1.1.1 - The Institution ensures effective curriculum delivery through a well planned and documented process.

BUILDERS ENGINEERING COLLEGE KANGAYAM 638 108. NATHAKADAIYUR

PRINCIPAL
BUILDERS ENGINEERING COLLEGE
Nathakadaiyur, Kangayam-638 108.
Tirupur Dt.,Tamilnadu, India.

Date : 06.08.2020

CENTRE FOR ACADEMIC COURSES
ANNA UNIVERSITY: : CHENNAI – 600 025

ACADEMIC SCHEDULE FOR NON AUTONOMOUS AFFILIATED COLLEGES

August 2020 – November 2020 (ODD SEMESTER – Except I Semester)

UG & PG Programmes

Sl. No.	Programme	Commencement of Classes	Last working day	Commencement of Practical Examinations	Commencement of End Semester Examinations
1.	All UG/PG Programmes (except I Semester)	12.08.2020	26.10.2020**	28.10.2020	09.11.2020
2.	B.E. / B. Tech.(Part-Time) – III, V , VII				

RE - OPENING DAY FOR THE NEXT SEMESTER: 14.12.2020 (Monday)

NOTE:

1. The Theory and Practical Examination schedules which will be published in due course by the Controller of Examinations, Anna University, Chennai should be followed. (Practical Examinations will be conducted before the theory examinations).
2. Assessment Schedule for the August 2020 – November 2020 should be followed strictly.
3. Saturdays included in the Assessment period shall be used for conducting the Assessment Tests.

** In order to ensure minimum no. of working days, the following Saturdays are declared as working days.

Sl. No.	Working Days (Saturdays for UG & PG)	Time Table of the Week Day to be Followed
1.	05.09.2020	Tuesday
2.	12.09.2020	Friday
3.	19.09.2020	Monday
4	26.09.2020	Tuesday

Sl. No.	Working Days (Saturdays for UG & PG)	Time Table of the Week Day to be Followed
5.	03.10.2020	Wednesday
6	10.10.2020	Thursday
7.	17.10.2020	Friday
8.	24.10.2020	Monday

BUILDERS ENGINEERING COLLEGE KANGAYAM 638 108. NATHAKADAIYUR

PRINCIPAL
BUILDERS ENGINEERING COLLEGE
Nathakadaiyur, Kangayam-638 108.
Tirupur Dt.,Tamilnadu, India.

DIRECTOR
ACADEMIC COURSES

DAC - 56

Off. 22357077 / 73
22357074
Fax / Dir : 22352272

CENTRE FOR ACADEMIC COURSES
ANNA UNIVERSITY
CHENNAI – 600 025

Dr. S. HOSIMIN THILAGAR
DIRECTOR

Letter No.2407/AU/CAC/Ach Sch(Rev)/2020 16.10.2020

To
The Deans of Regional Campuses /
The Deans of Constituent Colleges /
The Principals of the Non-Autonomous Affiliated Colleges.

NOTIFICATION

Agenda Item: Extension of Academic Schedule (August – November 2020).

Representations were received from various Principals of Affiliated colleges regarding the challenges / difficulties faced by both the students and faculty during the online teaching – learning process. The issues such as cramped academic schedule, poor network connectivity and insufficient time period between the conduct of three reviews for the project work were discussed.

After due deliberations, in order to address the above said issues and to facilitate the completion of syllabus and the conduct of the internal assessment, it was decided to extend the Academic schedule for the Affiliated Colleges for the current semester. The revised schedule for this session (August – November 2020) is tabulated as below:

S. Gopalan 19/20/2020

S. Gopal

BUILDERS ENGINEERING COLLEGE KANGAYAM 638 108. NATHAKADAIYUR

PRINCIPAL
BUILDERS ENGINEERING COLLEGE
Nathakadaiyur, Kangayam-638 108.
Tirupur Dt.,Tamilnadu, India.

Affiliated Institutions

Sl. No	Programme	Commencement of Classes	Last working day		Commencement of Practical Examinations		Commencement of End Semester Examinations	
			Existing	Revised	Existing	Revised	Existing	Revised
1.	All UG / PG Programmes (except I Semester)	12.08.2020	26.10.2020	13.11.2020	28.10.2020	17.11.2020	09.11.2020	26.11.2020
2.	B. E. / B. Tech. (Part-Time) – III, V, VII							

RE - OPENING DAY FOR THE NEXT SEMESTER: 28.12.2020 (Monday)

** In order to ensure minimum no. of working days, the following Saturdays are declared as working days.

Sl. No.	Working Days (Saturdays for UG & PG)	Time Table of the Week Day to be Followed
1.	05.09.2020	Tuesday
2.	12.09.2020	Friday
3.	19.09.2020	Monday
4.	26.09.2020	Tuesday
5.	03.10.2020	Wednesday
6.	10.10.2020	Thursday
7.	17.10.2020	Friday
8.	24.10.2020	Monday
9.	31.10.2020	Friday
10.	07.11.2020	Monday

This decision is taken with the approval of the competent authority.

Thanking you,

Yours faithfully,

16/10/2020

DIRECTOR

Copy to:

1. PS to Vice Chancellor
2. PA to Registrar
3. The Chairpersons, Faculty of Civil / Mechanical / Electrical // ICE / Technology / Management Sciences / S&H / Architecture & Planning, AU, Ch – 25.
4. Office of the Controller of Examinations
5. Office of Additional Controller of Examinations (UDs)
6. The Stock File, CAC.

PRINCIPAL
BUILDERS ENGINEERING COLLEGE
Nathakadaiyur, Kangayam-638 108.
Tirupur Dt., Tamilnadu, India.

BUILDERS ENGINEERING COLLEGE KANGAYAM 638 108.

Date: 07.12.2020

CENTRE FOR ACADEMIC COURSES

ANNA UNIVERSITY: : CHENNAI – 600 025

ACADEMIC SCHEDULE FOR NON AUTONOMOUS AFFILIATED COLLEGES

December 2020 – April 2021 (ODD SEMESTER – I Semester)*

PG (FT) Degree Programmes

Sl. No	Programme	Semester	Commencement of Classes	Last working day	Commencement of Practical Examinations	Commencement of End Semester Examinations
1.	M.B.A./ M.C.A (FT)	I	09.12.2020	13.03.2021**	15.03.2021	24.03.2021
2.	M.B.A. (5 Yrs-Integrated)	I				
2.	M.E. / M. Tech. / M. Arch.(FT)	I	30.12.2020	03.04.2021**	05.04.2021	15.04.2021

* As per the directives of the Government of Tamil Nadu, the classes will be conducted in ONLINE mode

RE-OPENING DAY FOR THE NEXT SEMESTER: 03.05.2021 (Monday)

** In order to ensure minimum no. of working days, the following Saturdays are declared as working days.

Sl. No.	Working Days (Saturdays)	Time Table of the Week Day to be Followed
1.	12.12.2020	Friday
2.	19.12.2020	Friday
3.	26.12.2020	Thursday
4.	02.01.2021	Friday
5.	09.01.2021	Tuesday
6.	23.01.2021	Thursday
7.	30.01.2021	Monday
8.	06.02.2021	Tuesday

Sl. No.	Working Days (Saturdays)	Time Table of the Week Day to be Followed
9.	13.02.2021	Wednesday
10.	20.02.2021	Thursday
11.	27.02.2021	Friday
12.	06.03.2021	Monday
13.	13.03.2021	Tuesday
14.	20.03.2021***	Wednesday
15.	27.03.2021***	Thursday
16.	03.04.2021***	Friday

BUILDERS ENGINEERING COLLEGE KANGAYAM 638 108. MATHAKADAIYUR

PRINCIPAL
BUILDERS ENGINEERING COLLEGE
Kangayam-638 108,TN, India.

07.12.2020

DIRECTOR
ACADEMIC COURSES

DAC - SB

ANNA UNIVERSITY :: CHENNAI 600 025

Internal Assessment Schedule for Non Autonomous Affiliated Institutions

Period : December 2020 / April 2021 (ODD SEMESTER – I SEMESTER) – PG PROGRAMMES

M.B.A / M.C.A (Full Time) & M.B.A (5 Yrs - Integrated)

Report No	Report Period	Test Period	Report Entry Period
I	09-12-2020 -- 26-12-2020	No Test	26-12-2020 -- 04-01-2021
II	28-12-2020 -- 23-01-2021	18-01-2021 -- 23-01-2021	23-01-2021 -- 30-01-2021
III	25-01-2021 -- 18-02-2021	12-02-2021 -- 18-02-2021	18-02-2021 -- 25-02-2021
IV	19-02-2021 -- 13-03-2021	08-03-2021 -- 13-03-2021	13-03-2021 -- 15-03-2021

M.E. / M.Tech. / M.Arch (Full Time)

Report No	Report Period	Test Period	Report Entry Period
I	30-12-2020 -- 20-01-2021	No Test	20-01-2021 -- 25-01-2021
II	21-01-2021 -- 15-02-2021	09-02-2021 -- 15-02-2021	15-02-2021 -- 22-02-2021
III	16-02-2021 -- 10-03-2021	04-03-2021 -- 10-03-2021	10-03-2021 -- 15-03-2021
IV	11-03-2021 -- 03-04-2021	27-03-2021 -- 03-04-2021	03-04-2021 -- 05-04-2021

Saturdays may be included as working days to make good the Shortages, if any.

11/1/21

Controller of Examinations Chennai 600 025

PRINCIPAL
BUILDERS ENGINEERING COLLEGE
Nathakadaiyur, Kangayam-638 108.
Tirupur Dt., Tamilnadu, India.

CONTROLLER OF EXAMINATIONS

ANNA UNIVERSITY :: CHENNAI 600 025

Internal Assessment Schedule for Non Autonomous Affiliated Institutions

Period : November 2020 / March 2021 (ODD SEMESTER – I SEMESTER) – UG PROGRAMMES

B.E. / B.Tech (Full Time)

Report No	Report Period	Test Period	Report Entry Period
I	23-11-2020 -- 08-12-2020	No Test	08-12-2020 --15-12-2020
II	09-12-2020 -- 03-01-2021	26-12-2020 -- 03-01-2021	03-01-2021 -- 11-01-2021
III	04-01-2021 -- 01-02-2021	20-01-2021 -- 01-02-2021	01-02-2021 -- 08-02-2021
IV	02-02-2021 -- 24-02-2021	20-02-2021 -- 24-02-2021	24-02-2021 -- 26-02-2021

B.E./B.Tech - Part Time & B.Arch (Full Time)

Report No	Report Period	Test Period	Report Entry Period
I	30-11-2020 -- 15-12-2020	No Test	15-12-2020 -- 23-12-2020
II	16-12-2020 -- 09-01-2021	05-01-2021 -- 09-01-2021	09-01-2021 -- 20-01-2021
III	11-01-2021 -- 08-02-2021	02-02-2021 -- 08-02-2021	08-02-2021 -- 15-02-2021
IV	09-02-2021 -- 03-03-2021	25-02-2021 -- 03-03-2021	03-03-2021 -- 05-03-2021

Saturdays may be included as working days to make good the Shortages, if any.

