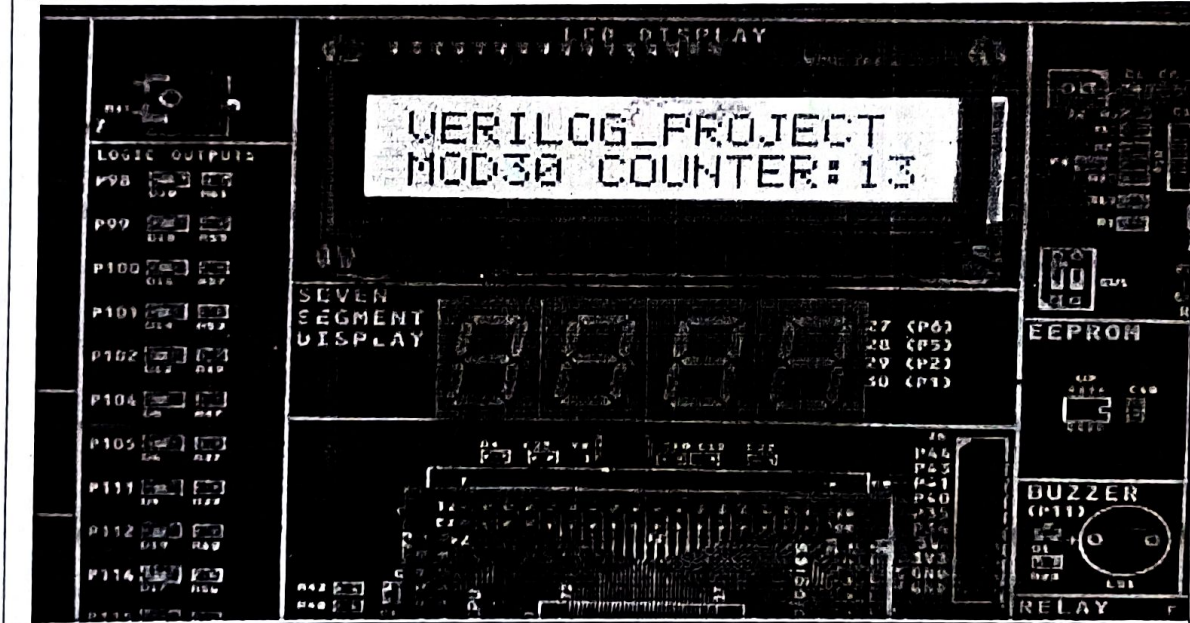
Academic Year	2022-23 (Odd)
Name of the Faculty	Dr. B Sudarshan
Course Name /Code	Verilog HDL/18EC56
Semester/Section	VIA & B
Activity Name	Mini Projects
Topic Covered	Interfacing veracious digital device, sensoros and peripherals using Verilog to program SPARTAN 6 FPGA on the kit.
Date	20/10/2022 TO 31/1/2023
No. of Participants	122 out of 112 (Total 27 projects carried by 27 project teams)
Objectives/Goals	<ul style="list-style-type: none"><li>• To improve the self-learning skills of students</li><li>• To improve the communication skills of students.</li><li>• To develop individual and team work skills.</li><li>• To apply theoretical knowledge into practice.</li></ul>
ICT Used	XILINX ISE and SPARTAN 6 FPGA Kit and internet for downloading datasheets of various components used.
<b>Appropriate Method/Instructional materials/Exam Questions</b> <ul style="list-style-type: none"><li>• Mini projects were given to all students as a part of Assignment-3.</li><li>• Each project team consisted of 3 to 6 students.</li><li>• Each team developed the project demonstrated the working of it and recorded video of their demonstration.</li><li>• Each team submitted the project report consisting of the methodology, results etc.</li></ul>	
Relevant PO's	6,7,9,10,11,12
Significance of Results/Outcomes	<ul style="list-style-type: none"><li>• Students developed the Verilog code for describing &amp; interfacing various sensors, peripherals and digital components.</li><li>• They worked as a team in completing and demonstrating the project apart from writing the project report.</li></ul>
Reflective Critique	<ul style="list-style-type: none"><li>• The activity improved the learning, and communication skills of students</li><li>• The activity provided a platform for students to interact within team, improve their communication skills and learned teamwork &amp; the importance of individual contribution in a team.</li></ul>

**Proofs (Photographs/Videos/Reports/Charts/Models)**

4-bit Magnitude Comparator. DVD of videos of all mini projects is enclosed in course file.



**MOD 30 Counter**



*[Handwritten Signature]*

Signature of Course In charge

*[Handwritten Signature]*

Signature of HOD ECE





K.S. INSTITUTE OF TECHNOLOGY, BANGALORE - 560109

**KSIT**  
K.S. INSTITUTE OF TECHNOLOGY

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING


Content beyond syllabus- Poster Presentation

Academic Year	2022-2023		
Batch	2020-2024		
Year/Semester/section	III/V/B		
Subject Code-Title	18EC55-Electromagnetic Waves		
Name of the Instructor	Mrs. Kavya B M	Dept	ECE
PO's Addressed	PO9, PO10, PO12		

**Team & Poster Presentation details**

Sl. No	TEAM	USN	NAME OF THE STUDENT	TITLE OF THE POSTER PRESENTATION
1.	TEAM 1	1KS20EC061	Neha C R	Electromagnetic Soectrum
		1KS20EC065	Pavani T S	
		1KS20EC070	Priyanka K	
		1KS20EC071	Priyanka M	
		1KS20EC072	Pushpa D T	
2.	TEAM 2	1KS20EC079	Rameshwar	Maxwell's Equations
		1KS20EC083	S Arun Kumar	
		1KS20EC089	Sanjana G	
		1KS20EC096	Shreya H	
		1KS20EC097	Shreyas M S	
3.	TEAM 3	1KS20EC084	Sachin N M	Faraday's law
		1KS20EC085	Sadhana Srinivas	
		1KS20EC091	Sanjana T G	
		1KS20EC094	Shashank S	
		1KS20EC098	Shreyas P S Rao	
		1KS20EC087	Sandeep Y H	
		1KS20EC092	Shakthi Anbazhagan M	
4.	TEAM 4	1KS20EC093	Sharath M	Electromagnetic wave Propagation in any two media
		1KS20EC095	Shiva Reddy B A	
		1KS20EC099	Shweta Deepak K	
		1KS20EC080	Ramya T	
5.	TEAM 5	1KS20EC082	Rohith A K	Ampere's circuital law
		1KS20EC101	Sonika R	
		1KS20EC102	Sumana N	
		1KS20EC103	Sumukha S	
6.	TEAM 6	1KS20EC107	T Girish Chowdary	Magnetic field boundary conditions
		1KS20EC108	Uday C H	
		1KS20EC115	Vinay Sagar V Alur	
		1KS21EC401	Sudeep V	
7.	TEAM 7	1KS20EC104	Suraksha N	Biot savart's law
		1KS20EC110	Vaishnavi A	
		1KS20EC116	Vineeth M S	
		1KS20EC118	Yashwanth Y	

8.	TEAM 8	1KS20EC111	VaishnaviVH	Curl, Divergence, Del V, Del <sup>2</sup> V
		1KS20EC117	YashilaaS	
		1KS20EC112	VarshaN	
		1KS20EC113	VijayalakshmiK	
9.	TEAM 9	1KS20EC106	TejasNReddy	Differential length, Differential surface, Differential Volume
		1KS20EC109	UjjwalNaidu	
		1KS20EC105	TarunPrasanna	
		1KS20EC114	VinaySP	
10.	TEAM 10	1KS20EC062	NehaNairani	Electric field due to various charge distributions.
		1KS20EC069	PriyankaHC	
		1KS20EC078	RakshithaA	
11.	TEAM 11	1KS20EC066	PradhyumnaSKashyap	Gauss's law and its applications
		1KS20EC073	RahulKrishnanV	
		1KS20EC074	RahulR	
		1KS20EC075	RajathKAchar	
		1KS20EC076	RakshithNM	
12.	TEAM 12	1KS20EC059	NShreya	Different co-ordinate systems and their relationship.
		1KS20EC060	NGowthami	
		1KS20EC068	PremaG	
13.	TEAM 13	1KS20EC063	P VasanthKumar	Biotsavart's law
		1KS20EC067	PraveenDB	
		1KS20EC077	RakshithR	
		1KS20EC064	PavanC	

  
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Signature of HOD-ECE





K.S. INSTITUTE OF TECHNOLOGY, BANGALORE - 560109



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Content beyond syllabus- Poster Presentation

Academic Year	2022-2023		
Batch	2020-2024		
Year/Semester/section	III/V/ A		
Subject Code-Title	18EC55-Electromagnetic Waves		
Name of the Instructor	Mrs. Bhanumathi A	Dept	ECE
PO'S Addressed	PO9,PO10,PO12		

**Team & Poster Presentation details**

Sl. No	TEAM	USN	NAME OF THE STUDENT	TITLE OF THE POSTER PRESENTATION
1.	TEAM 1	1KS20EC015	C Umadevi	Electromagnetic Spectrum
		1KS20EC014	C Sai Srujitha	
		1KS19EC026	Eram Fathima	
2.	TEAM 2	1KS20EC024	Dhruva Kumar S	Maxwell's Equations
		1KS20EC028	Gagan H C	
		1KS20EC033	Harshith Gowda A R	
		1KS20EC041	Jayanth H	
3.	TEAM 3	1KS20EC003	Afeefa sharieff	Faraday's law
		1KS20EC011	Bhuvaneshwari K	
		1KS20EC012	Chaitanya K	
		1KS20EC020	Darshan K	
4.	TEAM 4	1KS20EC002	Adita Dubey	Electromagnetic wave Propagation in any two media
		1KS20EC004	Ajay B G	
		1KS20EC006	Akash M	
		1KS20EC016	Chaya S	
5.	TEAM 5	1KS20EC035	Harshitha J	Ampere's circuital law
		1KS20EC036	Harshitha N	
		1KS20EC034	Harshitha B L	
		1KS20EC032	Harini K	
6.	TEAM 6	1KS20EC021	Darshan Kumar S	Magnetic field boundary conditions
		1KS20EC026	Eshwar Biradar	
		1KS20EC027	G Bhavana Priyadarshini	
7.	TEAM 7	1KS20EC001	Abhishek J	Biot savart's law
		1KS20EC009	Bharath M	
		1KS20EC017	Chethan G	
		1KS20EC018	Chethan kumar J	
		1KS20EC019	Chethan kumar T	
8.	TEAM 8	1KS20EC042	K Jeevitha	Curl, Divergence, Del V, Del <sup>2</sup> V
		1KS20EC046	Kavya S M	
		1KS20EC054	Madiha	
		1KS20EC057	Meghashree M	
9.	TEAM 9	1KS20EC037	Inchara P	Differential length, Differential surface, Differential Volume
		1KS20EC029	Gagana B S	
		1KS20EC038	Chaitanya Krishna J	

10.	TEAM 10	1KS20EC048	Kiran Dev D	Electric field due to various charge distributions.
		1KS20EC052	Kusuma V R	
		1KS20EC055	Mahesh Biradar	
		1KS20EC056	Manaswini K M	
11.	TEAM 11	1KS20EC043	Amshumanth K M	Gauss's law and its applications
		1KS20EC049	Kiran Narayan	
		1KS20EC051	Kumar K G	
		1KS20EC058	Mohan Krishna K	
12.	TEAM 12	1KS20EC039	Jamuna S G	Different co-ordinate systems and their relationship.
		1KS20EC040	Janhavi	
13.	TEAM 13	1KS20EC047	Keerthana B S	Biot savart's law
		1KS20EC053	M Archana	
		1KS20EC050	K Prathima	
		1KS20EC045	Kavana G S	
14.	TEAM 14	1KS20EC025	Divya N	Gauss's law and its applications
		1KS20EC023	Dhamini J	
		1KS20EC030	Gandhamani C M	
15.	TEAM 15	1KS19EC034	Hima Shwetha S	Different co-ordinate systems and their relationship.
		1KS20EC008	B S Hemashree	
		1KS20EC010	Bhavita B	
		1KS20EC013	Chaitra K	

  
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**K.S. INSTITUTE OF TECHNOLOGY, BANGALORE -  
560109**

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
TEACHING AND LEARNING  
CONTENT BEYOND SYLLABUS**

Academic Year	2022-23 (ODD)
Name of the Faculty	Mrs. Bhargavi Ananth
Course Name /Code	Information Theory and Coding (18EC54)
Semester/Section	V/A &B
Activity Name	Mini Project with report
Topic Covered	Source Coding,
Date	12/12/2022 to 16/1/2023
No. of Participants	112
Objectives/Goals	<ul style="list-style-type: none"><li>• To improve the self-learning skills of students</li><li>• To improve the communication skills of students.</li></ul>
ICT Used	MATLAB
Appropriate Method/Instructional materials/Exam Questions	<ul style="list-style-type: none"><li>• Initially delivered lecture on given topics.</li><li>• Later students were given a mini project which had to be simulated by a group of 4-5 students and present a report for the same</li></ul>
Relevant PO's	4,9,10,11,12
Significance of Results/Outcomes	<ul style="list-style-type: none"><li>• Students tried to open up and develop self learning and communication skills.</li><li>• 26 groups submitted a report.</li></ul>
Reflective Critique	<ul style="list-style-type: none"><li>• The activity improved the learning, and communication skills of students</li><li>• The activity provided a platform for students to interact with peers, improve their communication skills and work as individuals.</li><li>• The activity enabled students to apply their learning through MATLAB.</li></ul>