11/1/21.

Controller of Examinations * Chennai 600 025 * Anna University

BUILDERS ENGINEERING COLLEGE KANGAYAM 638 108.

PRINCIPAL
BUILDERS ENGINEERING COLLEGE
Kangayam-638 108.
India.

CONTROLLER OF EXAMINATIONS

ANNA UNIVERSITY :: CHENNAI 600 025

Internal Assessment Schedule for Non Autonomous Affiliated Institutions

August - November 2020 (For all UG/PG - Programmes Except I Semester (Full Time/Part Time))

Report No	Report Period	Test Period	Report Entry Period
I	------	----	-------
II	12-08-2020 -- 07-09-2020	01-09-2020 -- 05-09-2020	07-09-2020 -- 11-09-2020
III	08-09-2020 -- 30-09-2020	23-09-2020 -- 29-09-2020	30-09-2020 --06-10-2020
IV	01-10-2020 -- 26-10-2020	19-10-2020 -- 24-10-2020	26-10-2020 -- 28-10-2020

Saturdays may be included as working days to make good the Shortages, if any.

07/09/2020

CONTROLLER OF EXAMINATIONS

S. Gopalu 8/9/2020

BUILDERS ENGINEERING COLLEGE * NATHAKADAIYUR * KANGAYAM 638 108.

8.9.20

PRINCIPAL
BUILDERS ENGINEERING COLLEGE
Nathakadaiyur, Kangayam-638 108.
Tirupur Dt., Tamilnadu, India.

Date: 21.01.2021

CENTRE FOR ACADEMIC COURSES

ANNA UNIVERSITY: : CHENNAI – 600 025

ACADEMIC SCHEDULE FOR NON AUTONOMOUS AFFILIATED COLLEGES

February 2021 – June 2021 (Even Semester – Except II & Final Semester)*

UG & PG Programmes

Sl. No.	Programme	Semester	Commencement of Classes	Last working day	Commencement of Practical Examinations	Commencement of End Semester Examinations
1.	B.E. / B.Tech.(Full-Time)	IV,VI	18.02.2021	21.05.2021**	24.05.2021	02.06.2021
2.	B.E. / B.Tech (Part-Time)	IV,VI				
3.	B.Arch. (Full-Time)	IV,VI,VIII				
4.	M.C.A. (Full-Time)	IV				
5.	M.Sc. (5 Yrs-Integrated)	IV,VI,VIII				
6.	M.B.A. (5 Yrs-Integrated)	IV,VI,VIII				

* As per the directives of the Government of Tamil Nadu, the classes will be conducted in ONLINE mode

RE - OPENING DAY FOR THE NEXT SEMESTER: 01.07.2021 (Thursday)

NOTE:

1. The Theory and Practical Examination schedules will be published in due course (Practical Examinations will be conducted before the theory examinations).
2. If necessary, loss of classes due to various curricular / co-curricular activities of the department / college may be compensated by conducting classes on Saturdays.

** In order to ensure minimum no. of working days, the following 12 Saturdays are declared as working days.

Sl. No.	Working Days (Saturdays)	Time Table of the Week Day to be Followed
1.	20.02.2021	Friday
2.	27.02.2021	Tuesday
3.	06.03.2021	Wednesday
4.	13.03.2021	Friday
5.	20.03.2021	Monday
6.	27.03.2021	Tuesday

Sl. No.	Working Days (Saturdays)	Time Table of the Week Day to be Followed
7.	03.04.2021	Wednesday
8.	10.04.2021	Thursday
9.	17.04.2021	Friday
10.	24.04.2021	Monday
11.	08.05.2021	Tuesday
12.	15.05.2021	Wednesday

DIRECTOR
ACADEMIC COURSES

PRINCIPAL
BUILDERS ENGINEERING COLLEGE
Nallathadaiyur, Kangayam-638 108.
Tirupur Dt., Tamilnadu, India.

22/1/21

DAC - SB

Date: 21.01.2021

CENTRE FOR ACADEMIC COURSES

ANNA UNIVERSITY: : CHENNAI – 600 025

ACADEMIC SCHEDULE FOR NON AUTONOMOUS AFFILIATED COLLEGES

December 2020 – May 2021 (Even Semester – Final Semester*)

UG & PG Programmes

Sl. No.	Programme	Semester	Commencement of Classes	Last working day	Commencement of Practical Examinations	Commencement of End Semester Examinations
1.	B.E. / B.Tech.(Full-Time)	VIII	14.12.2020	12.04.2021**	15.04.2021	26.04.2021
2.	B.Arch. (Full-Time)	X				
3.	M.E. / M.Tech./ M.Arch.(FT)	IV				
4.	M.C.A. (Full-Time)	VI				
5.	M.B.A. (FT)	IV				
6.	M.Sc. (5 Yrs-Integrated)	X				
7.	M.B.A. (5 Yrs-Integrated)	X				

* Odd Semester - End Semester Examinations Holidays from 01.02.2021 to 17.02.2021.

NOTE:

1. The Theory and Practical Examination schedules will be published in due course (Practical Examinations will be conducted before the theory examinations).
2. If necessary, loss of classes due to various curricular / co-curricular activities of the department / college may be compensated by conducting classes on Saturdays.

** In order to ensure minimum no. of working days, the following 8 Saturdays are declared as working days.

Sl. No.	Working Days (Saturdays)	Time Table of the Week Day to be Followed
1.	20.02.2021	Friday
2.	27.02.2021	Tuesday
3.	06.03.2021	Wednesday
4.	13.03.2021	Friday

Sl. No.	Working Days (Saturdays)	Time Table of the Week Day to be Followed
5.	20.03.2021	Monday
6.	27.03.2021	Tuesday
7.	03.04.2021	Wednesday
8.	10.04.2021	Thursday

DIRECTOR
ACADEMIC COURSES

PRINCIPAL
BUILDERS ENGINEERING COLLEGE
Mahakadaiyur, Kangayam-638 108.
Tirupur Dt, Tamilnadu, India.

BUILDERS ENGINEERING COLLEGE KANGAYAM 638 108. MAHAKADAIYUR

22/1/21

DAC - SB

Date: 31.03.2021

CENTRE FOR ACADEMIC COURSES

ANNA UNIVERSITY: : CHENNAI – 600 025

ACADEMIC SCHEDULE FOR NON AUTONOMOUS AFFILIATED COLLEGES

April 2021 – July 2021 (EVEN SEMESTER – II Semester)*

UG (FT/PT) Degree Programmes

Sl. No.	Programme	Semester	Commencement of Classes	Last working day	Commencement of Practical Examinations	Commencement of End Semester Examinations
1.	B.E. / B.Tech.(Full-Time)	II	08.04.2021	08.07.2021**	10.07.2021	22.07.2021
2.	B.Arch. (Full-Time)	II				
3.	B.E./ B.Tech. (Part Time)	II				

* As per the directives of the Government of Tamil Nadu, the classes will be conducted in ONLINE mode

RE-OPENING DAY FOR THE NEXT SEMESTER: 16.08.2021 (MONDAY)

1. Theory and Practical Examination schedules will be published in due course. (Practical Examinations will be conducted before the theory examinations).
2. If necessary, loss of classes due to various curricular / co-curricular activities of the department / college may be compensated by conducting classes on Saturdays.

** In order to ensure minimum no. of working days, the following Saturdays are declared as working days.

Sl. No.	Working Days (Saturdays for UG (FT/PT))	Time Table of the Week Day to be Followed
1.	10.04.2021	Thursday
2.	17.04.2021	Friday
3.	24.04.2021	Monday
4.	08.05.2021	Tuesday
5.	15.05.2021	Wednesday
6.	22.05.2021	Thursday

Sl. No.	Working Days (Saturdays for UG (FT/PT))	Time Table of the Week Day to be Followed
7.	29.05.2021	Friday
8.	05.06.2021	Monday
9.	12.06.2021	Tuesday
10.	19.06.2021	Wednesday
11.	26.06.2021	Thursday
12	03.07.2021	Friday

DIRECTOR
ACADEMIC COURSES

PRINCIPAL
BUILDERS ENGINEERING COLLEGE
Nathakadaiyur, Kangayam-638 108,
Tirupur Dt, Tamilnadu, India.

BUILDERS ENGINEERING COLLEGE KANGAYAM 638 108. NATHAKADAIYUR

12/4/21

DAC - SB

Date: 30.04.2021

CENTRE FOR ACADEMIC COURSES

ANNA UNIVERSITY: : CHENNAI – 600 025

ACADEMIC SCHEDULE FOR NON AUTONOMOUS AFFILIATED COLLEGES

May 2021 – August 2021 (EVEN SEMESTER – II Semester)

PG (FT) Degree Programmes

Sl. No	Programme	Semester	Commencement of Classes	Last working day	Commencement of Practical Examinations	Commencement of End Semester Examinations
1.	M.B.A.(FT)	II	03.05.2021	06.08.2021**	09.08.2021	23.08.2021
2.	M.B.A. (5 Yrs-Integrated)	II				
3.	M.E. / M. Tech. / M. Arch.(FT)	II				

* As per the directives of the Government of Tamil Nadu, the classes will be conducted in ONLINE mode

RE-OPENING DAY FOR THE NEXT SEMESTER: 27.09.2021 (Monday)

- Theory and Practical Examination schedules will be published in due course. (Practical Examinations will be conducted before the theory examinations).

** In order to ensure minimum no. of working days, the following Saturdays are declared as working days.

Sl. No.	Working Days (Saturdays)	Time Table of the Week Day to be Followed
1	08.05.2021	Tuesday
2	22.05.2021	Thursday
3.	05.06.2021	Monday
4.	19.06.2021	Wednesday

Sl. No.	Working Days (Saturdays)	Time Table of the Week Day to be Followed
5.	03.07.2021	Friday
6.	17.07.2021	Monday
7.	31.07.2021	Tuesday

DIRECTOR
ACADEMIC COURSES

PRINCIPAL
BUILDERS ENGINEERING COLLEGE
Nathakadaiyur, Kangayam-638 108.
Tirupur Dt.,Tamilnadu, India.

BUILDERS ENGINEERING COLLEGE * NATHAKADAIYUR * KANGAYAM 638 108.

DAC - SB

ANNA UNIVERSITY :: CHENNAI 600 025

Internal Assessment Schedule for Non Autonomous Affiliated Institutions

Period : December 2020 – May 2021 (Even Semester – Final Semester) Examinations

For all UG/PG Programmes

Report No	Report Period	Test Period	Report Entry Period
I	14-12-2020 – 07-01-2021	No Test	20-02-2021 – 25-02-2021
II	08-01-2021 – 30-01-2021	25-01-2021 – 30-01-2021	26-02-2021 – 05-03-2021
III	18-02-2021 – 16-03-2021	10-03-2021 – 16-03-2021	16-03-2021 – 22-03-2021
IV	17-03-2021 – 12-04-2021	05-04-2021 – 12-04-2021	12-04-2021 – 15-04-2021

Period : February 2021 – June 2021 (Even Semester – Except II & Final Semester) Examinations

For all UG/PG Programmes

Report No	Report Period	Test Period	Report Entry Period
I	18-02-2021 – 06-03-2021	No Test	06-03-2021 – 11-03-2021
II	08-03-2021 – 30-03-2021	25-03-2021 – 30-03-2021	30-03-2021 – 08-04-2021
III	31-03-2021 – 26-04-2021	20-04-2021 – 26-04-2021	26-04-2021 – 30-04-2021
IV	27-04-2020 – 21-05-2021	17-05-2021 – 21-05-2021	21-05-2021 – 24-05-2021

Saturdays may be included as working days to make good the Shortages, if any.

PRINCIPAL
BUILDERS ENGINEERING COLLEGE
Kangayam-638 108,TN, India.

BUILDERS ENGINEERING COLLEGE KANGAYAM 638 108. VATHAKADAIYUR

19/02/2021

19/2/21

CONTROLLER OF EXAMINATIONS

ANNA UNIVERSITY :: CHENNAI 600 025

Internal Assessment Schedule for Non Autonomous Affiliated Institutions

Period : April 2021- July 2021 (EVENT SEMESTER -II Semester)

UG (FT/PT) Degree Programmes

Report No	Report Period	Test Period	Report Entry Period
I	08-04-2021 -- 27-04-2021	No Test	05-05-2021 -- 10-05-2021
II	28-04-2021 -- 22-05-2021	18-05-2021 -- 22-05-2021	22-05-2021 -- 27-05-2021
III	24-05-2021 -- 15-06-2021	10-06-2021 -- 15-06-2021	15-06-2021 -- 19-06-2021
IV	16-06-2021 -- 08-07-2021	03-07-2021 -- 08-07-2021	08-07-2021 -- 09-07-2021

PG (FT) Degree Programmes (EXCEPT MCA)

Report No	Report Period	Test Period	Report Entry Period
I	03-05-2021 -- 20-05-2021	No Test	20-05-2021 -- 25-05-2021
II	21-05-2021 -- 15-06-2021	10-06-2021 -- 15-06-2021	15-06-2021 -- 19-06-2021
III	16-06-2021 -- 10-07-2021	06-07-2021 -- 10-07-2021	10-07-2021 -- 15-07-2021
IV	12-07-2021 -- 06-08-2021	02-08-2021 -- 06-08-2021	06-08-2021 -- 08-08-2021

Saturdays may be included as working days to make good the Shortages, if any.

04/05/2021

CONTROLLER OF EXAMINATIONS

04/05/2021

PRINCIPAL
BUILDERS ENGINEERING COLLEGE
Nathakadaiyur, Kangayam-638 108.
Tirupur Dt., Tamilnadu, India.

BUILDERS ENGINEERING COLLEGE
KANGAYAM
638 108.

ANNA UNIVERSITY :: CHENNAI 600 025

Internal Assessment Schedule for Non Autonomous Affiliated Institutions

Period : May 2021- September 2021 (EVENT SEMESTER -II Semester)

M.C.A. (FT) Degree Programmes

Report No	Report Period	Test Period	Report Entry Period
I	24-05-2021 -- 10-06-2021	No Test	10-06-2021 -- 15-06-2021
II	11-06-2021 -- 06-07-2021	01-07-2021 -- 06-07-2021	06-07-2021 -- 10-07-2021
III	07-07-2021 -- 02-08-2021	28-07-2021 -- 02-08-2021	02-08-2021 -- 06-08-2021
IV	03-08-2021 -- 28-08-2021	24-08-2021 -- 28-08-2021	28-08-2021 -- 30-08-2021

Saturdays may be included as working days to make good the Shortages, if any.

04/05/21

CONTROLLER OF EXAMINATIONS

04/05/2021

BUILDERS ENGINEERING COLLEGE KANGAYAM 638 108. NATHAKADAIYUR

PRINCIPAL
BUILDERS ENGINEERING COLLEGE
Nathakadaiyur, Kangayam-638 108
Tiruppur Dt.

Builders Engineering College

Kangayam-638 108

Department of CSE / Minutes of Meeting

Name of the Meeting : Department Meeting

Period of Meeting : 60 Minutes (11.00AM – 12.00PM)

Date of meeting : 08.12.2020

AGENDA

- **Fees Collection**
- **IQAC**
- **Library Book**
- **Even Semester notes**
- **Lab Details**
- **Proposal Pending**

Members:

1.Mr.S.Gobinath
2.Mr.K.S.Thirunavukkarasu
3.Dr.D.Maya
4.Mr.R.Siva Sankar
5.Mr.K.Ravikumar
6.Mr.T.Rajkumar
7.Mr.A.Satheesh Kumar
8.Mrs.V.Ammu
9.Mrs.S.Vidhya
10.Mr.V.Manoj Praveen
11.Mr.R.Arun
12.Mr.M.Arun
13.Ms.R.Kiruthika

Members absent:

1. Mr.K.S.Thirunavukkarasu
2. Mr.V.Manoj Praveen
3. Mr.R.Arun – Long Leave

Decisions taken:

Points of Review	Decisions taken	Responsibility	Target date
Fees Collection	• Class Advisor/Mentor are asked to instruct them students to pay the Academic year 2020-2021 tuition fees.	Class Advisors/ Mentors	-
IQAC	• All the Faculty members are asked to complete your concerned criteria work and send to our department IQAC coordinator.	Faculty Members	-
Library Book	• Library in-charge is asked to collect the even semester text book & reference book details and send to Library.	Library in-charge	-

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Even Semester Notes	• All the Faculty members are asked to prepare notes for your concerned subject like ppt or video. • Kindly avoid the downloading ppt or video from online and make by yourself.	Faculty Members	-
Lab Details	• Lab in-charges are asked to check and inform the requirements if needed for your concerned laboratory.	Lab in-charges	-
Proposal Pending	• Faculty members those who did not settle their Proposal pending are asked to settle the pending bill in the office.	Faculty Members	-

Date : 08.12.2020

Prepared by

R.Kiruthika

Approved by

HOD

Copy to,

- Principal Office
- All CSE faculty
- Department File

Form No. QS 03: Rev. 00: Rev.dt. 15.06.2013

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Builders Engineering College

Kangayam-638 108

Department of MBA

Subject Allocation - Theory & Lab- Even Semester (2020-21)

S.No	Faculty Name	Theory (1)	Theory (2)	Practical
1	Dr.G.Suresh	BA5206 - Operations Management		
2	Dr.S.Ravishankar	BA5207 - Marketing Management	BA5202 - Business Research Methods (Sharing)	
3	Prof.P.Nalini	BA5205 - Information Management		BA5211 - Data Analysis and Business Modelling
4	Prof.R.Sivakumar	BA5201- Applied Operations Research	BA5203 - Financial Management	
5	Prof.K.Sivakumar	BA5204 - Human Resource Management	BA5202 - Business Research Methods (Sharing)	

HOD/MBA

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Kangayam-638 108,TN, India

Builders Engineering College

Kangayam-638 108

Department of MBA

Subject Allocation - Theory & Lab- ODD Semester (2020-21)

S.No	Faculty Name	Theory (1)	Theory (2)	Theory (3)	Theory (4)	Practical
1	Dr.G.Suresh	BA5015 - Industrial Relations & Labour Welfare	BA5302- Strategic Management	BA5104 - Legal Aspects of Business	Principles of Management (Sharing)	
2	Dr.S.Ravishankar	BA5006 - Strategic Human Resource Mgt.	BA5002 - Consumer Behavior	BA5105 - Organizational Behaviour		BA5111 - Spoken and Written Communication
3	Prof.P.Nalini	BA5301 - International Business Management	BA5006 - Services Marketing	BA5101 - Economic Analysis for Business		
4	Prof.R.Sivakumar	BA5008- Banking Financial Services Mgt.	BA5011 - Merchant Banking & Financial Services	BA5103 - Accounting for Management	BA5005 - Retail Marketing	
5	Prof.K.Sivakumar	BA5012 - Security Analysis and Portfolio Mgt.	BA5107 - Total Qualilty Management	BA5017 - Managerial Behavior & Effectiveness	Principles of Management (Sharing)	

HOD/MBA

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PRINCIPAL
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Kangayam-638 108,TN, India.