Proofs (Photographs/Videos/Reports/Charts/Models)

**VISVESVARAYATECHNOLOGICALUNIVERSITY**  
GnanaSangama,Belgaum-590002.Karnataka



APEDAGOGY REPORTON  
"SHANNON-FANOCODE"

PresentedBy  
**NAME(USN)**

**JAMUNA SG (1KS20EC039)**  
**JANAHAVI (1KS20EC040)**

Submittedmpatualfulfilmentof  
ITCASSIGNMENT



**KSIT**  
KARNATAKA STATE INSTITUTE OF TECHNOLOGY

**K.S.INSTITUTE OF TECHNOLOGY**  
#14,Raghuvanahalli,Kanakapuramainroad,Ba  
ngalore-5601  
2022-23



## METHODOLOGY

**Tool Used: MATLAB R2020b**

**Code:**

```
%SHANNON FANO CODING
```

```
clc  
clear
```

```
p=[0.5,0.25,0.25];  
sta=[];  
ar=[];  
coded=[];  
other=[];
```

```
first=0;  
final=length(p);  
sta=[first,final]
```

```
for f=1:length(p)          %loop for every step  
    other=[];  
    ar=[];  
    for h=1:(length(sta)-1) %loop for each sub-group  
        first=sta(h)+1  
        final=sta(h+1)  
        if(first>=final)    %adding invalid numbers(here 2)  
            other=[other; 2]; %-when only one element in a sub group  
            continue;  
        end  
        asum=0;  
        difmat=[]  
        for i=first:final    %loop for finding difference vector  
            asum=asum+p(i);  
            resum=0;  
            for j=i+1:final;  
                resum=resum+p(j);  
            end  
            dif=abs(asum-resum);  
            difmat=[difmat dif]  
        end  
        small=min(difmat);  
        k=1;  
        for i=first:final    %loop for finding index of min difference  
            if(small==difmat(k))  
                break;
```

Chapter 4

RESULTS

OUTPUT:

```
Command Window
Symbol 1 code ==> 0
Symbol 2 code ==> 1 0
Symbol 3 code ==> 1 1
CODING EFFICIENCY = 100
```



Signature of Course In charge



Signature of HOD ECE





# K.S. INSTITUTE OF TECHNOLOGY, BANGALORE – 560109

## Dept. of Electronics & Communication Engg.

### FORMAT & RUBRIC

2022-23

Course Name :Principles of Communication Systems

Course Code : 18EC53

### Assignment-3

#### ASSIGNMENT TYPE: PRESENTATION

**Objective:** Title of the topic to be Presented [Oral or Poster presentation]  
[Topic allotted must be from the course]

Instruction to be followed:

1. The topic allotted or assigned must be from the course
2. The work given must be from Apply level onwards
3. This will address **PO9, PO10, PO12**
4. Process to assign and evaluate the assignments steps.
  - Divide the students into batches (Max five)
  - Officially announce the batches & assignment topic for each batch. The topic selected must be from course.

Batch No.	Students in the batch		Assignment topic
	Roll No.	Name	
1			

- Criteria for evaluation & Instruction for students

Sl. No.	Criteria	Details
1.	Batch number, Name & USN of the students in the batch	
2.	Statement on individual's contribution	
3.	Number of MS power point slides	Not more than 15 slides
4.	Number of posters	Student must be made to design poster as per the topic assigned from the course.
5.	Check for plagiarism	
6.	Presentation time	15 minutes only

## **Important dates:**

Sl.No	Details	Date
1.	Date of issue of topics for presentation	16/10/2022
2.	Last date for the submission of the presentation report OR If it is a poster presentation, the posters should be submitted in person by the batch of students.	1/1/2023
3	Presentation date [as per schedule shared]	1/1/2023 - 14/1/2023
4	Date of announcement of evaluation details for oral presentation/ poster presentation	24/1/2023 Group email id:
5	Dates for Appeal/challenge(on or before)	30/10/2022
<b>Note:</b> Assignments marks will not be given if assignments submitted on later dates and failed to present a seminar.		

Sl. No.	Details	Date
1.	Last date/time for submission of presentations(assignment)	Date:
		Time: Before (sharp)
2.	Presentation days	
3.	Date on or before which the Power Point-electronic format (Only electronic format is accepted) of the assignment should reach the specified email id: If it is a poster presentation, the posters should be submitted in person by the batch of students on or before the mentioned date.	Date:
		Email id:
4.	Date of announcement of results on the notice board and sent to your group email	Date:
		Group email id:
5.	Dates for Appeal/challenge (on or before)	
<b>Note:</b> Marks will not be given, if reports are not submitted as per schedule and Failed to make a presentation		



## Rubrics: Oral Presentation


Note: Plagiarism( $\leq 30\%$ ) is a mandatory criteria on to be met

Sl.No	Criteria
1.	Quality of the power point/poster
2.	Technical content
3.	Structuring of the speech
4.	Clarity of speech with respect to the topic
5.	Voice modulation
6.	Body language

Strategy to award marks for presentations based on the criteria

Sl. No.	Criteria	Marks for assignments
1.	Assignment not submitted in time or assignment submitted in time but not presented	No marks
2.	Assignment submitted in time, presented and any 04 or more criteria not met	1mark
3.	Assignment submitted in time, presented and any 03 or more criteria not met	2marks
4.	Assignment submitted in time, presented and any 02 or more criteria not met	3marks
5.	Assignment submitted in time, presented and any 01 or more criteria not met	4marks
6.	Assignment submitted in time, presented and all criteria are met	5marks

$5 \times 2 = 10 \text{ marks.}$

  
Dr. Rekha N.  
Course - incharge







**K.S. INSTITUTE OF TECHNOLOGY, BANGALORE – 560109**  
**Department of Electronics & Communication Engineering**  
**2022-23**

**Course Name: Principles of Communication Systems**  
**Semester/sec:V A**

**Course Code: 18EC53**

**Content Beyond Syllabus**

**ASSIGNMENT TYPE: PRESENTATION**

**Objective: Title of the topic to be Presented [Oral or Poster presentation]**

Batch No.	Students in the batch		Assignment Topic	ORAL/ POSTER
	USN	NAME		
1	1KS20EC048	KIRAN DEV D	Generate An AM Wave And Demodulate The Same Using MATLAB/SIMULINK. Analyse The Demodulated Waveforms For Under Modulation,Over Modulation And Critical Modulation	ORAL
	1KS20EC052	KUSUMA V R		
	1KS20EC055	MAHESH BIRADAR		
	1KS20EC056	MANASWINI K M		
2	1KS20EC003	AFEEFA SHARIEFF	Generate An AM Wave And Demodulate The Same Using MATLAB/SIMULINK. Analyze The Spectrum For Varying Parameters	ORAL
	1KS20EC011	BHUVANESHWARI.K		
	1KS20EC012	CHAITHANYA .K		
	1KS20EC020	DARSHAN.K		
3	1KS20EC032	HARINI K	Generate A Sampling And Quantization Wave And Show The Simulation Result Using MATLAB/SIMULINK	ORAL
	1KS20EC034	HARSHITHA J		
	1KS20EC035	HARSHITHA B L		
	1KS20EC036	HARSHITHA N		
4	1KS19EC034	HIMA SWETHA S	Carry Out Quadrature Multiplexing Of Message Signals And Show The Results Using MATLAB/SIMULINK	ORAL
	1KS20EC008	B S HEMASHREE		
	1KS20EC010	BHAVITHA B		
	1KS20EC013	CHAITHRA K		
5	1KS20EC037	INCHARA.P	Generate An Demodulate An Dsb-Sc Modulated Wave And Plot The Waveform In Time Domain And Frequency Domain using Matlab /Simulink.Analyze The Spectrum For Various Parameters	ORAL
	1KS20EC038	JAMPULA CHAITHANYA KRISHNA		
	1KS20EC029	GAGANA B S		
6	1KS20EC039	JAMUNA S G	Generate A Phase Modulated Wave And Plot The Waveform In Time Domain Using Matlab/Simulink,Analyze The Waveform For Various Parameters	ORAL
	1KS20EC040	JHANVI R		



7	1KS20EC002	ADITHI DUBEY	FM Modulation And Demodulation	ORAL
	1KS20EC004	AJAY B.G		
	1KS20EC006	AKASH.M		
	1KS20EC016	CHAYA S		
8	1KS20EC021	DARSHAN KUMAR S	Frequency Division Multiplexing Using Single Side Band Modulation	ORAL
	1KS20EC026	ESHWAR BIRADAR		
	1KS20EC027	G BHAVANA PRIYADARSHINI		
	1KS20EC031	GOMITHA R.C		
9	1KS19EC026	ERAM FATHIMA	Sampling And Quantization Of Analog Signal	ORAL
	1KS20EC014	C.SAI SRUJITHA		
	1KS20EC015	C.UMADEV I		
10	1KS20EC001	ABHISHEK.J	Frequency modulation	ORAL
	1KS20EC017	CHETHAN.G		
	1KS20EC018	CHETHAN KUMAR .J		
	1KS20EC019	CHETHAN KUMAR.T		
	1KS20EC009	BHARATH M		
11	1KS20EC024	DHRUVA KUMAR.S	Carry Out Quadrature Multiplexing Of Message Signals And Show The Results Using MATLAB/SIMULINK	ORAL
	1KS20EC033	HARSHITH GOWDA.A.R		
	1KS20EC041	JAYANTH.H		
	1KS20EC028	GAGAN.H.C		
12	1KS20EC043	K M AMSHUMANTH	Frequency Modulated wave from a phase modulator.	ORAL
	1KS20EC049	KIRAN V NARAYAN		
	1KS20EC051	KUMAR K G		
	1KS20EC058	MOHAN KRISHNA K		
13	1KS20EC030	GANDHAMANI C M	Single side band modulation in time domain	ORAL
	1KS20EC023	DIVYA N		
	1KS20EC025	DHAMINI J		
14	1KS20EC053	M.ARCHANA	Phase modulation wave	ORAL
	1KS20EC050	K.PRATHIMA		
	1KS20EC047	KEERTHANA.B.S		
	1KS20EC045	KAVANA.G.S		
12	1KS20EC042	K. JEEVITHA	Frequency Modulated wave using phase modulator	ORAL
	1KS20EC046	KAVYA S M		
	1KS20EC054	MADIHA		
	1KS20EC057	MEGHASHREE M		





# K.S. INSTITUTE OF TECHNOLOGY, BANGALORE – 560109

## Department of Electronics & Communication Engineering 2022-23

Course Name: Principles of Communication Systems  
Semester/sec:V B

Course Code: 18EC53

### Content Beyond Syllabus

#### ASSIGNMENT TYPE: PRESENTATION

**Objective:** Title of the topic to be Presented [Oral or Poster presentation]

Batch No.	Students In the batch		Assignment topic	ORAL/ POSTER
	USN	Name		
1	1KS20EC063	P.VASANTH KUMAR	Generate an AM wave and demodulate the same using MATLAB/SIMULINK. Analyze the demodulated waveform for under modulation ,over modulation and critical modulation.	ORAL
	1KS20EC064	PAVAN.C		
	1KS20EC067	PRAVEEN D.B		
	1KS20EC077	RAKSHITH.R		
2	1KS20EC061	NEHA C R	Generate a sampling and Quantization wave and show the simulation results using MATLAB/SIMULINK	ORAL
	1KS20EC065	PAVANI T S		
	1KS20EC070	PRIYANKA K		
	1KS20EC071	PRIYANKA M		
	1KS20EC072	PUSHPA D T		
3	1KS20EC104	SURAKSHA N	Generate a phase modulated wave and plot the waveform in time domain using MATLAB/SIMULINK. Analyze the waveform for varying parameters.	POSTER
	1KS20EC110	VAISHNAVI A		
	1KS20EC116	VINEETH M S		
	1KS20EC118	YASHWANTH Y		
4	1KS20EC105	TARUN PRASANNA	Obtain a Phase modulated wave from a Frequency Modulator using suitable MATLAB/SIMULINK. Analyse the waveforms for given parameters.	ORAL
	1KS20EC106	TEJAS N REDDY		
	1KS20EC109	UJJWAL NAIDU		
	1KS20EC114	VINAY S P		
5	1KS20EC066	PRADHYUMNA S KASHYAP	Generate and demodulate an SSB ,modulated wave and plot the waveform in time domain as well as frequency domain using MATLAB/SIMULINK. Analyze the spectrum for varying parameters	ORAL
	1KS20EC073	RAHUL KRISHNAN V		
	1KS20EC074	RAHUL R		
	1KS20EC075	RAJATH K ACHAR		
	1KS20EC076	RAKSHITH NM		
6	1KS20EC115	VINAY SAGAR V ALUR	Carry out frequency division multiplexing(FDM)of 3 message signals . Assume the modulation used as SSB using MATLAB/SIMULINK	ORAL
	1KS20EC107	UDAY C H		
	1KS20EC108	T GIRIRISH CHOUDARY		
	1KS21EC401	SUDEEP V		