CONSOLIDATED WORK LOAD

Faculty of : Engineering
Department of : Civil Engineering
Period of study of the Class: 2020-2021 (EVEN Semester)

S.NO	NAME OF THE FACULTY	THEORY	NO. OF HOURS	LAB	NO. OF HOURS	TOTAL HOURS / WEEK	OTHER RESPONSIBILITIES
1	Dr.G RAMASAMY	SM (II)	6	-	-	6	Academic Co-ordinator Supervisor of Soil Lab
2	Mr.S.SATHEESH KUMAR	CTP (II)	5	-	-	5	CADD Lab i/c
3	Mr.K.E.VISWANATHAN	PEE (IV A)	4			4	HoD
4	Mr.V.GOWRISHANKAR	SOM II (II)	8	HE LAB (III)		8	Concrete & Highway ,Structural Engineering Lab i/c Department NAAC Criteria - IV Co-ordinator II Class advisor (Scholarship i/c) ICT & NABL Co ordinator
5	Mr.V.SASI KUMAR	AHE (II)	6			6	Survey Lab i/c Over all NAAC Criteria - II Co-ordinator IV- A Class advisor (Scholership i/c)
6	Mrs.L.REENA	SA II (III)	10			10	Dept Test Co-ordinator Soil Lab i/c Department NAAC Criteria - VI Co-ordinator IV -B Class advisor (Academic) IGS Co ordinator
7	Ms.D.NITHYA	CT (II CIVIL)	6	HE LAB(II)		6	Over all Music club & Fine Arts club Co ordinator, Fluid Mechanics Lab i/c, Class Advisor (ME STR I& II) Department Carrier Development , Higher Studies & IOV Co-ordinator Department NAAC Criteria - II Co ordinator
8	Mr.P NALLASAMY	MRRS (IV B)	4			4	HOD office i/c Department Time Table i/c CMS i/c
9	Mr.P ESWARAMOORTHI	IE (III)	5	SOM LAB (II)		5	Strength of Materials Lab i/c IV-A Class advisor (Academic i/c) Department NAAC Criteria VII Co-ordinator
10	Ms.K.SURIYA PRABHA	WWE (III)	5	IEED LAB (III)		5	Environmetal Engineering Lab i/c III - Class advisor (Academic & Scholarship) IGBC Co ordinator Department NAAC Criteria - III Co-ordinator
11	Mr.D.VIGNESH KUMAR	DSS(III)	10			14	Construction material and practices lab (i/c) Dept Placement , Training &Alumini Co-ordinator Department NAAC Criteria - I Co-ordinator
		RRS (IV A)	4				
12	Mr.K.R.ARVIND	UPD(III)	4			4	IV-B Class advisor (Scholarship i/c) Overall Civil work manitoring i/c Association i/c ,IIPC i/c,
13	K.SHARMILA	PEE (IV B)	4			10	Department Library i/c,II year Class Advisor (Academic),Department NAAC Criteria - V & ISTE Co ordinator
		HE (III)	6				

10/01/21
TIME TABLE I/C
Mr.P.Nallasamy,AP/Civil

10.01.2021
HoD/CIVIL

PRINCIPAL
Closed on:

PRINCIPAL
BUILDERS ENGINEERING COLLEGE
Kangayam-638 108,TN, India.

CONSOLIDATED WORK LOAD

Faculty of : Engineering
Department of : Civil Engineering
Period of study of the Class: 2020-2021 (ODD Semester)

S.NO	NAME OF THE FACULTY	THEORY	NO. OF HOURS	LAB	NO. OF HOURS	ASSIST				NET/ LIB	PLACEMENT TRAINING	SEMINAR	PROJECT	CDC/ SITE VISIT	TOTAL HOURS / WEEK	OTHER RESPONSIBILITIES
						LAB		TUTORIAL								
						NAME OF THE LAB	NO. OF HOURS	SUBJECT / CLASS	NO. OF HOURS							
1	Dr.S.GOPALAKRISHNAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Principal
2	Dr.G.RAMASAMY	FE(III YEAR)	6	-	-	-	-	-	-	-	-	-	-	-	6	Academic Co-ordinator Supervisor of Soil Lab NICMAR Program Coordinator
3	Mr.S.SATHEESH KUMAR	CM(II YEAR)	6	-		-	-	-	-	-	-	-	-	-	6	CADD Lab i/c Admission Team Member
4	Mr.K.E.VISWANATHAN	ECVE(IV YEAR)	7		-	-	-	-	-	-	-	-	-	-	7	HoD
5	Mr.V.GOWRISHANKAR	SOM I (II YEAR)	6	CM LAB (II YEAR)	10	-	-	-	-	-	-	-	-	-	19	Concrete & Highway ,Structural Engineering Lab i/c Department NAAC Criteria - IV Co-ordinator Admission Team member II Class advisor (Scholarship i/c)
		PPS(I ME STR)	3													
6	Mr.V.SASI KUMAR	AS(III YEAR)	6	SUR LAB (II YEAR)	10	-	-	-	-	-	-	-	-	-	19	Survey Lab i/c Over all & Department NAAC Criteria - II Co-ordinator IV- A Class advisor (Scholership i/c) Admission Team Member
		ACS(I ME STR)	3													
7	Mrs.L.REENA	SA I (III YEAR)	6	SM LAB (III YEAR)	10	-	-	-	-	-	-	-	-	-	20	Dept. Test Co-ordinator Soil Lab i/c Department NAAC Criteria - VI Co-ordinator IV -B Class advisor (Academic) Women development cell i/c
		DSCS(II ME STR)	4													
8	Ms.D.NITHYA	DRC(III YEAR)	6	-		-	-				-	-	-	-	10	Fluid Mechanics Lab i/c, Class Advisor (ME STR I& II) Department Carrier Development & Higher Studies Co-ordinator Department NAAC Criteria - II assist
		PSM(II ME CEM)	4													
9	Mr.P.NALLASAMY	RAHE(IV YEAR)	7	-	-	-	-	-	-	-	-	-	-	-	10	HOD office i/c Consultancy i/c Department Time Table i/c CMS i/c
		MRS(I ME STR)	3													
10	Mr.P.ESWARAMOORTHI	MSWM(IV YEAR)	7	-	-	-	-	-	-	-	-	-	-	-	10	Department ISO & NAAC Co-ordinator Strength of Materials Lab i/c Admission Team Member Department NAAC Criteria - VII Co-ordinator
		DOS(I ME STR)	3													
11	Ms.K.SURIYA PRABHA	WSE(III YEAR)	6	-	-						-		-	-	17	Construction material and practices lab (i/c) III - Class advisor (Academic & Scholarship) Department NAAC Criteria - III Co-ordinator
		SDD(IV YEAR)	8													
		TEP(I ME STR)	3													
12	Mr.D.VIGNESH KUMAR	FM(II YEAR)	6	-		-	-	-	-	-	-	-	-	-	14	Dept. Placement & Training Co-ordinator Dept. Alumini coordinator Department NAAC Criteria - I Co-ordinator
		EADS(II ME STR)	4													
		QCAC(II ME CEM)	4													
13	Mr.K.R.ARVIND	SUR(II YEAR)	6	-		-	-	-	-	-	-		-	-	13	IV-B Class advisor (Scholarship i/c) Association i/c ,IIPC i/c, Department Budget Coordinator Department Furniture i/c
		ECVE(IV YEAR)	7													

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S.NO	NAME OF THE FACULTY	THEORY	NO. OF HOURS	LAB	NO. OF HOURS	ASSIST				NET/ LIB	PLACEMENT TRAINING	SEMINAR	PROJECT	CDC/ SITE VISIT	TOTAL HOURS / WEEK	OTHER RESPONSIBILITIES
						LAB		TUTORIAL								
14	P SOUNDARYA	GBD(IV YEAR)	7	-		-	-	-	-	-	-	-	-	-	11	Department NAAC Criteria - V Co-ordinator ,Professional Body Co ordinator
		DSS(II ME STR)	4													
15	V SANKAR	EA(III YEAR)	6	WWWA LAB (III YEAR)	10										20	Environmental Engineering Lab i/c,IV-A Class advisor (Academic i/c)
		RMCC(II ME CEM)	4													
16	K SHARMILA	EG(II YEAR)	5			-	-	-	-	-	-	-	-	-	16	Department Library i/c,Class Advisor (ME CEM I & II) Stationeries i/c , Calender i/c Project Coordinator M.E (CEM II)

TIME TABLE I/C

HOD

PRINCIPAL
Checked on:

BUILDERS ENGINEERING COLLEGE

Class Time table

Effective from:18.02.2021

Department of : Electronics Communication Engineering
Degree/ Branch/ Semester : B.E / ECE / 04
Mode : Online
Academic Year : 2020 - 2021

Total Strength:46

Day\ Time	09.30-10.15 AM	10.15-11.00 AM	11.00-11.30 AM	11.30 AM-12.15 PM	12.15 - 01.00 PM	01.00-02.00 PM	02.00 - 02.45 PM	02.45 - 03.30 PM	03.30 -04.15 PM
	1	2		3	4		5	6	7
MON	PRP - TD	PRP - TD	BREAK	EC II - GSO	LIC - TV	LUNCH BREAK	EC II - GSO	EC II - GSO	EC II - GSO
TUE	ESE - RPK	CT - UR		EMF - MP	EMF - MP		PRP - TD	PRP - TD	PRP - TD
WED	EMF - MP	EMF - MP		CT - UR	ESE - RPK		LIC - TV	LIC - TV	LIC - TV
THUS	LIC - TV	CT - UR		PRP - TD	PRP - TD		CT - UR	CT - UR	CT - UR
FRI	EC II - GSO	EC II - GSO		LIC - TV	ESE - RPK		EMF - MP	EMF - MP	EMF - MP
SAT	CT - UR	EMF - MP		EC II - GSO	LIC - TV		ESE - RPK	ESE - RPK	ESE - RPK

Code	Subject Name		Faculty Handling the subject	Hours per Week
MA8451	PRP	Probability and Random Process	Mrs.T.Devi,AP/Maths	7
EC8452	EC II	Electronic Circuits II	Mrs.G.Soundharya,AP/ECE	7
EC8491	CT	Communication Theory	Mr.U.Rajasekaran,AP/ECE	7
EC8451	EMF	Electromagnetic Fields	Mr.M.Prakash,AP/ECE	8
EC8453	LIC	Linear Integrated Circuits	Mr.T.Velmurugan,AP/ECE	7
GE8291	ESE	Environmental Science and Engineering	Mr.R.Praveenkumar, AP/ECE	6
CLASS ADVISOR & SCHOLARSHIP IN-CHARGE			Mr.J.Sam Suresh, AP/ECE	
			TOTAL HOURS	42

TIME TABLE I/C

HOD

PRINCIPAL

C.C to: Service Subject HoD /Placement & Training Cell

Closed on:

Form No. AC 04: Rev 01: Rev Dt. 01-12-2012

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Kangayam-638 108,TN, India.