7	1KS20EC084	SACHIN N M	Generation and demodulation of single sideband modulated wave	ORAL
	1KS20EC085	SADHANA SRINIVAS		
	1KS20EC091	SANJANA T GADIKAR		
	1KS20EC094	SHASHANK S		
	1KS20EC098	SHREYAS P S RAO		
8	1KS20EC080	RAMYA.T	GENERATION OF FM MODULATION AND DEMODULATION WAVE	ORAL
	1KS20EC082	ROHIT.AK		
	1KS20EC101	SONIKA.R		
	1KS20EC102	SUMANA.N		
	1KS20EC103	SUMUKHA.S		
9	1KS20EC087	SANDEEP.YH	QUADRATURE CARRIER MULTIPLEXING OF 2 MESSAGE SIGNALS	ORAL
	1KS20EC095	SHIVAREDDY.BA		
	1KS20EC093	SHARATH.M		
	1KS20EC092	SHAKTHI ANBAZHAGAN.M		
	1KS20EC099	SHWETA DEEPAK.K		
10	1KS20EC062	NEHA NAGRAJ AIRANI	OBTAIN A FREQUENCY MODULATED WAVE FROM A PHASE MODULATOR USING SUITABLE FUNCTIONS USING MATLAB/SIMULINK.ANALYZE THE WAVEFORM FOR VARYING PARAMETERS	ORAL
	1KS20EC069	PRIYANKA H.C		
	1KS20EC078	RAKSHITHA.A		
11	1KS20EC111	Vaishnavi VH	OBTAIN A FREQUENCY MODULATED WAVE FROM A PHASE MODULATOR USING SUITABLE FUNCTIONS USING MATLAB/SIMULINK.ANALYZE THE WAVEFORM FOR VARYING PARAMETERS	ORAL
	1KS20EC112	Varsha N		
	1KS20EC113	Vijayalakshmi K		
	1KS20EC117	Yashilaa S		
12	1KS20EC068	PREMA G	QUADRATURE CARRIER MULTIPLEXING	ORAL
	1KS20EC059	SHREYA N		
	1KS20EC060	N.GOWTHAMI		
13	1KS20EC079	RAMESHWAR	GENERATE AN AM WAVE AND DEMODULATE THE SAME AND TO ANALYSE THE DEMODULATED WAVEFORM FOR UNDER MODULATION, OVER MODULATION AND CRITICAL MODULATION	ORAL
	1KS20EC083	ARUN KUMAR		
	1KS20EC089	SANJANA G		
	1KS20EC096	SHREYA H		
	1KS20EC097	SHREYAS MS		





**FORMAT & RUBRIC**

**CONTENT BEYOND SYLLABUS: DSP MINI PROJECT REPORT-18EC52**

Instruction to be followed:

1. The topic allotted or assigned must be from the course
2. The work given must be from Apply level onwards
3. This will address PO1,PO2, PO3,PO5,PO9,PO10,PO11,PO12

**Team & Title of Mini Project Report Details**

SL. No	TEAM	Name of the student & USN	Title of Mini Project Report
1	TEAM 1	HARINI. K. -1KS20EC032	Develop a sampling and Quantization wave and show the simulation results using MATLAB/SIMULINK.
		HARSHITHA. B. L-1KS20EC034	
		HARSHITHA. J. - 1KS20EC035	
		HARSHITHA.N - 1KS20EC036	
2	TEAM 2	AFEFEFA SHARIEFF-003	Develop an AM wave and demodulate the same using MATLAB/SIMULINK and Obtain the demodulated waveform for under modulation, over modulation and critical modulation.
		BHUVANESHWARI. K-011	
		CHAITANYA. K-012	
		DARSHAN. K-020	
3	TEAM 3	Dhamini.J - 1KS20EC023,	Develop and demodulate an SSB modulated wave and plot the waveform in time domain as well as frequency domain using MATLAB/SIMULINK and Obtain the spectrum for varying parameters.
		Divya .N - 1KS20EC025,	
		Gandhamani C.M - 1KS20EC030	
4	TEAM 4	Harshiith Gowda AR - 1KS20EC033	Obtain quadrature carrier multiplexing of two message signals and show the simulation results using MATLAB/SIMULINK.
		Jayanth H- 1KS20EC041	
		Gagan HC- 1KS20EC028	
		Dhruva - 1KS20EC024	
5	TEAM 5	Ajay.B.G-1KS20EC004	Develop and demodulate a Frequency Modulated wave and plot the waveform in time domain as well as frequency domain using MATLAB/SIMULINK and Obtain the spectrum for varying parameters.
		Akash.M-1KS20EC006	
		Aditi-1KS20EC002	
		Chaya-1KS20EC016	
6	TEAM 6	Darshan kumar S-1KS20EC021	Obtain frequency division multiplexing (FDM) of three message signals. Assume the modulation used as SSB using MATLAB/SIMULINK.
		Eshwar biradar-1KS20EC026	
		G Bhavana Priyadarshini-1KS20EC027	
		Gomitha R C- 1KS20EC031	
7	TEAM 7	1KS20EC053-M.ARCHANA	Develop a Phase Modulated wave and plot the waveform in time domain using MATLAB/SIMULINK and Obtain the waveform for varying parameters.
		1KS20EC050-K.PRATHIMA	
		1KS20EC047-KEERTHANA.B.S	
		1KS20EC045-KAVANA	
8	TEAM 8	1KS20EC049-Kiran V Narayan	Develop a Frequency Modulated wave from a Phase Modulator using suitable functions using MATLAB/SIMULINK and Obtain the waveforms for varying parameters.
		1KS20EC043-Amshumanth KM	
		1KS20EC051-Kumar KG	
		1KS20EC058-Mohan Krishna	




9	TEAM 9	Inchara P-1KS20EC037	Develop and demodulate an DSB-SC modulated wave and plot the waveform in time domain as well as frequency domain using MATLAB/SIMULINK and Obtain the spectrum for varying parameters.
		Gagana B S-1KS20EC029	
		JAMPULA CHAITHANYA KRISHNA-1KS20EC038	
10	TEAM 10	Abhishek J-1KS20EC001	Develop a Phase Modulated wave from a Frequency Modulator using suitable functions using MATLAB/SIMULINK and Obtain the waveforms for varying parameters.
		Chethan Kumar J-1KS20EC018	
		Chethan Kumar T-1KS20EC019	
		Chethan G-1KS20EC017	
		Bharath-1KS20EC009	
11	TEAM 11	1KS19EC026-EramFathima	Develop a sampling and Quantization wave and show the simulation results using MATLAB/SIMULINK.
		1KS20EC014-C.Saisrujitha	
		1KS20EC015-C.Umadevi	
12	TEAM 12	Kiran dev -1KS20EC048	Develop an AM wave and demodulate the same using MATLAB/SIMULINK and Obtain the demodulated waveform for under modulation, over modulation and critical modulation.
		Kusuma VR - 1KS20EC052	
		Mahesh Biradar -1KS20EC055	
		Manaswini -1KS20EC056	
13	TEAM 13	Amshumanth - 1KS20EC043	Develop and demodulate an SSB modulated wave and plot the waveform in time domain as well as frequency domain using MATLAB/SIMULINK and Obtain the spectrum for varying parameters.
		Kiran - 1KS20EC049	
		Kumar - 1KS20EC051	
		Mohan - 1KS20EC058	
14	TEAM 14	Hima shweta-1KS19EC034	Develop quadrature carrier multiplexing of two message signals and show the simulation results using MATLAB/SIMULINK.
		B.S.Hemashree-1KS20EC008	
		Bhavitha B-1KS20EC010	
		Chaithra K-1KS20EC013	
15	TEAM 15	Janhavi R-1KS20EC040	Develop a Phase Modulated wave and plot the waveform in time domain using MATLAB/SIMULINK and Obtain the waveform for
		Jamuna s g -1KS20EC039	
16	TEAM 16	Jeevitha K - 1KS20EC042	Obtain a Frequency Modulated wave from a Phase Modulator using suitable functions using MATLAB/SIMULINK and Obtain the waveforms for varying parameters.
		Kavya S M- 1KS20EC046	
		Meghashree M - 1KS20EC057	
		Madiha - 1KS20EC054	
17	TEAM 17	Neha C R 1KS20EC061	Develop a sampling and Quantization wave and show the simulation results using MATLAB/SIMULINK.
		Pavani T S 1KS20EC065	
		Priyanka K 1KS20EC070	
		Priyanka M 1KS20EC071	
		Pushpa D T 1KS20EC072	
18	TEAM 18	Rameshwar 1KS20EC079	Develop an AM wave and demodulate the same using MATLAB/SIMULINK and obtain the demodulated waveform for under modulation, over modulation and critical modulation.
		S Arun Kumar 1KS20EC083	
		Sanjana G 1KS20EC089	
		Shreya H 1KS20EC096	
		Shreyas M S 1KS20EC097	
19	TEAM 19	Sachin N M 1KS20EC084	Develop and demodulate an SSB modulated wave and plot the waveform in time domain as well as frequency domain using MATLAB/SIMULINK and obtain the spectrum for varying parameters.
		Sadhana Srinivas 1KS20EC085	
		Sanjana T G 1KS20EC091	
		Shashank S 1KS20EC094	
		Shreyas P S Rao 1KS20EC098	
		Sandeep Y H 1KS20EC087	



20	TEAM 20	Shakthi Anbazhagan M 1KS20EC092 Sharath M 1KS20EC093 Shiva Reddy B A 1KS20EC095 Shweta Deepak K 1KS20EC099	Carry out quadrature carrier multiplexing of two message signals and show the simulation results using MATLAB/SIMULINK.
21	TEAM 21	Ramya T 1KS20EC080 Rohith A K 1KS20EC082 Sonika R 1KS20EC101 Sumana N 1KS20EC102 Sumukha S 1KS20EC103	Develop and demodulate a Frequency Modulated wave and plot the waveform in time domain as well as frequency domain, using MATLAB/SIMULINK and obtain the spectrum for varying parameters.
22	TEAM 22	T Girish Chowdary 1KS20EC107 Uday C H 1KS20EC108 Vinay Sagar V Alur 1KS20EC115 Sudeep V 1KS21EC401	Carry out frequency division multiplexing (FDM) of three message signals. Assume the modulation used as SSB using MATLAB/SIMULINK.
23	TEAM 23	Suraksha N 1KS20EC104 Vaishnavi A 1KS20EC110 Vineeth M S 1KS20EC116 Yashwanth Y 1KS20EC118	Develop a Phase Modulated wave and plot the waveform in time domain using MATLAB/SIMULINK and obtain the waveform for varying parameters.
24	TEAM 24	Vaishnavi V H 1KS20EC111 Varsha N 1KS20EC112 Vijayalakshmi K 1KS20EC113 Yashilaa S 1KS20EC117	Develop a Frequency Modulated wave from a Phase Modulator using suitable functions using MATLAB/SIMULINK and obtain the waveforms for varying parameters.
25	TEAM 25	Tarun Prasanna 1KS20EC105 Tejas N Reddy 1KS20EC106 Ujjwal Naidu 1KS20EC109 Vinay S P 1KS20EC114	Develop a Phase Modulated wave from a Frequency Modulator using suitable functions using MATLAB/SIMULINK and obtain the waveforms for varying parameters.
26	TEAM 26	N Shreya 1KS20EC059 Neha N Airani 1KS20EC062 Priyanka H C 1KS20EC069 Rakshitha A 1KS20EC078	Develop a Frequency Modulated wave from a Phase Modulator using suitable functions using MATLAB/SIMULINK. Analyze the waveforms for varying parameters.
27	TEAM 27	Pradhyumna S Kashyap 1KS20EC06 Rahul Krishnan V 1KS20EC073 Rahul R 1KS20EC074 Rajath K Achar 1KS20EC075 Rakshith N M 1KS20EC076	Develop and demodulate an SSB modulated wave and plot the waveform in time domain as well as frequency domain using MATLAB/SIMULINK and obtain the spectrum for varying parameters.
28	TEAM 28	N Gowthami 1KS20EC060 Prema G 1KS20EC068	Carry out quadrature carrier multiplexing of two message signals and show the simulation results using MATLAB/SIMULINK.
29	TEAM 29	P Vasanth Kumar 1KS20EC063 Pavan C 1KS20EC064 Praveen D B 1KS20EC067 Rakshith R 1KS20EC077	Develop an AM wave and demodulate the same using MATLAB/SIMULINK and obtain the demodulated waveform for under modulation, over modulation and critical modulation.