BUILDERS ENGINEERING COLLEGE

Class Time table

Effective from:18.02.2021

Department of : Electronics Communication Engineering
Degree/ Branch/ Semester : B.E / ECE / 06
Mode : Online
Academic Year : 2020 - 2021 **Total Strength:20**

Day\ Time	09.30-10.15 AM	10.15-11.00 AM	11.00-11.30 AM	11.30 AM-12.15 PM	12.15 - 01.00 PM	01.00-02.00 PM	02.00 - 02.45 PM	02.45 - 03.30 PM	03.30 -04.15 PM
	1	2		3	4		5	6	7
MON	TLRF - MSH	VLSI - TV	BREAK	POM - SS	WN - RPK	LUNCH BREAK	TLRF - MSH	TLRF - MSH	TLRF - MSH
TUE	VLSI - TV	MPMC - SMA		TLRF - MSH	POM - SS		VLSI - TV	WN - RPK	WN - RPK
WED	MPMC - SMA	POM - SS		WC - JSS	VLSI - TV		MPMC - SMA	MPMC - SMA	MPMC - SMA
THUS	WC - JSS	WN - RPK		VLSI - TV	MPMC - SMA		WC - JSS	WC - JSS	WC - JSS
FRI	WN - RPK	WC - JSS		TLRF - MSH	TLRF - MSH		POM - SS	PC - SH	PC - SH
SAT	POM - SS	WN - RPK		MPMC - SMA	WC - JSS		VLSI - TV	TS - SS	TS - SS

Code	Subject Name		Faculty Handling the subject	Hours per Week
EC8691	MPMC	Microprocessors and Microcontrollers	Mr.S.Mahendran, AP/ECE	7
EC8095	VLSI	VLSI Design	Mr.T.Velmurugan, AP/ECE	6
EC8652	WC	Wireless Communication	Mr.J.Sam Suresh, AP/ECE	7
MG8591	POM	Principles of Management	Mr.S.Sathish, AP/ECE	5
EC8651	TLRF	Transmission Lines and RF Systems	Mr.M.Shanmugham,AP/ECE	7
EC8004	WN	Wireless Networks	Mr.R.Praveenkumar,AP/ECE	6
HS8581	PC	Professional Communication	Mrs.S.Hemamalini,AP/Eng	2
EC8611	TS	Technical Seminar	Mr.S.Sathish, AP/ECE	2
CLASS ADVISOR & SCHOLARSHIP IN-CHARGE			Mr.U.Rajasekaran,AP/ECE	
			TOTAL HOURS	42

TIME TABLE I/C HOD PRINCIPAL

C.C to: Service Subject HoD /Placement & Training Cell

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Form No. AC 04: Rev 01: Rev Dt. 01-12-2012

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BUILDERS ENGINEERING COLLEGE

Class Time table

Effective from:18.02.2021

Department of : Electronics Communication Engineering
Degree/ Branch/ Semester : B.E / ECE / 08
Mode : Online
Academic Year : 2020 - 2021

Total Strength:27

Day\ Time	09.30-10.15 AM	10.15-11.00 AM	11.00-11.30 AM	11.30 AM-12.15 PM	12.15 - 01.00 PM	01.00-02.00 PM	02.00 - 02.45 PM	02.45 - 03.30 PM	03.30 -04.15 PM
	1	2		3	4		5	6	7
MON	PEE - SDV	PEE - SDV	BREAK	SC - VK	SC - VK	LUNCH BREAK	PEE - SDV	PEE - SDV	PEE - SDV
TUE	SC - VK	SC - VK		PEE - SDV	PEE - SDV		SC - VK	SC - VK	SC - VK
WED	PROJECT - GSO			PROJECT - GSO			PROJECT - GSO		
THUS	PROJECT - GSO			PROJECT - GSO			PROJECT - GSO		
FRI	PROJECT - GSO			PROJECT - GSO			PROJECT - GSO		
SAT	PROJECT - GSO			PROJECT - GSO			PROJECT - GSO		

Code	Subject Name		Faculty Handling the subject	Hours per Week
GE8076	PEE	Professional Ethics in Engineering	Mr.S.D.Vijayakumar, AsP/ECE	7
EC8094	SC	Satellite Communication	Mr.V.Kumar,AP/ECE	7
EC8811	PROJECT	Project Work	Mrs.G.Soundharya, AP/ECE	28
CLASS ADVISOR & SCHOLARSHIP IN-CHARGE			Mr.M.Prakash, AP/ECE	
			TOTAL HOURS	42

TIME TABLE I/C

HOD

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C.C to: Service Subject HoD /Placement & Training Cell

Closed on:

Form No. AC 04: Rev 01: Rev Dt. 01-12-2012

PRINCIPAL
BUILDERS ENGINEERING COLLEGE
Kangayam-638 108,TN, India.

BUILDERS ENGINEERING COLLEGE, KANGAYAM

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CONSOLIDATED TIME TABLE- EVEN SEMESTER 2020-2021

THEORY SCHEDULE

Day	ClaSS - GV	09.30 -10.15 AM	10.15 - 11.00 AM	11.00-11.30 AM	11.30 AM-12.15 PM	12.15 - 1.00 PM	1.00 - 2.00 PM	2.00-2.45 PM	2.45 - 3.15 PM	3.15 - 4.00 PM
		1	2		3	4		5	6	7
MON	II	PRP - TD	PRP - TD		EC II - GSO	LIC - TV		EC II - GSO	EC II - GSO	EC II - GSO
	III	TLRF - MSH	VLSI - TV		POM - SS	WN - RPK		TLRF - MSH	TLRF - MSH	TLRF - MSH
	IV	PEE - SDV	PEE - SDV		SC - VK	SC - VK		PEE - SDV	PEE - SDV	PEE - SDV
TUES	II	ESE - RPK	CT - UR		EMF - MP	EMF - MP		PRP - TD	PRP - TD	PRP - TD
	III	VLSI - TV	MPMC - SMA		TLRF - MSH	POM - SS		VLSI - TV	WN - RPK	WN - RPK
	IV	SC - VK	SC - VK		PEE - SDV	PEE - SDV		SC - VK	SC - VK	SC - VK
WED	II	EMF - MP	EMF - MP		CT - UR	ESE - RPK		LIC - TV	LIC - TV	LIC - TV
	III	MPMC - SMA	POM - SS		WC - JSS	VLSI - TV		MPMC - SMA	MPMC - SMA	MPMC - SMA
	IV	PROJECT - GSO	PROJECT - GSO		PROJECT - GSO	PROJECT - GSO		PROJECT - GSO	PROJECT - GSO	PROJECT - GSO
THURS	II	LIC - TV	CT - UR		PRP - TD	PRP - TD		CT - UR	CT - UR	CT - UR
	III	WC - JSS	WN - RPK		VLSI - TV	MPMC - SMA		WC - JSS	WC - JSS	WC - JSS
	IV	PROJECT - GSO	PROJECT - GSO		PROJECT - GSO	PROJECT - GSO		PROJECT - GSO	PROJECT - GSO	PROJECT - GSO
FRI	II	EC II - GSO	EC II - GSO		LIC - TV	ESE - RPK		EMF - MP	EMF - MP	EMF - MP
	III	WN - RPK	WC - JSS		TLRF - MSH	TLRF - MSH		POM - SS	PC - SH	PC - SH
	IV	PROJECT - GSO	PROJECT - GSO		PROJECT - GSO	PROJECT - GSO		PROJECT - GSO	PROJECT - GSO	PROJECT - GSO
SAT	II	CT - UR	EMF - MP		EC II - GSO	LIC - TV		ESE - RPK	ESE - RPK	ESE - RPK
	III	POM - SS	WN - RPK		MPMC - SMA	WC - JSS		VLSI - TV	TS - SS	TS - SS
	IV	PROJECT - GSO	PROJECT - GSO		PROJECT - GSO	PROJECT - GSO		PROJECT - GSO	PROJECT - GSO	PROJECT - GSO

BREAK

LUNCH

Effective Date:	18.02.2021
Closing Date:	
FACULTY NAME	INITIAL
DEPARTMENT OF ECE	
Mr.S.D.Vijayakumar HoD/ECE	SDV
Mr.V.Kumar AP/ECE	VK
Mr.S.Mahendran AP/ECE	SMA
Mr.R.Praveenkumar AP/ECE	RPK
Mrs.G.Vijayakumari AP/ECE	GV
Mr.T.Velmurugan AP/ECE	TV
Mr.M.Shanmugham AP/ECE	MSH
Mr.J.Sam Suresh AP/ECE	JSS
Mr.S.Sathish AP/ECE	SS
Mr.M.Prakash AP/ECE	MP
Mr.U.Rajasekaran AP/ECE	UR
Mrs.G.Soundharya AP/ECE	GSO
DEPARTMENT OF S&H	
Mrs.T.Devi AP/Maths	TD
Mrs.S.Hemamalini AP/English	SH

TIME TABLE I/C

HOD

OVERALL TIME TABLE I/C

PRINCIPAL

PRINCIPAL
BUILDERS ENGINEERING COLLEGE
Kangayam-638 108,TN, India.

BUILDERS ENGINEERING COLLEGE, KANGAYAM
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
CONSOLIDATED TIME TABLE- EVEN SEMESTER 2020-2021
THEORY SCHEDULE

Day\ Time	Class	09.30 -10.15 AM	10.15 - 11.00 AM	11.00 - 11.30 AM	11.30 AM - 12.15 PM	12.15 - 1.00 PM	1.00 - 2.00 PM	2.00 - 2.45 PM	2.45 - 3.30 PM	3.30 - 4.15 PM
		1	2		3	4		5	6	7
MON	II	PRP - TD	PRP - TD	BREAK	EC II - GSO	LIC - TV	LUNCH BREAK	EC II - GSO	EC II - GSO	EC II - GSO
	III	TLRF - MSH	VLSI - TV		POM - SS	WN - RPK		TLRF - MSH	TLRF - MSH	TLRF - MSH
	IV	PEE - SDV	PEE - SDV		SC - VK	SC - VK		PEE - SDV	PEE - SDV	PEE - SDV
TUE	II	ESE - RPK	CT - UR		EMF - MP	EMF - MP		PRP - TD	PRP - TD	PRP - TD
	III	VLSI - TV	MPMC - SMA		TLRF - MSH	POM - SS		VLSI - TV	WN - RPK	WN - RPK
	IV	SC - VK	SC - VK		PEE - SDV	PEE - SDV		SC - VK	SC - VK	SC - VK
WED	II	EMF - MP	EMF - MP		CT - UR	ESE - RPK		LIC - TV	LIC - TV	LIC - TV
	III	MPMC - SMA	POM - SS		WC - VK	VLSI - TV		MPMC - SMA	MPMC - SMA	MPMC - SMA
	IV	PROJECT - GSO	PROJECT - GSO		PROJECT - GSO	PROJECT - GSO		PROJECT - GSO	PROJECT - GSO	PROJECT - GSO
THUS	II	LIC - TV	CT - UR		PRP - TD	PRP - TD		CT - UR	CT - UR	CT - UR
	III	WC - VK	WN - RPK		VLSI - TV	MPMC - SMA		WC - VK	WC - VK	WC - VK
	IV	PROJECT - GSO	PROJECT - GSO		PROJECT - GSO	PROJECT - GSO		PROJECT - GSO	PROJECT - GSO	PROJECT - GSO
FRI	II	EC II - GSO	EC II - GSO		LIC - TV	ESE - RPK		EMF - MP	EMF - MP	EMF - MP
	III	WN - RPK	WC - VK		TLRF - MSH	TLRF - MSH		POM - SS	PC - SH	PC - SH
	IV	PROJECT - GSO	PROJECT - GSO		PROJECT - GSO	PROJECT - GSO		PROJECT - GSO	PROJECT - GSO	PROJECT - GSO
SAT	II	CT - UR	EMF - MP		EC II - GSO	LIC - TV		ESE - RPK	ESE - RPK	ESE - RPK
	III	POM - SS	WN - RPK		MPMC - SMA	WC - JSS		VLSI - TV	TS - SS	TS - SS
	IV	PROJECT - GSO	PROJECT - GSO		PROJECT - GSO	PROJECT - GSO		PROJECT - GSO	PROJECT - GSO	PROJECT - GSO

Effective Date:	29.02.2021
Closing Date:	
FACULTY NAME	INITIAL
DEPARTMENT OF ECE	
Mr.S.D.Vijayakumar HoD/ECE	SDV
Mr.V.Kumar AP/ECE	VK
Mrs.V.Manimala AP/ECE	VM
Mr.S.Mahendran AP/ECE	SMA
Mr.R.Praveenkumar AP/ECE	RPK
Mrs.G.Vijayakumari AP/ECE	GV
Mr.T.Velmurugan AP/ECE	TV
Mr.M.Shanmugham AP/ECE	MSH
Mr.S.Sathish AP/ECE	SS
Mr.M.Prakash AP/ECE	MP
Mr.U.Rajasekaran AP/ECE	UR
Mrs.G.Soundharya AP/ECE	GSO
DEPARTMENT OF S&H	
Mrs.T.Devi AP/Maths	TD
Mrs.S.Hemamalini AP/English	SH

TIME TABLE I/C

HOD

OVERALL TIME TABLE I/C

PRINCIPAL
BUILDERS ENGINEERING COLLEGE
Kangayam-638 108,TN, India.

PRINCIPAL

BUILDERS ENGINEERING COLLEGE

Individual Time table

Effective from:18.02.2021

Department of : Electronics & Communication Engineering
Faculty Name: Mr.R.Praveenkumar, AP/ECE

Day\ Time	09.30-10.15 AM	10.15-11.00 AM	11.00-11.30 AM	11.30 AM-12.15 PM	12.15 - 01.00 PM	01.00-02.00 PM	02.00 - 02.45 PM	02.45 - 03.30 PM	03.30 -04.15 PM
	1	2		3	4		5	6	7
MON			BREAK		WN	LUNCH BREAK			
TUE	ESE							WN	WN
WED					ESE				
THUS		WN							
FRI	WN				ESE				
SAT		WN					ESE	ESE	ESE

Class	Subject Name		Hours per week
IV SEM ECE	ESE	Environmental Science and Engineering	6
VI SEM ECE	WN	Wireless Networks	6
TOTAL			12

TIME TABLE I/C

HOD

C.C to: Service Subject HoD /Placement & Training Cell

Closed on:

Form No. AC 04: Rev 01: Rev Dt. 01-12-2012

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PRINCIPAL
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Kangayam-638 108,TN, India.

BUILDERS ENGINEERING COLLEGE

Individual Time table

Effective from:18.02.2021

Department of : Electronics & Communication Engineering
Faculty Name: Mr.T.Velmurugan,AP/ECE

Day\ Time	09.30-10.15 AM	10.15-11.00 AM	11.00-11.30 AM	11.30 AM-12.15 PM	12.15 - 01.00 PM	01.00-02.00 PM	02.00 - 02.45 PM	02.45 - 03.30 PM	03.30 -04.15 PM
	1	2		3	4		5	6	7
MON		VLSI	BREAK		LIC	LUNCH BREAK			
TUE	VLSI						VLSI		
WED					VLSI		LIC	LIC	LIC
THUS	LIC			VLSI					
FRI				LIC					
SAT					LIC		VLSI		

Class	Subject Name		Hours per week
IV SEM ECE	LIC	Linear Integrated Circuits	7
VI SEM ECE	VLSI	VLSI Design	6
TOTAL			13

TIME TABLE I/C

HOD

C.C to: Service Subject HoD /Placement & Training Cell

Closed on:

Form No. AC 04: Rev 01: Rev Dt. 01-12-2012

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Lesson Plan Report

Program : BE - ELECTRONICS AND COMMUNICATION ENGINEERING
Batch : ECE2018-22
Class : BE - ECE - III
Semester : 6
Subject code : EC8651
Subject name : Transmission Lines and RF Systems
Staff : SHANMUGHAM M
HOD Approval Status : Approved
Division :

Period No.	Period Type	Unit Title	Topic Name	Sub Topics	Expected date
1		TRANSMISSION LINE THEORY	General theory of Transmission lines		
2		TRANSMISSION LINE THEORY	the transmission line		
3		TRANSMISSION LINE THEORY	general solution		
4		TRANSMISSION LINE THEORY	The infinite line		
5		TRANSMISSION LINE THEORY	Wavelength, velocity of propagation		
6		TRANSMISSION LINE THEORY	Waveform distortion		
7		TRANSMISSION LINE THEORY	the distortion - less line		
8		TRANSMISSION LINE THEORY	Loading and different methods of loading - Line not terminated in Z0 - Reflection coefficient		
9		TRANSMISSION LINE THEORY	calculation of current, voltage, power delivered and efficiency of transmission - Input and transfer impedance - Open and short circuited		
10		HIGH FREQUENCY TRANSMISSION LINES	Transmission line equations at radio frequencies		
11		HIGH FREQUENCY TRANSMISSION LINES	Line of Zero dissipation		
12		HIGH FREQUENCY TRANSMISSION LINES	Voltage and current on the dissipation		
13		HIGH FREQUENCY TRANSMISSION LINES	less line, Standing Waves, Nodes, Standing Wave Ratio		
14		HIGH FREQUENCY TRANSMISSION LINES	Input impedance of the dissipation		
15		HIGH FREQUENCY TRANSMISSION LINES	less line		
16		HIGH FREQUENCY TRANSMISSION LINES	Open and short circuited lines		
17		HIGH FREQUENCY TRANSMISSION LINES	Power and impedance measurement on lines - Reflection losses		
18		HIGH FREQUENCY TRANSMISSION LINES	Measurement of VSWR and wavelength.		
19		IMPEDANCE MATCHING IN HIGH FREQUENCY LINES	Impedance matching: Quarter wave transformer		
20		IMPEDANCE MATCHING IN HIGH FREQUENCY LINES	Impedance matching by stubs		
21		IMPEDANCE MATCHING IN HIGH FREQUENCY LINES	Single stub and double stub matching - Impedance matching by stubs		

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22		IMPEDANCE MATCHING IN HIGH FREQUENCY LINES	Single stub and double stub matching		
23		IMPEDANCE MATCHING IN HIGH FREQUENCY LINES	Smith chart		
24		IMPEDANCE MATCHING IN HIGH FREQUENCY LINES	Smith chart		
25		IMPEDANCE MATCHING IN HIGH FREQUENCY LINES	Solutions of problems using Smith chart		
26		IMPEDANCE MATCHING IN HIGH FREQUENCY LINES	Solutions of problems using Smith chart		
27		IMPEDANCE MATCHING IN HIGH FREQUENCY LINES	Single and double stub matching using Smith chart.		
28		WAVEGUIDES	General Wave behavior along uniform guiding structures		
29		WAVEGUIDES	Transverse Electromagnetic Waves, Transverse Magnetic Waves, Transverse Electric Waves		
30		WAVEGUIDES	TM and TE Waves between parallel plates		
31		WAVEGUIDES	TM and TE Waves between parallel plates		
32		WAVEGUIDES	Field Equations in rectangular waveguides		
33		WAVEGUIDES	Field Equations in rectangular waveguides		
34		WAVEGUIDES	TM and TE waves in rectangular waveguides, Bessel Functions		
35		WAVEGUIDES	TM and TE waves in rectangular waveguides, Bessel Functions		
36		WAVEGUIDES	TM and TE waves in Circular waveguides.		
37		RF SYSTEM DESIGN CONCEPTS	Active RF components: Semiconductor basics in RF		
38		RF SYSTEM DESIGN CONCEPTS	bipolar junction transistors		
39		RF SYSTEM DESIGN CONCEPTS	RF field effect transistors		
40		RF SYSTEM DESIGN CONCEPTS	High electron mobility transistors Basic concepts of RF design		
41		RF SYSTEM DESIGN CONCEPTS	Mixers		
42		RF SYSTEM DESIGN CONCEPTS	Low noise amplifiers		
43		RF SYSTEM DESIGN CONCEPTS	voltage control oscillators		
44		RF SYSTEM DESIGN CONCEPTS	Power amplifiers		
45		RF SYSTEM DESIGN CONCEPTS	transducer power gain and stability considerations.		