  
Signature of Course In-charge

  
Signature of HOD





**K.S. INSTITUTE OF TECHNOLOGY, BANGALORE - 560109**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**TEACHING AND LEARNING**

**CONTENT BEYOND SYLLABUS REPORT**

Academic Year	2022-23 (Odd)
Name of the Faculty	Mrs. Vishalini Divakar
Course Name /Code	TECHNOLOGICAL INNOVATION MANAGEMENT AND ENTREPRENEURSHIP 18ES51
Semester/Section	V- A &B
Activity Name	Activity Based Project on " Managementfunctions in various organisations"
Topic Covered	First Three Modules
Date	12-12-2022
No. of Participants	21 GROUPS
Objectives/Goals	To understand the practical applications of management principles in different organisations To improve the skills in teamwork, communication and self learning
ICT Used	Laptops, smart phones, Wi-Fi
Appropriate Method/Instructional materials/Exam Questions	
The students were asked to conduct survey on 5 different organizations like schools, hospitals, theatres, banks, grocery shops etc.regarding different functions of management and make a reportwhich are relevant to the topics studied in the course and are useful inreal time applications.	
Relevant PO's	PO6, PO9 ,PO10, PO11,PO12
Significance of Results/Outcomes	Analysingthe different functions of managementprocessedin different enterprises using the concepts learnt in the course helped the students to improve their <b>understanding of the topics</b> and their relevance. Improved the <b>self-learning skills</b> of the students Improved the <b>communication skills</b> Improved the skills of <b>working in teams</b> .
Reflective Critique	It was very helpful to the students to enhance their overall performance in exams and real life applications of management concepts.
<b>Proofs (Photographs/Videos/Reports/Charts/Models)</b>	
<b>SAMPLE PROJECT REPORTIS ENCLOSED HERE WITH.</b>	



# VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Jnana Sangama, Belgavi-590018



## ACTIVITY BASED PROJECT REPORT TECHNOLOGICAL INNOVATION, MANAGEMENT AND ENTREPRENEURSHIP

Submitted by

NAME USN

AFEefa SHARIEFF - 1KS20EC003

BHUVANESHWARI.K - 1KS20EC011

CHAITANYA.K - 1KS20EC012

DARSHAN.K - 1KS20EC020

ERAM FATHIMA - 1KS19EC026



**KSIT**  
K.S. INSTITUTE OF TECHNOLOGY

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
K.S. INSTITUTE OF TECHNOLOGY, BENGALURU-560109

2022-23



## SWOT ANALYSIS:

### ROLE OF SWOT ANALYSIS

For strategic planning, deciding the marketing strategies and analyzing the gaps, doing a SWOT Analysis is very important. SWOT analysis includes a thoughtful listing of one's strengths, weakness, opportunities and threats.

It is advised that companies do this analysis at least once in a year. It is a lengthy exercise that requires time and one needs to evaluate every aspect thoroughly. Inclusions from the latest year and the success and failures should also be considered.


In SWOT Analysis, Strengths and weaknesses are considered as internal factors, which can be controlled, while opportunities and weakness are not in control.

☒ **STRENGTH** : Good, efficient, friendly, understanding and skilled staff and teaching department. Regular analysis of teaching resources.

☒ **WEAKNESS** : The weaknesses are very few which detract from its ability to attain the core goal. But now it's trying to improve upon by taking various steps to support their overall development.

☒ **OPPORTUNITY** : Easy staff access, recruitment. Strong relationships and form of collaboration with other educational institutions.

☒ **THREATS** : Stiff competition by other schools and educational institutions in the city, state and country.



Signature of Course Incharge



Signature of HOD(ECE)



## 7<sup>th</sup> Semester

<b>Semester/ Section</b>	<b>Course Name</b>	<b>Content beyond syllabus activity conducted</b>	<b>POs Covered</b>	<b>Faculty</b>
VII A&B	Computer Networks 18EC71	Literature Survey	1,2,5,9,10,12	Dr. Dinesh Kumar D S
VII A	VLSI Design 18EC72	Poster Presentation	9,10,12	Mr. Praveen.A.
VII B	VLSI Design 18EC72	Poster Presentation	9,10,12	Mr. Aswini Kumar G
VII A&B	Satellite Communication 18EC732	Poster Presentation	9,10,12	Mrs. Pooja S
VII A&B	Cryptography 18EC744	Mini Poject	1,2,3,5,7,9,10,11,12	Dr. P.N Sudha
VII A&B	Energy and Environment 18ME751	Poster Presentation	9,10,12	Dr. B Surekha

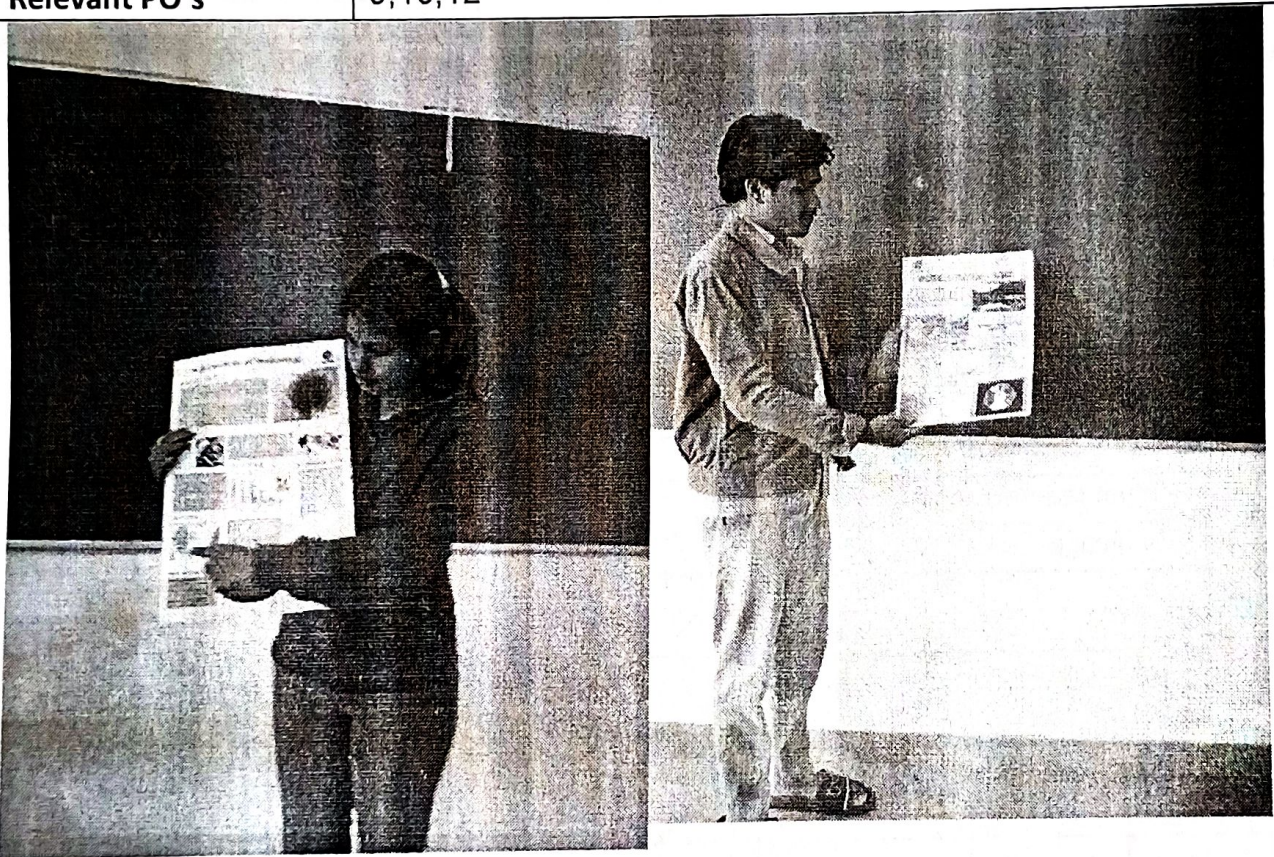




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**K.S. INSTITUTE OF TECHNOLOGY, BANGALORE - 560109**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**CONTENT BEYOND SYLLABUS**

<b>Academic Year</b>	2021-22 (Even)
<b>Name of the Faculty</b>	Dr. Surekha Borra
<b>Course Name /Code</b>	Energy and Environment/18ME751
<b>Semester/Section</b>	VII/A & B
<b>Activity Name</b>	Poster Presentations
<b>Topic Covered</b>	All Modules
<b>Date</b>	20/10/2022 to 20/12/22
<b>No. of Participants</b>	110
<b>Relevant PO's</b>	9,10,12





**Proofs (Photographs/Videos/Reports/Charts/Models)****Criteria for evaluation & Instruction for students**

Sl. No.	Criteria	Details
1	Oral Presentation time	15 minutes only
2	Number of posters	Each group must design one A3 size poster as per the topic

**Important dates:**

Sl. No.	Details	Date
1.	Date of issue of topics for presentation	Date: 9/11/22
2.	Last date for the submission poster	Date: 19/11/22
3.	Presentation date [as per schedule shared]	Date: before 19/11/22
4.	Date of announcement of evaluation details for oral presentation/ poster presentation	Date: 29/11/22

**Note:** Assignments marks will not be given if assignments submitted on later dates and failed to present a seminar.

**Strategy to award marks for presentations based on the criteria**

Sl. No.	Criteria
1.	Quality of the power point / poster
2.	Technical content in poster
3.	Structuring of the speech
4.	Clarity of speech with respect to the topic
5.	Voice modulation
6.	Body language

**Rubrics**

Sl. No.	Criteria	Marks for assignments
1.	Assignment not submitted in time or assignment submitted in time but not presented	No marks
2.	Assignment submitted in time, presented and any 04 or more criteria not met	2 marks
3.	Assignment submitted in time, presented and any 03 criteria not met	4 marks
4.	Assignment submitted in time, presented and any 02 criteria not met	6 marks
5.	Assignment submitted in time, presented and any 01 criteria not met	8 marks
6.	Assignment submitted in time, presented and all six criteria met	10 marks



Team No.	Topic	SEC		
1	e-waste management	A	1KS19EC001	ABHILASH A S
		A	1KS19EC002	ABHISHEK CHANDRESH
		A	1KS19EC003	AISHWARYA BASAVARAJ KEMBAVI
		A	1KS19EC004	AISHWARYA M G
		A	1KS19EC005	AKSHAY KUMAR D
2	Municipal solid waste management	A	1KS19EC006	AKSHITHA
		A	1KS19EC007	AMRUTA
		A	1KS19EC008	AMULYA R
		A	1KS19EC009	ANITHA S
		A	1KS19EC010	ANJALI Y J
3	Air pollution control systems	A	1KS19EC011	ARCHANA YADAV M
		A	1KS19EC012	ASHRITHA R
		A	1KS19EC014	BHAVANA S
		A	1KS19EC015	CHAITRA P
		A	1KS19EC016	CHANDAN RAJ Y
4	Water treatment systems	A	1KS19EC017	CHANDANA.L
		A	1KS19EC018	CHENNREDDY RAJASEKHAR
		A	1KS19EC019	CHIRANTHANA YOGANANDA K
		A	1KS19EC020	D NAYAN
		A	1KS19EC021	DANESH RAJU V
5	Wastewater treatment plants	A	1KS19EC022	DAVINO JOSEPH
		A	1KS19EC023	DHANYA SUKANTH B K
		A	1KS19EC024	DHEEMANTH K N
		A	1KS19EC025	DISHA SHIVANI
		A	1KS19EC027	GAYATHRI P K
6	Solar heating systems	A	1KS19EC028	GAYATHRI R WARRIER
		A	1KS19EC029	GONUGUNTLA SAI SIDDARTHA
		A	1KS19EC030	GOWRI S NADIGER
		A	1KS19EC031	HARSHA R
		A	1KS19EC032	HARSHITHA B Y
7	Solar power plants	A	1KS19EC033	HEMANTH.R.PATIL
		A	1KS19EC035	JAGRUTI PAI
		A	1KS19EC036	JAYANTH M B
		A	1KS19EC037	KAMMA MANUBOLU MANOGNA
		A	1KS19EC038	KARTHIK K
8	Thermal power plants	A	1KS19EC039	KASHYAP.P
		A	1KS19EC040	KRUPA.A
		A	1KS19EC041	KRUTHIK S
		A	1KS19EC042	LAKSHMAN KUMARA B
		A	1KS19EC043	LIKITHA.H
9	Hydroelectric power plants	A	1KS19EC044	M LOKESHWARI
		A	1KS19EC045	MANU N KANDRA
		A	1KS19EC046	MEGHANA H P
		A	1KS19EC047	MOHAMMAD RAKHEEB M R
		A	1KS19EC048	MOHITH KUMAR G
10	Biofuels	A	1KS19EC049	MONIKA V ARYA
		A	1KS19EC050	MONISHA.B.K
		A	1KS19EC051	N ANILA
		A	1KS19EC052	NIDHI S
		A	1KS19EC053	NISARGA K