Unit Details

Unit no.	Unit Title	Total Periods	Planned Periods
1	TRANSMISSION LINE THEORY	9	9
2	HIGH FREQUENCY TRANSMISSION LINES	9	9
3	IMPEDANCE MATCHING IN HIGH FREQUENCY LINES	9	9
4	WAVEGUIDES	9	9
5	RF SYSTEM DESIGN CONCEPTS	9	9

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Lesson Plan Report

Program : BE - COMPUTER SCIENCE AND ENGINEERING **Batch : CSE2017-21**

Class : BE - CSE - IV **Semester : 7**

Subject code : OBM752 **Subject name : Hospital Management**

Staff : GOBINATH S **HOD Approval Status : Approved**

Division :

Period No.	Period Type	Unit Title	Topic Name	Sub Topics	Expected date
1		OVERVIEW OF HOSPITAL ADMINISTRATION	Distinction between Hospital and Industry		
2		OVERVIEW OF HOSPITAL ADMINISTRATION	Distinction between Hospital and Industry		
3		OVERVIEW OF HOSPITAL ADMINISTRATION	Distinction between Hospital and Industry		
4		OVERVIEW OF HOSPITAL ADMINISTRATION	Challenges in Hospital Administration		
5		OVERVIEW OF HOSPITAL ADMINISTRATION	Challenges in Hospital Administration		
6		OVERVIEW OF HOSPITAL ADMINISTRATION	Hospital Planning		
7		OVERVIEW OF HOSPITAL ADMINISTRATION	Equipment Planning		
8		OVERVIEW OF HOSPITAL ADMINISTRATION	Functional Planning		
9		OVERVIEW OF HOSPITAL ADMINISTRATION	Functional Planning		
10		HUMAN RESOURCE MANAGEMENT IN HOSPITAL	Principles of HRM		
11		HUMAN RESOURCE MANAGEMENT IN HOSPITAL	Principles of HRM		
12		HUMAN RESOURCE MANAGEMENT IN HOSPITAL	Functions of HRM		
13		HUMAN RESOURCE MANAGEMENT IN HOSPITAL	Functions of HRM		
14		HUMAN RESOURCE MANAGEMENT IN HOSPITAL	Profile of HRD Manager		
15		HUMAN RESOURCE MANAGEMENT IN HOSPITAL	Human Resource Inventory		
16		HUMAN RESOURCE MANAGEMENT IN HOSPITAL	Human Resource Inventory		

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Lesson Plan Report

Period No.	Period Type	Unit Title	Topic Name	Sub Topics	Expected date
24		UNIT-III GRID FRAMEWORK	Materials recycling		
25		UNIT-III GRID FRAMEWORK	Best ways for Green PC		
26		UNIT-III GRID FRAMEWORK	Green Data center		
27		UNIT-III GRID FRAMEWORK	Green Grid framework.		
28		UNIT-IV GREEN COMPLIANCE	Socio cultural aspects of Green IT		
29		UNIT-IV GREEN COMPLIANCE	Socio cultural aspects of Green IT		
30		UNIT-IV GREEN COMPLIANCE	Green Enterprise Transformation Roadmap		
31		UNIT-IV GREEN COMPLIANCE	Green Enterprise Transformation Roadmap		
32		UNIT-IV GREEN COMPLIANCE	Green Compliance: Protocols, Standards, and Audits		
33		UNIT-IV GREEN COMPLIANCE	Green Compliance: Protocols, Standards, and Audits		
34		UNIT-IV GREEN COMPLIANCE	Green Compliance: Protocols, Standards, and Audits		
35		UNIT-IV GREEN COMPLIANCE	Emergent Carbon Issues: Technologies and Future.		
36		UNIT-IV GREEN COMPLIANCE	Emergent Carbon Issues: Technologies and Future.		
37		UNIT-V CASE STUDIES	The Environmentally Responsible Business Strategies (ERBS)		
38		UNIT-V CASE STUDIES	The Environmentally Responsible Business Strategies (ERBS)		
39		UNIT-V CASE STUDIES	Case Study Scenarios for Trial Runs		
40		UNIT-V CASE STUDIES	Case Study Scenarios for Trial Runs		
41		UNIT-V CASE STUDIES	Case Studies		
42		UNIT-V CASE STUDIES	Applying Green IT Strategies and Applications to a Home, Hospital, Packaging Industry and Telecom Sector.		
43		UNIT-V CASE STUDIES	Applying Green IT Strategies and Applications to a Home, Hospital, Packaging Industry and Telecom Sector.		
44		UNIT-V CASE STUDIES	Applying Green IT Strategies and Applications to a Home, Hospital, Packaging Industry and Telecom Sector.		
45		UNIT-V CASE STUDIES	Applying Green IT Strategies and Applications to a Home, Hospital, Packaging Industry and Telecom Sector.		

Unit Details

Unit no.	Unit Title	Total Periods	Planned Periods
1	UNIT-I FUNDAMENTALS	9	9
2	UNIT-II GREEN ASSETS AND MODELING	9	9
3	UNIT-III GRID FRAMEWORK	9	9
4	UNIT-IV GREEN COMPLIANCE	9	9
5	UNIT-V CASE STUDIES	9	9

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DEPARTMENT OF MECHANICAL ENGINEERING

QUESTION BANK

Sub Code/Name: ME 8651 – DESIGN OF TRANSMISSION SYSTEMS Year/Sem: III / VI

UNIT-I
PART-A (2 Marks)

1. Give the relationship of ratio of tensions in a V-belt drive.
2. Define maximum tension in a belt.
3. Explain the term "Crowning of Pulley".
4. In what way silent chain is better than ordinary driving chain?
5. What is the effect of centre distance and diameter of pulley on the life of belts?
6. What are the various losses in the power transmission by belts?
7. In what way the timing belt is superior to ordinary belt?
8. What do you understand by simplex, duplex and triplex chain?
9. Why V belts are preferred than flat belts?
10. Define creep in belts.
11. What is the advantage of V belt over flat belt?
12. Define slip.
13. Distinguish regular lay and long lay ropes.
14. Give some application of wire ropes.
15. Explain the chordal action of chain drive.

UNIT-I
PART-B (16 Marks)

1. Designs a chain drive to actuate a compressor from a 12 kW electric motor at 900 rpm, the compressor begin 250 rpm. Minimum centre distance should be 500 mm, the chain tension may be adjusted by shifting the motor on rails. The compressor is to work 8 hours/day. (16)

2. Design a chain drive to actuate a compressor from 15kW electric motor running at 1,000 r.p.m, the compressor speed being 350 rpm. The minimum centre distance is 500 mm. the compressor operates 15 hours per day. The chain tension may be adjusted by shifting the motor (16)

3. Design a V-belt drive and calculate the actual belt tension and average stress for the following data. Driven pulley diameter, D= 500 mm, driver pulley diameter, d=150 mm, center distance C=925 mm, speed N1 = 1000 rpm, N2 = 300 rpm and power, P = 7.5 kW. (16)

4. A crane is lifting a load of 18 KN through a wire rope and a hook. The weight of the hook etc., is 10kN. The load is to be lifted with an acceleration of 1m/sec^2. Calculate the diameter of the wire rope. The rope diameter may be taken as 30 times the diameter of the rope. Take a factor of safety of 6 and Young's modulus for the wire rope 0.8 x 10N/mm^{2}The ultimate stress may be taken as 1800 N/mm^{2}The cross-sectional area of the wire rope may be taken as 0.38 times the square of the wire rope diameter. (16)

5. A 15 kW squirrel cage motor, 1250 r.p.m. is driving a centrifugal pump at 550r.p.m. The centrifugal pump is located at 700 mm form the motor. Design a chain drive. (16)

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UNIT-II
PART-A (2 Marks)

1. Define the term back lash.
2. What are the forms of gear tooth profile?
3. State some materials used for gear materials.
4. What are the conditions required for interchangeability?
5. Where do we use skew gears?
6. What are the advantages of helical gear over spur gear?
7. Why dedendum value higher than addendum value?
8. What is helix angle?
9. What are the applications of spur gear?
10. What is herring bone gear and its application?

UNIT II
PART-B (16 Marks)

1. Design a pair of helical gears to transmit 30kW power at a speed reduction ratio of 4:1. The input shaft rotates at 2000 rpm. Take helix and pressure angles equal to 25°and 20°respectively. The number of teeth on the pinion may be taken as 30. (16)

2. Design a straight spur gear drive to transmit 8 kW. The pinion speed is 720 rpm and the speed ratio is 2. Both the gears are made of the same surface hardened carbon steel with 55RC and core hardness less than 350 BHN. Ultimate strength is 720 N/mm^2 and yield strength is 360 N/mm^2. (16)

3. A motor shaft rotating at 1500 rpm has to transmit 15kW to a low speed shaft with a speed reduction of 3:1. Assume starting torque to be 25% higher than the running torque. The teeth are 20°involutes with 25 teeth on the pinion. Both the pinion and gear are made of C45 steel. Design a spur gear drive to suit the above conditions and check for compressive and bending stresses and plastic deformations. Also sketch the spur gear drive. (16)

4. A helical gear with 30°helix angle has to transmit 35kW at 1500 rpm. With a speed reduction ratio 2.5. If the pinion has 24 teeth, determine the necessary module, pitch diameter and face width for 20°full depths the teeth. Assume 15Ni 2Cr 1 Mo 15 material for both pinion and wheel. (16)

5. A pair of helical gears subjected to moderate shock loading is to transmit 37.5kW at 1750 r.p.m. of the pinion. The speed reduction ratio is 4.25 and the helix angle is 15° The service is continuous and the teeth are 20°FD in the normal plane. Design the gears, assuming a life f 10,000 hours . (16)

6. A compressor running at 300 rpm is driven by a15 Kw, 1200 rpm motor through a 14½ °full depth spur gears .The centre distance is 375 mm .The motor pinion is to be of C30 forged steel hardened and tempered, and the driven gear is to be of cast iron. Assuming medium shock condition, design the gear drive. (16)

UNIT III
PART-A(2 Marks)

1. In which gear drive, self locking is available?
2. State the use of bevel gears.
3. What is irreversibility in worm gears?
4. How can you specify a pair of worm gear?
5. What are the materials commonly used for worm gears?
6. List out the main types of failure in worm gears.
7. What are the various losses in worm gear?
8. What are forces acting on bevel gears?

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9. What is a crown gear?
10. Where do we use worm gears?