11	Environmental status assessments	A	1KS19EC054	NITHIN D
		A	1KS19EC055	PAVAN KUMAR G R
		A	1KS19EC056	POKURI MOUNIKA
		A	1KS19EC057	POOJA S P
		A	1KS19EC058	PRADEEP GADED
		A	1KS19EC059	PRAKASH CHEGORE
12	Energy status assessments	A	1KS19EC061	PRASHANTH.S.K
		A	1KS19EC062	PRAVEEN KUMAR N
		A	1KS19EC063	PREETHAM G H
		A	1KS19EC064	PRIYANKA K
		A	1KS19EC065	RADHA KRISHNA L
		A	1KS19EC066	RAJALAKSHMI S
13	e-waste management	B	1KS19EC067	RAMYASREE R
		B	1KS19EC068	RANGASWAMY.U
		B	1KS19EC069	ROHAN K R
		B	1KS19EC070	S K BHARATESH
		B	1KS19EC071	SABARISH I J
		B	1KS19EC073	SAHANA S
14	Municipal solid waste management	B	1KS19EC074	SAI PRIYA T S
		B	1KS19EC075	SAMIKSHA S
		B	1KS19EC076	SANTOSH HEGDE
		B	1KS19EC077	SATHVIK U M
		B	1KS19EC078	SHAMITHA BIJOUR
		B	1KS19EC079	SHASHANK KASHYAP.H.R
15	Air pollution control systems	B	1KS19EC081	SHREYAMS D K
		B	1KS19EC082	SHREYAS B ARADHYA
		B	1KS19EC083	SHREYAS GOWDA
		B	1KS19EC084	SHREYAS V BHARADWAJ
		B	1KS19EC085	SHUBHAM KUMAR SINGH A
		B	1KS19EC086	SINCHANA M N
16	Water treatment systems	B	1KS19EC087	SRINIVAS S
		B	1KS19EC088	SRINIVASAN M
		B	1KS19EC089	SRIRAM
		B	1KS19EC090	SUHAS.M
		B	1KS19EC092	SUMUKHA VASISHTA M R
		B	1KS19EC093	SUSHMITHA S
17	Wastewater treatment plants	B	1KS19EC094	SWAGATH AITHAL P G
		B	1KS19EC095	SWATHI U
		B	1KS19EC096	T N L RUTHVIK
		B	1KS19EC097	TEJASHWINI P V
		B	1KS19EC098	THEERTHANA S R
		B	1KS19EC099	TUSHAR R VASISHTA
18	Solar heating systems	B	1KS19EC100	VAISHNAVI K
		B	1KS19EC101	VANDANA G
		B	1KS19EC102	VANDANA S
		B	1KS19EC103	VIGNESH MUTHAIAH R
		B	1KS19EC104	VIKAS S
		B	1KS19EC105	VINUTH S REDDY
19	Solar power plants	B	1KS19EC106	VISHAL SANJAY RAJU
		B	1KS19EC107	VISHNU RAATA YADUNANDAN
		B	1KS19EC108	YASHASWINI N
		B	1KS18EC089	SNEHA N



		B	1KS20EC400	MADALA VIVEK KUMAR
		B	1KS20EC401	RANJANA P
20	Thermal power plants	B	1KS20EC402	SINDHU J
		B	1KS18TE005	ANKITHA . N
		B	1KS19ET002	CHAITRA C
		B	1KS19ET003	LITCHITHA M GOWDA
		B	1KS19ET004	MAHADEV A C
		B	1KS19ET005	MRUTHYUNJAYA GUDIBANDE
21	Hydroelectric power plants	B	1KS19ET006	N NELBIN
		B	1KS19ET007	NIRANJAN S RAO
		B	1KS19ET008	RISHI KUMAR S
		B	1KS19ET009	ROHIT KUMAR
22	Biofuels	B	1KS19ET010	SHIRLYAS C R
		B	1KS19ET011	SHWETHA K
		B	1KS19ET012	VAISHNAVI S



  
Signature of Course In charge

  
Signature of HOD ECE





**K.S. INSTITUTE OF TECHNOLOGY, BANGALORE - 560109**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION**  
**ENGINEERING**  
**TEACHING AND LEARNING**  
**REPORT FOR CONTENT BEYOND SYLLABUS**

Academic Year	2022-23			
Name of the Faculty	Dr. P N Sudha			
Course Name /Code	Cryptography- 18EC744			
Semester/Section	7 <sup>th</sup> A & B Section			
Activity Name	Mini project			
Topic Covered	Symmetrical & Asymmetrical Encryption algorithms			
Date	18 <sup>th</sup> Dec 2022			
No. of Participants	105			
Objectives/Goals	<ul style="list-style-type: none"> <li>To check the students Design &amp; implementation of concepts learnt in Cryptography</li> </ul>			
ICT Used	Projector, PC & Camera			
<b>Appropriate Method/Instructional materials/Exam Questions</b> <ul style="list-style-type: none"> <li>Students were made to select any concept in Cryptography and write a program &amp; execute the same</li> <li>Obtained results are discussed in the report submitted.</li> </ul>				
Relevant PO's	<ul style="list-style-type: none"> <li>PO1, PO2, PO3, PO5, PO7(DEPENDING ON THE TOPIC) PO9, PO10, PO11 &amp; PO12</li> </ul>			
Significance of Results/Outcomes	To know understanding level of the students and its was interactive session.			
Reflective Critique	Good interactive session			
List of Mini Projects by students	Sl No.	USN No.	Name	Title of the project submitted
	1	1KS19EC001	ABHILASH A S	RSA ALGORITHM
	2	1KS19EC002	ABHISHEK CHANDRESH	Caesar Cipher
	3	1KS19EC003	AISHWARYA BASAVARAJ KEMBAVI	HILL CIPHER
	4	1KS19EC004	AISHWARYA M G	RSA Algorithm 1
	5	1KS19EC005	AKSHAY KUMAR D	CEASAR CIPHER



6	1KS19EC006	AKSHITHA	RSA algorithm
7	1KS19EC007	AMRUTA	RSA algorithm
8	1KS19EC008	AMULYA R	CEASAR CIPHER
9	1KS19EC009	ANITHA S	HILL CIPHER
10	1KS19EC010	ANJALI Y J	Mono-alphabetic CIPHER
11	1KS19EC011	ARCHANA YADAV M	DES ALGORITHM
12	1KS19EC012	ASHRITHA R	CEASAR CIPHER
13	1KS19EC014	BHAVANA S	CEASAR CIPHER
14	1KS19EC015	CHAITRA P	RSA
15	1KS19EC016	CHANDAN RAJ Y	Monoalphabetic cipher
16	1KS19EC017	CHANDANA.L	playfair cipher
17	1KS19EC018	CHENNREDDY RAJASEKHAR	RSA
18	1KS19EC019	CHIRANTHANA YOGANANDA K	Diffie
19	1KS19EC020	D NAYAN	CAESAR CIPHER
20	1KS19EC021	DANESH RAJU V	Play Fair Algorithm
21	1KS19EC022	DAVINO JOSEPH	RSA Algorithm
22	1KS19EC023	DHANYA SUKANTH B K	CEASAR CIPHER(PYTHON)
23	1KS19EC024	DHEEMANTH K N	Play Fair Algorithm
24	1KS19EC025	DISHA SHIVANI	CEASAR CIPHER
25	1KS19EC027	GAYATHRI P K	Polyalphabetic Substitution
26	1KS19EC028	GAYATHRI R WARRIER	CEASAR CIPHER
27	1KS19EC029	GONUGUNTLA SAI SIDDARTHA	RSA
28	1KS19EC030	GOWRI S NADIGER	CEASAR CIPHER
29	1KS19EC031	HARSHA R	CEASAR CIPHER
30	1KS19EC032	HARSHITHA B Y	hill cipher algorithm
31	1KS19EC033	HEMANTH.R.PATIL	
32	1KS19EC035	JAGRUTI PAI	POLYALPHABETIC CIPHER
33	1KS19EC036	JAYANTH M B	CEASAR CIPHER
34	1KS19EC037	KAMMA MANUBOLU MANOGNA	Diffie Hellman's algorithm
35	1KS19EC038	KARTHIK K	Mono alphabetic substitution cipher
36	1KS19EC039	KASHYAP.P	Caesar cipher
37	1KS19EC040	KRUPA.A	caesar cipher
38	1KS19EC041	KRUTHIK S	caesar cipher
39	1KS19EC042	LAKSHMAN KUMARA B	
40	1KS19EC043	LIKITHA.H	



41	1KS19EC044	M LOKESHWARI	RSA algorithm
42	1KS19EC045	MANU N KANDRA	CEASAR CIPHER
43	1KS19EC046	MEGHANA H P	RSA Algorithm
44	1KS19EC047	MOHAMMAD RAKHEEB M R	DIFFIE HELMANN'S ALGORITHM
45	1KS19EC048	MOHITH KUMAR G	
46	1KS19EC049	MONIKA V ARYA	play fair algorithm
47	1KS19EC050	MONISHA.B.K	Monoalphabetic Cipher
48	1KS19EC051	N ANILÁ	CEASER CIPHER
49	1KS19EC052	NIDHI S	Play fair
50	1KS19EC053	NISARGA K	CEASER CIPHER
51	1KS19EC054	NITHIN D	CEASER CIPHER
52	1KS19EC055	PAVAN KUMAR G R	CEASER CIPHER
53	1KS19EC056	POKURI MOUNIKA	CEASER CIPHER
54	1KS19EC057	POOJA S P	Play Fair Algorithm
55	1KS19EC058	PRADEEP GADED	Extended Euclidean algorithm
56	1KS19EC059	PRAKASH CHEGORE	HILL CIPHER ALGORITHM
57	1KS19EC061	PRASHANTH.S.K	DIFFIE HELMANN'S ALGORITHM
58	1KS19EC062	PRAVEEN KUMAR N	
59	1KS19EC063	PREETHAM G H	DIFFIE HELMANN'S ALGORITHM
60	1KS19EC064	PRIYANKA K	Eculidan algorithm
61	1KS19EC065	RADHA KRISHNA L	Caesar Cipher Encryption Algorithm
62	1KS19EC066	RAJALAKSHMI S	cease cipher encryption algorithm
63	1KS19EC067	RAMYASREE R	Hill cipher algorithm
64	1KS19EC068	RANGASWAMY.U	CEASER CIPHER
65	1KS19EC069	ROHAN K R	Ceaser Cipher
66	1KS19EC070	S K BHARATESH	RSA ALGORITHM
67	1KS19EC071	SABARISH I J	DIFFIE HELMANN'S ALGORITHM
68	1KS19EC073	SAHANA S	playfair cipher Algorithm
69	1KS19EC074	SAI PRIYA T S	HILL CIPHER
70	1KS19EC075	SAMIKSHA S	
71	1KS19EC076	SANTOSH HEGDE	PLAYFAIR CIPHER
72	1KS19EC077	SATHVIK U M	
73	1KS19EC078	SHAMITHA BIJOOR	RSA ALGORITHM
74	1KS19EC079	SHASHANK KASHYAP.H.R	Hill cipher algorithm
75	1KS19EC081	SHREYAMS D K	



76	1KS19EC082	SHREYAS B ARADHYA	RSA Algorithm
77	1KS19EC083	SHREYAS GOWDA	Cesar Cipher Encryption Algorithm
78	1KS19EC084	SHREYAS V BHARADWAJ	DIFFIE HELLMAN ALGORITHM
79	1KS19EC085	SHUBHAM KUMAR SINGH A	RSA ALGORITHM USING PYTHON
80	1KS19EC086	SINCHANA M N	RSA ALGORITHM
81	1KS19EC087	SRINIVAS S	DIFFIE HELLMAN ALGORITHM
82	1KS19EC088	SRINIVASAN M	Playfair Cipher
83	1KS19EC089	SRIRAM	DIFFIE HELLMAN ALGORITHM
84	1KS19EC090	SUHAS.M	RSA ALGORITHM
85	1KS19EC092	SUMUKHA VASISHTA M R	Diffie Hellman algorithm
86	1KS19EC093	SUSHMITHA S	RSA ALGORITHM
87	1KS19EC094	SWAGATH AITHAL P G	Hill cipher
88	1KS19EC095	SWATHI U	RSA ALGORITHM
89	1KS19EC096	T N L RUTHVIK	Polyalphabetic cipher.
90	1KS19EC097	TEJASHWINI P V	
91	1KS19EC098	THEERTHANA S R	Caesar Cipher Encryption Algorithm
92	1KS19EC099	TUSHAR R VASISHTA	DIFFIE HELLMAN ALGORITHM US
93	1KS19EC100	VAISHNAVI K	Playfair cipher using c language
94	1KS19EC101	VANDANA G	RSA algorithm
95	1KS19EC102	VANDANA S	DES using c++ language
96	1KS19EC103	VIGNESH MUTHAIAH R	Play Fair Algorithm
97	1KS19EC104	VIKAS S	RSA algorithm
98	1KS19EC105	VINUTH S REDDY	Euclid
99	1KS19EC106	VISHAL SANJAY RAJU	Diffie Hellman algorithm (C language)
100	1KS19EC107	VISHNU RAATA YADUNANDAN	DIFFIE HELLMAN ALGORITHM
101	1KS19EC108	YASHASWINI N	Euclidean algorithm
102	1KS18EC089	SNEHA N	Ceaser cipher
103	1KS20EC400	MADALA VIVEK KUMAR	
104	1KS20EC401	RANJANA P	
105	1KS20EC402	SINDHU J	
106	1KS18TE005	ANKITHA . N	Playfair Cipher
107	1KS19ET002	CHAITRA C	RSA ALGORITHM
108	1KS19ET003	LITCHITHA M GOWDA	DIFFIE HELLMAN ALGORITHM US
109	1KS19ET004	MAHADEV A C	HILL CIPHER ALGORITHM USING C
110	1KS19ET005	MRUTHYUNJAYA GUDIBANDE	DIFFIE HELLMAN ALGORITHM US



111	1KS19ET006	N NELBIN	
112	1KS19ET007	NIRANJAN S RAO	RSA ALGORITHM USING MATLAB
113	1KS19ET008	RISHI KUMAR S	
114	1KS19ET009	ROHIT KUMAR	DIFFIE HELLMAN ALGORITHM US
115	1KS19ET010	SHREYAS C R	
116	1KS19ET011	SHWETHA K	POLY ALPHABETIC CIPHER( C lan
117	1KS19ET012	VAISHNAVI S	

### Proofs (Photographs/Videos/Reports/Charts/Models)



**K.S. INSTITUTE OF TECHNOLOGY, BANGALORE – 560109**  
 Dept. of Electronics & Communication Engg.  
**Activity Based Assignment**

**Date:19-12-2022**

Name of the student: HARSHA R  
 USN : 1KS19EC031  
 Semester: 7  
 Section: A

Course: CRYPTOGRAPHY  
 Course Code:18EC744

**Aim:** Demonstration of caesar cipher algorithm using java

**Explanation:** It is a type of substitution cipher in which each letter in the plaintext is replaced by a letter some fixed number of positions down the alphabet,

Text : KSIT  
 KEY: 4  
 Cipher: OWMX

**Program for the algorithm:**

```
class CaesarCipher
{
    public static StringBuffer encrypt(String text, int s)
    {
        StringBuffer result= new StringBuffer();
        for (int i=0; i<text.length(); i++)
        {
            if (Character.isUpperCase(text.charAt(i)))
            {
                char ch = (char)((((int)text.charAt(i) +
                    s - 65) % 26 + 65);
                result.append(ch);
            }
            else
            {
                char ch = (char)((((int)text.charAt(i) +
```

*[Signature]*  
 Course Incharge

*[Signature]*  
 HOD





**CONTENT BEYOND SYLLABUS**

Academic Year	2022-23 (odd)
Name of the Faculty	Pooja S.
Course Name /Code	Satellite Communication/18EC732
Semester/Section	VII/A & B
Activity Name	Poster Presentations
Topic Covered	All Modules
Date	28/11/2022 to 16/12/2022
No. of Participants	115
Relevant PO's	9,10,12

**K.S. INSTITUTE OF TECHNOLOGY, BANGALORE - 560109**  
**SATELLITE COMMUNICATION (18EC732) 2022-23**  
**DIRECT TO HOME SATELLITE TV**

**INTRODUCTION**

- DTH is the short form of 'Direct to Home' service. It can provide television viewing services directly to subscribers through satellite transmission anywhere in the country.
- For that a dish is placed outside a home which helps in receiving the signals and broadcasting the transmission onto a television. The signals are digital by nature and are received directly from the satellite.

**BLOCK DIAGRAM**

**ADVANTAGES**

- Wide coverage
- High quality signal
- Flexibility
- Easy installation
- Pay per view options
- Large channel selection

**DISADVANTAGES**

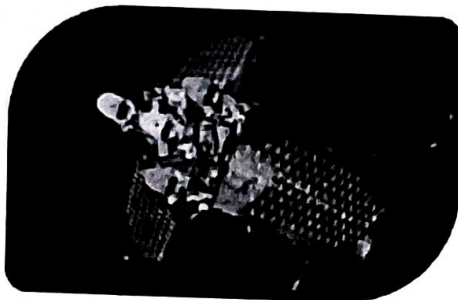
- The initial cost of purchasing equipment can be expensive
- Weather interference
- Limited programming options
- Dependence on satellite

Presented by: Shrayas V Bharadwaj(1KS19EC084) Grinivas S(1KS19EC087) Shashank Kashyap(1KS19EC078) Sdram(1KS19EC089) Vishnupata (1KS19EC107)



# Satellite-Mobile Telephony (Iridium Network)

The satellites of the Iridium network cover the entire earth with connectivity unmatched by any other communications provider. The Iridium system was designed to be accessed by small handheld phones, the size of a cell phone



## The Iridium satellite constellation provides

- > L-band voice and data information coverage to satellite phones
- > pagers
- > integrated transceivers over the entire surface of Earth

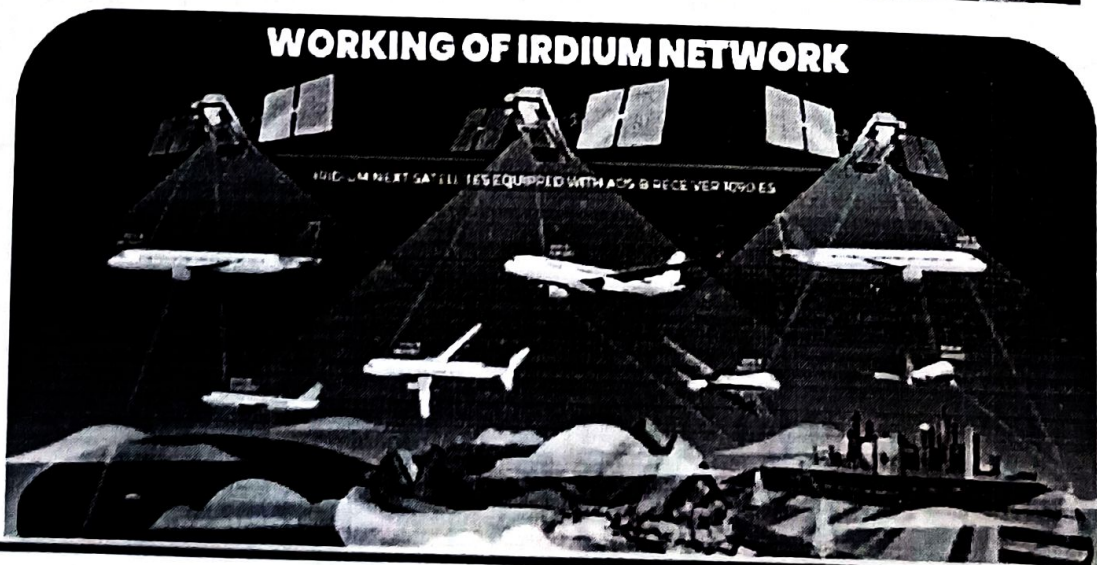
**First Generation Iridium Satellite**

> It was conceived by Barry Bertiger, Raymond J. Leopold and Ken Peterson in late 1987

> In 1988 protected by patents Motorola filed in their names and then developed by Motorola on a fixed-price contract from July 29, 1993, to November 1, 1998, when the system became operational and commercially available.



## **WORKING OF IRIDIUM NETWORK**







**K. S. Institute of Technology, Bangalore -560109.**  
**SATELLITE COMMUNICATION (18EC732) 2022-23**

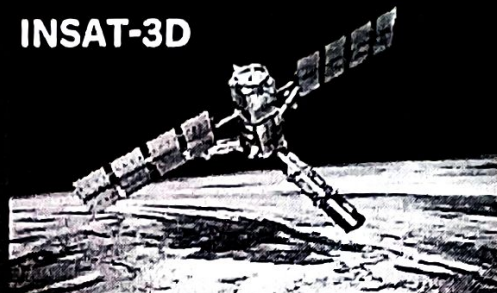
## WEATHER FORECASTING SATELLITES

A weather satellite or meteorological satellite is a type of Earth observation satellite that is primarily used to monitor the weather and climate of the Earth.

Each meteorological satellite is designed to use one of two different classes of orbit:

Geostationary and Polar Orbiting.

### INSAT-3D



### Geostationary Orbiting satellite

Geostationary weather satellites orbit the Earth above the equator at altitudes of 35,860 km (22,300 miles).

Due to this orbit, they remain stationary with respect to the rotating Earth and thus can record or transmit images of the entire hemisphere below continuously with their visible-light and Infrared sensors.

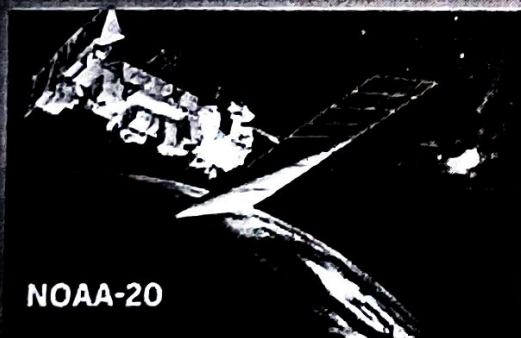


MEOSAT

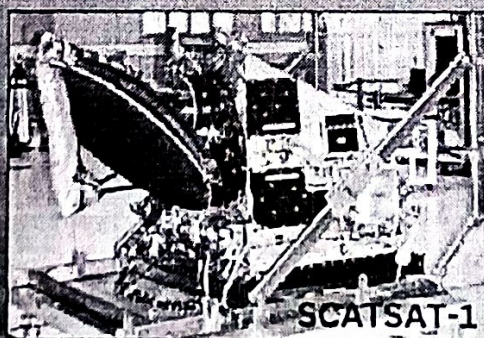
### Polar Orbiting satellite

Polar orbiting weather satellites circle the Earth at a typical altitude of 850 km (530 miles) in a north to south (or vice versa) path, passing over the poles in their continuous flight.

Polar orbiting weather satellites are in sun-synchronous orbits, which means they are able to observe any place on Earth and will view every location twice each day with the same general lighting conditions due to the near-constant local solar time. Polar orbiting weather satellites offer a much better resolution than their geostationary counterparts due their closeness to the Earth.



NOAA-20



SCATSAT-1

### Applications:

Used to detect the development and movement of storm systems and other cloud patterns, meteorological satellites can also detect other phenomena such as city lights, fires, effects of pollution, auroras, sand and dust storms, snow cover, ice mapping, boundaries of ocean currents, and energy flows.





**INTRODUCTION**

**FARADAY EFFECT**

- The Faraday effect is a phenomenon in which the polarization plane of an electromagnetic (light) wave is rotated in a material under a magnetic field applied parallel to the propagation direction of the light wave.



**BLOCK DIAGRAM**

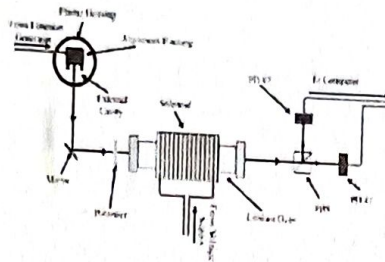


FIG 1: FARADAY EFFECT

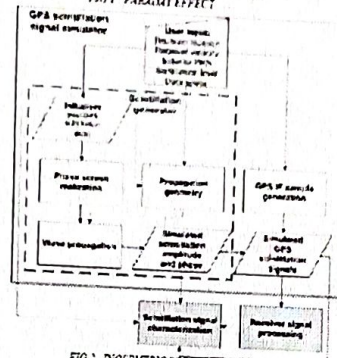
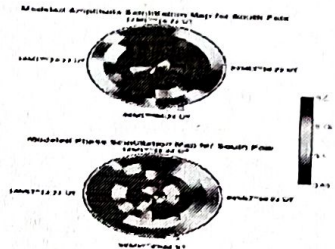


FIG 2: IONOSPHERIC SCINTILLATION

**ADVANTAGES:**

- The Faraday effect is used in spintronics research to study the polarization of electron spins in semiconductors
- Faraday effect has been used to measure optical rotatory power and for remote sensing of magnetic fields.
- Faraday rotators can be used for amplitude modulation.
- rapid variation of the amplitude and phase of a received signal
- good quantum efficiency, and can measure both the intensity and the energy of incident radiation



Presented by: SAHANAS (1KS19EC073), SHAMITHA BUJOR(1KS19EC078), SINCANA MN(1KS19EC086), SUSHMITHA S (1KS19EC093), THIRERATHANA SR (1KS19EC098)

**Criteria for Evaluation & Instruction for students**

Sl No	Criteria	Details
1	Oral Presentation Time	15 Mins
2	Poster	Each group must design one A3 poster as per the given topic

**Important Dates:**

Sl No.	Details	Date
1.	Date of issue of topics	24/11/2022
2.	Last date for poster submission	16/12/2022
3.	Presentation Dates	05/12/2022 to 16/12/2022
4.	Date of announcement of evaluation details	31/12/2022





# K. S. INSTITUTE OF TECHNOLOGY

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Course: Satellite Communication Code:18EC732

Sem/Sec: VII/A

Each group should be a maximum of 5 students only

TEAM NO.	NAME	USN	POSTER TOPIC
TEAM 1	Amrutha	1KS19EC007	Trajectory of Chandrayaan 1 and 2
	Gowri	1KS19EC030	
	Nisarga	1KS19EC053	
	Manogna K M	1KS19EC037	
TEAM 2	Abhilash A S	1KS19EC001	Satellites in LEO orbits and their Properties
	Pradeep Gaded	1KS19EC058	
	Mohammad Rakeeb	1KS19EC047	
TEAM 3	Aishwarya M G	1KS19EC004	Satellites in MEO orbits and their Properties
	Archana Yadav M	1KS19EC011	
	Meghana H P	1KS19EC046	
	Pooja S P	1KS19EC057	
TEAM 4	Gayathri R Warrier	1KS19EC028	Satellites in GEO orbits and their Properties
	Jagruhi Pai	1KS19EC035	
	Manu Kandra	1KS19EC045	
TEAM 5	Amulya R	1KS19EC008	Molniya Orbit, Polar Sun Synchronous Orbit
	Ashritha R	1KS19EC012	
	Disha Shivani	1KS19EC025	
	Gayathri P K	1KS19EC027	
TEAM 6	Bhavana S	1KS19EC014	Orbital Parameters (Any 5)
	B Y Harshitha	1KS19EC032	
	Nidhi S	1KS19EC052	
	Anitha	1KS19EC009	
TEAM 7	Chennreddy Rajashekar	1KS19EC018	Satellite Stabilization
	Chiranthana Yogananda K	1KS19EC019	
	Davino Joseph	1KS19EC022	
	Gonuguntla Sai Siddarth	1KS19EC029	
TEAM 8	Pokuri Mounika	1KS19EC056	Injection Velocity
	Prashanth S K	1KS19EC061	
	Radhakrishna L	1KS19EC065	
	Rajalakshmi S	1KS19EC066	
TEAM 9	Akshay	1KS19EC005	Look Angles of a Satellite
	Nayan D	1KS19EC020	
	Dhanya Sukanth B	1KS19EC023	
	Kruthik	1KS19EC041	
TEAM 10	Kashyap P	1KS19EC039	Power Supply Subsystem in a Satellite
	Mohith Kumar	1KS19EC048	
	Monisha B K	1KS19EC050	
	N Anila	1KS19EC051	
TEAM 11	Chaitra P	1KS19EC015	Telemetry Tracking & Command Subsystem
	Krupa A	1KS19EC040	
	Likitha H	1KS19EC043	
	Monika V Arya	1KS19EC049	
TEAM 12	Nithin D	1KS19EC054	Types of Earth Stations
	Pavan Kumar G R	1KS19EC055	
	Praveen Kumar N	1KS19EC062	
	Preetham G H	1KS19EC063	
TEAM 13	Chandana L	1KS19EC017	Earth Station Hardware
	Danesh Raju V	1KS19EC021	
	Dheemanth K N	1KS19EC024	
	Priyanka K	1KS19EC064	
TEAM 14	Aishwarya B K	1KS19EC003	Satellite Tracking
	Akshitha	1KS19EC006	
	Anjali	1KS19EC010	
	Lokeshwari M	1KS19EC044	
TEAM 15	Jayanth M B	1KS19EC036	Multiple Access Techniques: FDMA
	Abhishek C	1KS19EC002	
	Chandan Raj Y	1KS19EC016	
	Karthik K	1KS19EC038	
TEAM 16	Hemanth R Patil	1KS19EC033	Multiple Access Techniques: TDMA
	Lakshman kumar B	1KS19EC042	
	Harsha	1KS19EC031	
	Prakash Chegore	1KS19EC059	





# K. S. INSTITUTE OF TECHNOLOGY

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEER

Course: Satellite Communication Code:18EC732

Sem/Sec: VII B

**KSIT**

Each group should be a maximum of 5 students only

TEAM NO.	NAME	USN	POSTER TOPIC
TEAM 1	Srinivasan M	1KS19EC088	Multiple Access Techniques: CDMA
	Valshnavi K	1KS19EC100	
TEAM 2	Shwetha K	1KS19ET011	Multiple Access Techniques: SDMA
	Chaitra C	1KS19ET002	
TEAM 3	Vignesh muthaiah R	1KS19EC103	Satellite Link Design
	Vinuth S Reddy	1KS19EC105	
	Vivek	1KS20EC400	
TEAM 4	Shamitha bijoor	1KS19EC078	Propagation Considerations
	Sinchana mn	1KS19EC086	
	Sushmitha S.	1KS19EC093	
	Theerthana S.R.	1KS19EC098	
TEAM 5	Sahana s	1KS19EC073	Communication Satellites & Payloads
	Yashaswini	1KS19EC108	
	Samiksha	1KS19EC075	
	Saipriya	1KS19EC074	
	Tejaswini	1KS19EC097	
TEAM 6	Rangaaswamy	1KS19EC088	Satellite-Mobile Telephony (Indium Network)
	Bharatesh	1KS19EC070	
	Shreyas Aradhya	1KS19EC082	
	Swagath Arthai P G	1KS19EC094	
TEAM 7	Tuehar	1KS19EC099	Direct-to-Home Satellite-TV
	Shreyas V Bharadwaj	1KS19EC084	
	Srinivas S	1KS19EC087	
	Shaahank Kashyap	1KS19EC079	
	Sriram	1KS19EC089	
TEAM 8	Viahnuraata yadhunandan	1KS19EC107	Satellite-Cable TV
	Sumukha	1KS19EC092	
	Shreyams	1KS19EC081	
	Rohan K R	1KS19EC069	
	Shreyas Gowda	1KS19EC083	
TEAM 9	Shubham Kumar Singh	1KS19EC085	Remote Sensing Satellites
	Rohit Kumar	1KS19ET009	
	Ankitha N	1KS18TE005	
	Litchitha Gowda	1KS19ET003	
	Valshnavi	1KS19ET012	
TEAM 10	Shreyas C R	1KS19ET010	Weather Forecasting Satellites
	Sabansh I J .	1KS19EC071	
	Sathvik U M	1KS19EC077	
	Santosh Hegde	1KS19EC076	
	T N L Ruthvik	1KS19EC096	
TEAM 11	Suhas M Gowda	1KS19EC090	GPS System
	Vandana S	1KS19EC102	
	Swathi U	1KS19EC095	
	Ranjana P	1KS20EC401	
TEAM 12	Sindhu U	1KS19EC402	Working Principle of GPS
	Mahadev A C	1KS19ET004	
	Nalbin N	1KS19ET006	
	Niranjan S Roo	1KS19ET007	
	Mruthyunjaya Gudibande	1KS19ET005	
TEAM 13	Rushi Kumar S	1KS19ET008	GPS Signal Structure & Modes
	Vikas S	1KS19EC104	
	Vishal Sanjay Raju	1KS19EC108	
	Vandana G	1KS19EC101	
	Ramya Shree	1KS19EC067	

*[Signature]*  
Signature of Course In charge

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Signature of HOD ECE





**K.S. INSTITUTE OF TECHNOLOGY, BANGALORE - 560109**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**CONTENT BEYOND SYLLABUS**

**KSIT**

<b>Academic Year</b>	<b>2022-23 (Odd)</b>
<b>Name of the Faculty</b>	<b>Aswini Kumar G</b>
<b>Course Name /Code</b>	<b>VLSI/18EC72</b>
<b>Semester/Section</b>	<b>VII/B</b>
<b>Activity Name</b>	<b>Poster Presentations</b>
<b>Topic Covered</b>	<b>All Modules</b>
<b>Date</b>	<b>20/10/2022 to 20/12/22</b>
<b>No. of Participants</b>	<b>43</b>
<b>Relevant PO's</b>	<b>9,10,12</b>



**Proofs (Photographs/Videos/Reports/Charts/Models)****Criteria for evaluation & Instruction for students**

Sl. No.	Criteria	Details
1	Oral Presentation time	15 minutes only
2	Number of posters	Each group must design one A3 size poster as per the topic

**Important dates:**

Sl. No.	Details	Date
1.	Date of issue of topics for presentation	
2.	Last date for the submission poster	Date: 9/11/22
3.	Presentation date [as per schedule shared]	Date: 19/11/22
4.	Date of announcement of evaluation details for oral presentation/ poster presentation	Date: before 19/11/22 Date: 29/11/22

**Note:** Assignments marks will not be given if assignments submitted on later dates and failed to present a seminar.

**Strategy to award marks for presentations based on the criteria**

Sl. No.	Criteria
1.	Quality of the power point / poster
2.	Technical content in poster
3.	Structuring of the speech
4.	Clarity of speech with respect to the topic
5.	Voice modulation
6.	Body language

**Rubrics**

Sl. No.	Criteria	Marks for assignments
1.	Assignment not submitted in time or assignment submitted in time but not presented	No marks
2.	Assignment submitted in time, presented and any 04 or more criteria not met	2 marks
3.	Assignment submitted in time, presented and any 03 criteria not met	4 marks
4.	Assignment submitted in time, presented and any 02 criteria not met	6 marks
5.	Assignment submitted in time, presented and any 01 criteria not met	8 marks
6.	Assignment submitted in time, presented and all six criteria met	10 marks



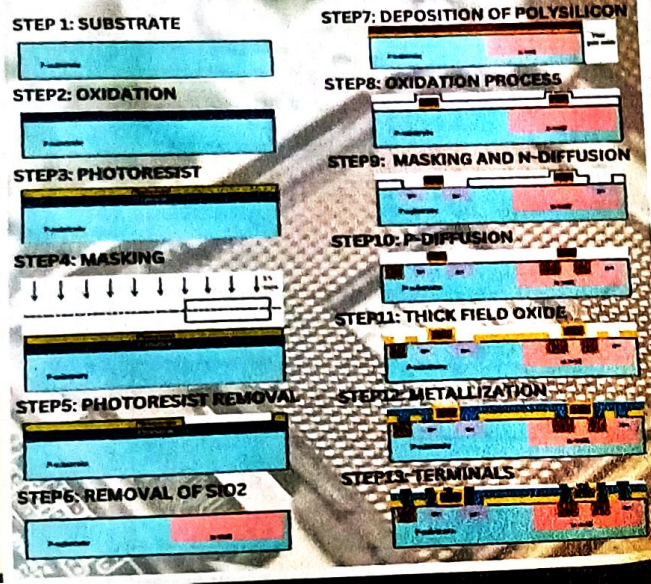
Team No.	Topic	SEC		
1	IC FABRICATION	B	1KS19EC067	RAMYASREE R
		B	1KS19EC068	RANGASWAMY.U
		B	1KS19EC069	ROHAN K R
		B	1KS19EC070	S K BHARATESH
		B	1KS19EC071	SABARISH I J
		B	1KS19EC073	SAHANA S
2	CMOS DYNAMIC RAM	B	1KS19EC074	SAI PRIYA T S
		B	1KS19EC075	SAMIKSHA S
		B	1KS19EC076	SANTOSH HEGDE
		B	1KS19EC077	SATHVIK U M
		B	1KS19EC078	SHAMITHA BUJOR
		B	1KS19EC079	SHASHANK KASHYAP.H.R
3	INTEGRATED CIRCUITS	B	1KS19EC081	SHREYAMS D K
		B	1KS19EC082	SHREYAS B ARADHYA
		B	1KS19EC083	SHREYAS GOWDA
		B	1KS19EC084	SHREYAS V BHARADWAJ
		B	1KS19EC085	SHUBHAM KUMAR SINGH A
		B	1KS19EC086	SINCHANA M N
4	CMOS FABRICATION	B	1KS19EC087	SRINIVAS S
		B	1KS19EC088	SRINIVASAN M
		B	1KS19EC089	SRIRAM
		B	1KS19EC090	SUHAS.M
		B	1KS19EC092	SUMUKHA VASISHTA M R
		B	1KS19EC093	SUSHMITHA S
5	DYNAMIC CIRCUITS	B	1KS19EC094	SWAGATH AITHAL P G
		B	1KS19EC095	SWATHI U
		B	1KS19EC096	T N L RUTHVIK
		B	1KS19EC097	TEJASHWINI P V
		B	1KS19EC098	THEERTHANA S R
		B	1KS19EC099	TUSHAR R VASISHTA
6	CMOS TECHNOLOGY	B	1KS19EC100	VAISHNAVI K
		B	1KS19EC101	VANDANA G
		B	1KS19EC102	VANDANA S
		B	1KS19EC103	VIGNESH MUTHAIAH R
		B	1KS19EC104	VIKAS S
		B	1KS19EC105	VINUTH S REDDY
7	MOS STEPS FABRICATION	B	1KS19EC106	VISHAL SANJAY RAJU
		B	1KS19EC107	VISHNU RAATA YADUNANDAN
		B	1KS19EC108	YASHASWINI N
		B	1KS18EC089	SNEHA N
		B	1KS20EC400	MADALA VIVEK KUMAR
		B	1KS20EC401	RANJANA P
		B	1KS20EC401	SINDHUJA



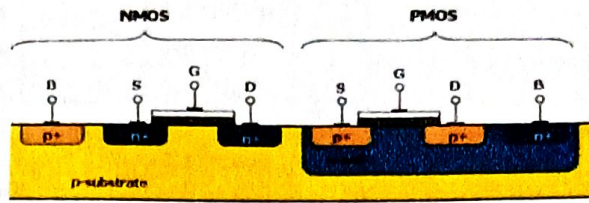


# KS INSTITUTE OF TECHNOLOGY CMOS FABRICATION

CMOS, or Complementary Metal-Oxide-Semiconductor, is a type of technology used in the production of integrated circuits (ICs). It involves the use of both n-type and p-type semiconductor materials in the creation of transistors, which are the building blocks of electronic circuits. One of the main advantages of CMOS technology is its low power consumption. This is because CMOS transistors only consume power when they are switching between on and off states, and they do so very efficiently. This makes CMOS technology ideal for use in portable devices such as smartphones and laptops, where power consumption is a major concern.



# Complementary Metal Oxide Semiconductor CMOS Technology.

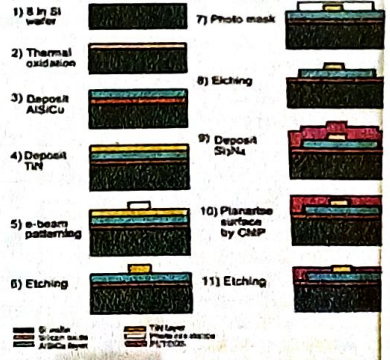


In a 1963 conference paper C. T. Sah and Frank Wanlass of the Fairchild R & D Laboratory showed that logic circuits combining p-channel and n-channel MOS transistors in a complementary symmetry circuit configuration drew close to zero power in standby mode. Wanlass patented the idea that today is called CMOS.

CMOS is widely used in different chips such as Microprocessor, Microcontroller, Static RAM, etc.

In computers, it is used along with BIOS.

## CMOS Fabrication



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Signature of Course In charge

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Signature of HOD ECE





**K.S. INSTITUTE OF TECHNOLOGY, BANGALORE - 560109**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**TEACHING AND LEARNING**  
**PEDAGOGY REPORT**

Academic Year	2022-23 (ODD)
Name of the Faculty	Praveen A
Course Name /Code	VLSI Design/18EC72
Semester/Section	VII/A
Activity Name	Poster Presentation
Topic Covered	All Modules
Date	2/12/2022 to 7/12/22
No. of Participants	62
Objectives/Goals	<ul style="list-style-type: none"><li>• To improve the self-learning and presentation skills of students</li><li>• To improve the communication skills of students.</li></ul>
ICT Used	Posters
Appropriate Method/Instructional materials/Exam Questions	<ul style="list-style-type: none"><li>• Initially delivered lectures on IC Fabrication.</li><li>• Later students were formed into groups, assigned with a topic, asked to prepare A3 size poster, and give oral presentation.</li><li>• Students are given with additional information/ sources from which they can prepare.</li></ul>
Relevant PO's	9,10,12
Significance of Results/Outcomes	<ul style="list-style-type: none"><li>• Students tried to explore the importance of IC Fabrication, Power Saving and speed Improvement, improved their self-learning, communication, and team management skills as an individual and team member.</li><li>• Around 62 Students formed 7 teams, submitted posters, and delivered their presentation.</li></ul>
Reflective Critique	<ul style="list-style-type: none"><li>• The activity improved the self-learning of students.</li><li>• The activity provided a platform for students to interact with peers, improve their communication skills, work as individuals and as team.</li></ul>



# Proofs (Photographs/Videos/Reports/Charts/Models)

## KS INSTITUTE OF TECHNOLOGY CMOS FABRICATION

CMOS, or Complementary Metal-Oxide-Semiconductor, is a type of technology used in the production of integrated circuits (ICs). It involves the use of both n-type and p-type semiconductor materials in the creation of transistors, which are the building blocks of electronic circuits. One of the main advantages of CMOS technology is its low power consumption. This is because CMOS transistors only consume power when they are switching between on and off states, and they do so very efficiently. This makes CMOS technology ideal for use in portable devices such as smartphones and laptops, where power consumption is a major concern.

**STEP 1: SUBSTRATE**  
**STEP 2: OXIDATION**  
**STEP 3: PHOTORESIST**  
**STEP 4: MASKING**  
**STEP 5: PHOTORESIST REMOVAL**  
**STEP 6: REMOVAL OF SiO<sub>2</sub>**  
**STEP 7: DEPOSITION OF POLYSILICON**  
**STEP 8: OXIDATION PROCESS**  
**STEP 9: MASKING AND N-DIFFUSION**  
**STEP 10: P-DIFFUSION**  
**STEP 11: THICK FIELD OXIDE**  
**STEP 12: METALLIZATION**  
**STEP 13: TERMINALS**

## Complementary Metal Oxide Semiconductor CMOS Technology

In a 1962 conference paper C. T. Sah and Frank Wanlass of the Fairchild R & D Laboratory showed that logic circuits combining p-channel and n-channel MOS transistors in a complementary symmetry circuit configuration draw close to zero power in standby mode. Wanlass patented the idea that today is called CMOS.

### CMOS Fabrication

CMOS is widely used in different chips such as Microprocessor, Microcontroller, Static RAM, etc.

In computers, it is used along with BIOS.

## INTEGRATED CIRCUITS

**Advantages**

- ICs are smaller in size and hence the circuit is compact.
- They are highly reliable as all the circuit components are fabricated on a single substrate.
- Space required by each lead circuit is very less.
- Power consumption is less.
- They are inexpensive.
- Inductance and high order capacitors cannot be fabricated.
- Integrated circuits (ICs) cannot produce high power.
- They are dependent on the quality of the substrate and the process.

## IC FABRICATION

### Manufacturing Process

Wafers → Silicon wafers → IC fabrication → IC assembly → IC testing → IC packaging

### Fabrication Process



# CMOS DYNAMIC RAM

## 3T DRAM CELL

3T DRAM utilizes gate of the transistor and a capacitance to store the data value. When data is to be written, write signal is enabled and the data from the bit line is fed into the cell. When data is to be read from the cell, read line is enabled and data is read through the bit line.



### TIMING WAVE

When data is to be written, write signal is enabled and the data from the bit line is fed into the cell. When data is to be read from the cell, read line is enabled and data is read through the bit line. 3T DRAM cell occupies less area compared to the 4T DRAM cell.



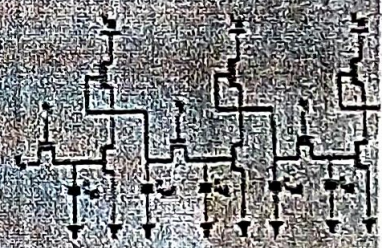
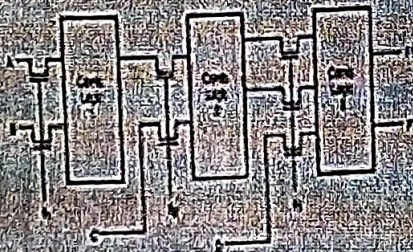
2T DRAM is a "capacitorless" bit cell design that stores data using the parasitic body capacitance that is inherent to silicon on insulator (SOI) transistors. Considered a nuisance in logic design, this floating body effect can be used for data storage.



K.S. INSTITUTE OF TECHNOLOGY, BANGALORE - 560109  
VLSI(18EC72) 2022-23  
**SYNCHRONOUS DYNAMIC CIRCUIT TECHNIQUES**

### DYNAMIC PASS TRANSISTOR CIRCUITS

- The generalized view of a multi-stage synchronous circuit shown in Fig.
- The circuit consists of cascaded combinational logic stages, which are interconnected through nMOS pass transistors.
- All inputs of each combinational logic block are driven by a single clock signal.
- Individual input capacitances are not shown in this figure for simplicity, but the operation of the circuit obviously depends on temporary charge storage in the parasitic input capacitances.



### TIMING

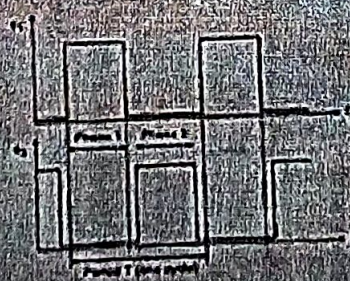


Fig. Three stages of a depletion-load CMOS dynamic shift register circuit driven with two-phase clocking.

Non-overlapping clock signals used for two-phase synchronous operation.

*Paul*  
Signature of Course In charge

*Pure*  
Signature of HOD ECE





# INSTITUTE OF TECHNOLOGY, BANGALORE - 560109

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

TEACHING AND LEARNING

## Content Beyond Syllabus REPORT

Academic Year	2022-23 (Even)
Name of the Faculty	Dr.Dinesh Kumar D S
Course Name /Code	Computer Networks/18EC71
Semester/Section	VII/A &B
Activity Name	Literature survey Paper
Topic Covered	Computer Networks Syllabus
Date	9/12/2022 to 25/12/2022
No. of Participants	105
Objectives/Goals	<ul style="list-style-type: none"><li>• To improve the self-learning skills of students</li><li>• To improve the communication skills of students.</li><li>• To improve the writing skills of journal paper</li></ul>
ICT Used	-
Appropriate Method/Instructional materials/Exam Questions <ul style="list-style-type: none"><li>• Journals / Conference papers referred</li></ul>	
Relevant PO's	1,2,5,9,10,12
Significance of Results/Outcomes	<ul style="list-style-type: none"><li>• This will teach &amp; enhance working in team along with writing communication skills.</li><li>• Students wrote individual paper and also a merged together paper after analyzing with other papers written by their group mates.</li></ul>
Reflective Critique	<ul style="list-style-type: none"><li>• The activity improved the learning and communication skills of students</li><li>• The activity provided a platform for students to interact with peers, improve their communication skills and work as individuals.</li><li>• The activity also helped them to write journal literature paper which will be required in future in research work.</li></ul>

*Dinesh*

Signature of Course Incharge

*Dinesh*

Signature of HOD ECE



BATCH NO	USN	NAME	TITLE -SURVEY PAPER
1	1KS19EC025	Disha Shivani	Wireless network Protocols
	1KS19EC008	Amulya R	
	1KS19EC012	Ashritha R	
	1KS19EC027	Gayathri P K	
2	1KS19EC032	Harshitha B Y	TCP/IP protocol layering
	1KS19EC014	Bhavana S	
	1KS19EC009	Anitha S	
	1KS19EC052	Nidhi	
3	1KS19EC071	Sabarish I J	Application Layer Protocols
	1KS19EC076	Santosh Hegde	
	1KS19EC077	Sathvik U.M	
	1KS19EC096	T N L Ruthvik	
	1KS19EC090	Suhas M Gowda	
4	1KS19EC095	Swathi U	Network layer and Transport Layer Protocols
	1KS19EC102	Vandana S	
	1KS20EC401	Ranjana P	
	1KS20EC402	Sindhu J	
5	1KS19EC003	Aishwarya Basvaraja Ke	Wired and Wireless LAN
	1KS19EC006	Akshitha	
	1KS19EC010	Anjali Y J	
	1KS19EC044	Lokeshwari M	
6	1KS19EC004	Aishwarya M G	Connection and Connectionless protocol
	1KS19EC011	Archana Yadav M	
	1KS19EC046	Meghana H P	
	1KS19EC057	Pooja S P	
7	1KS19EC039	KASHYAP P	TELNET
	1KS19EC048	MOHITH KUMAR G	
	1KS19EC050	MONISHA B K	
	1KS19EC051	N ANILA	
8	1KS19EC054	NITHIN D	STOP AND WAIT PROTOCOL
	1KS19EC055	PAVAN KUMAR G R	
	1KS19EC062	PRAVEEN KUMAR N	
	1KS19EC063	PREETHAM G H	
9	1KS19EC088	SRINIVASAN M	Network layer protocols
	1KS19EC100	VAISHNAVI K	
10	1KS19EC068	Rangaswamy U	HTTP and HTTP Video Streaming
	1KS19EC070	S K Bharatesh	
	1KS19EC082	Shreyas B Aradhya	
	1KS19EC094	Swagath Aithal P G	
	1KS19EC099	Tushar R Vasishta	
11	1KS19EC056	Pokuri Mounika	World Wide Web
	1KS19EC061	Prashant SK	
	1KS19EC065	Radhakrishna L	
	1KS19EC066	Rajalakshmi S	