UNIT III
PART-B (16 Marks)

1.Design a pair of bevel gears for two shafts whose axes are at right angles. The power transmitted is 25kW. The speed of the pinion is 300 rpm and the gear is 120 rpm. (16)

2.A 2 kW power is applied to a worm shaft at 720 rpm. The worm is of quadruple start with 50mm as pitch circle diameter. The worm is of quadruple start type with 50mm as pitch circle diameter. The worm gear has 40 teeth with 5mm module. The pressure angle in the diametral plane is 20° Determine (i) the lead angle of the worm, (ii) velocity ratio, and (ii) centre distance. Also, calculate efficiency of the worm gear drive, and power lost in friction. (16)

3. A pair of straight tooth bevel gears has a velocity ratio of 4/3. The pitch diameter of the pinion is 150 mm. The face width is 50mm. The pinion rotates at 240 rev/min. The teeth are 5mm module, 14 1/2°involutes. If 6 kW is transmitted, determine (i) the tangential force at the Mean radius (ii) the pinion thrust force (iii) the gear thrust force. Draw the free body diagrams indicating the forces. (16)

4. A 90°degree straight bevel gear set is needed to give a 3:1 reduction. Determine the pitch cone angle, pitch diameter, and gear forces if the, 25 degree pressure angle pinion ahs 15 teeth of pitch circle diameter, 4, and the transmitted power is 8 HP at 550 pinion rpm. (16)

5. Design a worm gear drive to transmit 22.5 kW at a worm speed of 1440 rpm. Velocity ratio is 24:1. An efficiency of at least 85% is desired. The temperature rise should be restricted to 40°C. Determine the required cooling area. (16)

6. Design a bevel gear drive to transmit 3.5 kW with the following specifications: speed ratio = 4; driving shaft speed = 200 r.p.m.; drive is non-reversible; material for pinion is steel; material for wheel is cast iron; and life 25000 hours. (16)

7. Design a worm gear drive to transmit a power of 22.5 kW. The worm speed is 1440 r.p.m. and the speed of the wheel is 60 r.p.m. The drive should have a minimum efficiency of 80% and above. Select suitable materials for worm and wheel and decide upon the dimensions of the drive. (16)

UNIT IV
PART-A (2 Marks)

1. What does the ray diagram of a gear box indicates?
2. What are preferred numbers?
3. List any two methods used for changing speeds in gear box.
4. What situation demands the use of gear box?
5. State any three basic rules followed in designing a gear box.
6. What is the purpose of ray diagram?
7. What is the purpose of kinematic diagram?
8. Draw the ray diagram of 6 speed gear box.
9. What are the application of gear box?

UNIT IV
PART-B (16 Marks)

1. Sketch the arrangements of a six speed gear box. The minimum and maximum speeds required are around 460 and 1400 rpm. Drove speed is 1440 rpm. Construct speed diagram of the gear box and obtain various reduction ratios. Use standard output speeds and standard step ratio. Calculate

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number of teeth in each gear and verify whether the actual output speeds are within + 2% of standard speeds. (16)

2. Design the layout of a 12 speed gear box for a milling machine having an output of speeds ranging from 180 to 2000 rpm. Power is applied to the gear box from a 6 kW induction motor at 1440 rpm. Choose standard step ratio and construct the speed diagram. Decide upon the various reduction ratios and number of teeth on each gear wheel sketch the arrangement of the gear box. (16)

3 .Design a nine – speed gear box for a machine to provide speeds ranging from 100 to 1500 rpm. The input is from a motor of 5 kW at 1440 rpm. Assume any alloy steel for the gear. (16)

4 .A machine tool gear box is to have 9 speeds. The gear box is driven by an electric motor whose shaft rotational speed is 1400 r.p.m. The gear box is connected to the motor by a belt drive. The maximum and minimum speeds required at the gear box output are 1000 r.p.m. and 200 r.p.m. respectively. Suitable speed reduction can also be provided in the belt drive. What is the step ratio and what are the values of 9 speeds? Sketch the arrangement. Obtain the number of teeth on each gear and also the actual output speeds. (16)

5 .A six speed gear box is required to provide output speeds in the range of 125 to 400 r.p.m. with a step ratio of 1.25 and transmit a power of 5 kW at 710 r.p.m. Draw the speed diagram and kinematics diagram. Determine the number of teeth module and face width of all gears, assuming suitable materials for the gears. Determine the length of the gear box along the axis of the gear shaft. (16)

UNIT V

PART-A (2 Marks)

1. State the advantage of cam over other reciprocating mechanisms.
2. How the "uniform rate of wear" assumption is valid for clutches?
3.. What is meant by a self – energizing brake?
4.. What are the desirable properties of friction material to be used for clutches?
5. Sketch a cone clutch.
6 .What are the effects of temperature rise in clutches?
7.. Name four materials used for lining of friction surfaces in clutches
8. What is the function of a clutch?

PART-B (16 Marks)

1. A multi – disk clutch consists of five steel plates and four bronze plates. The inner and outer diameters of friction disks are 75mm and 150mm respectively. The coefficient of friction is 0.1 and the intensity of pressure is limited t 0.3 N/mm^2. Assuming the uniform wear theory, calculate (i) the required operating force, and (ii) power transmitting capacity at 750 rpm. (16)

2. A leather faced conical clutch has cone angle of 30°.The pressure between the contact surfaces is limited to .35N/mm^2 and the breath of the conical surface is not to exceed 1/3 of the mean radius. Find the dimensions of the contact surface to transmit 22Kw at 2000 rpm .Also calculate the force required to engage the clutch. .Take μ =0.15. (16)

3.A single plate clutch, both side being effective is required to connect a machine shaft to a driver shaft which runs at 500rpm .The moment of inertia of the rotating parts of the machine is 1Kgm^2 .The inner and the outer radii of the friction discs are 50mm&100mm respectively .Assuming uniform pressure of 0.1N/mm^2 and μ =0.25 , determine the time taken for the machine to reach full speed when the clutch is suddenly engaged . Also determine the power transmitted by the clutch , the energy dissipated during the clutch slip and the energy supplied to the machine during engagement. (16)

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Timings: 2.15 PM to 3.00 PM

Date : 03.09.2020

Internal Exam I - Schedule

Dept.	Date	II Year	III Year	IV Year
B.E/ECE	07.09.2020	Fundamentals of Data Structures in C	Computer Architecture and Organization	Antennas and Microwave Engineering
	08.09.2020	Electronic Circuits- I	Discrte Time Signal Processing	Cognitive Radio
	09.09.2020	Linear Algebra and Partial Differential Equations	Medical Electronics	Embedded and Real Time Systems
	10.09.2020	Control Systems Engineering	Digital Communication	Industrial Safety
	11.09.2020	Digital Electronics	Computer Networks	Optical Communication
	12.09.2020	Signals and Systems	Basic of Biomedical Instrumentation	Adhoc and Wireless Sensor Networks

TEST COORDINATOR

HOD

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Timings: 2.15 PM to 3.00 PM

Date : 23.09.2020

Internal Exam II - Schedule

Dept.	Date	II Year	III Year	IV Year
B.E/ECE	28.09.2020	Fundamentals of Data Structures in C	Computer Architecture and Organization	Antennas and Microwave Engineering
	29.09.2020	Electronic Circuits- I	Discrte Time Signal Processing	Cognitive Radio
	30.09.2020	Linear Algebra and Partial Differential Equations	Medical Electronics	Embedded and Real Time Systems
	01.10.2020	Control Systems Engineering	Digital Communication	Industrial Safety
	02.10.2020	Digital Electronics	Computer Networks	Optical Communication
	03.10.2020	Signals and Systems	Basic of Biomedical Instrumentation	Adhoc and Wireless Sensor Networks

TEST COORDINATOR

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Timings: 01.00 PM to 4.00 PM

Date : 13.10.2020

Model Exam - Schedule

Dept.	Date	II Year	III Year	IV Year
B.E/ECE	19.10.2020	Fundamentals of Data Structures in C	Computer Architecture and Organization	Antennas and Microwave Engineering
	20.10.2020	Electronic Circuits- I	Discrte Time Signal Processing	Cognitive Radio
	21.10.2020	Linear Algebra and Partial Differential Equations	Medical Electronics	Embedded and Real Time Systems
	22.10.2020	Control Systems Engineering	Digital Communication	Industrial Safety
	23.10.2020	Digital Electronics	Computer Networks	Optical Communication
	24.102020	Signals and Systems	Basic of Biomedical Instrumentation	Adhoc and Wireless Sensor Networks

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Timings: 2.15 PM to 3.00 PM **Date : 25.02.2021**

Internal Exam I - Schedule

Dept.	Date	IV Year
B.E/ECE	02.03.2021	Satellite Communication
	03.03.2021	Professional Ethics in Engineering

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Timings: 2.15 PM to 3.00 PM **Date : 15.03.2021**

Internal Exam II - Schedule

Dept.	Date	IV Year
B.E/ECE	18.03.2021	Satellite Communication
	19.03.2021	Professional Ethics in Engineering

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Timings: 1.00 PM to 4.00 PM **Date : 08.04.2021**

Model Exam - Schedule

Dept.	Date	IV Year
B.E/ECE	10.04.2021	Satellite Communication
	12.04.2021	Professional Ethics in Engineering

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Timings: 2.15 PM to 3.00 PM **Date : 19.03.2021**

Internal Exam I - Schedule

Dept.	Date	II Year	III Year
B.E/ECE	22.03.2021	Electronic Circuits II	Transmission Lines and RF Systems
	23.03.2021	Probability and Random Process	Wireless Networks
	24.03.2021	Linear Integrated Circuits	Microprocessors and Microcontrollers
	25.03.2021	Communication Theory	Wireless Communication
	26.03.2021	Electromagnetic Fields	Principles of Management
	29.03.2021	Environmental Science and Engineering	VLSI Design

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Timings: 2.15 PM to 3.00 PM **Date : 16.04.2021**

Internal Exam II - Schedule

Dept.	Date	II Year	III Year
B.E/ECE	20.04.2021	Probability and Random Process	Wireless Networks
	21.04.2021	Linear Integrated Circuits	Microprocessors and Microcontrollers
	22.04.2021	Communication Theory	Wireless Communication
	23.04.2021	Electromagnetic Fields	Principles of Management
	24.04.2021	Environmental Science and Engineering	VLSI Design
	26.04.2021	Electronic Circuits II	Transmission Lines and RF Systems

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Timings: 1.00 PM to 4.00 PM **Date : 14.05.2021**

Model Exam - Schedule

Dept.	Date	II Year	III Year
B.E/ECE	17.05.2021	Electronic Circuits II	Transmission Lines and RF Systems
	18.05.2021	Probability and Random Process	Wireless Networks
	19.05.2021	Linear Integrated Circuits	Microprocessors and Microcontrollers
	20.05.2021	Communication Theory	Wireless Communication
	21.05.2021	Electromagnetic Fields	Principles of Management
	22.05.2021	Environmental Science and Engineering	VLSI Design

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DEPARTMENT OF ECE

EC8501- Digital Communication

Internal Exam 1

Year/Sem: III/V

Date: 10.09.2020 Time: 2.00PM to 2.45 PM

1. Analog to digital conversion includes
   a) Sampling
   b) Quantization
   c) Sampling & Quantization
   d) None of the mentioned
2. When the base of the logarithm is 2, then the unit of measure of information is
   a) Bits
   b) Bytes
   c) Nats
   d) None of the mentioned
3. The channel capacity is
   a) The maximum information transmitted by one symbol over the channel
   b) Information contained in a signal
   c) The amplitude of the modulated signal
   d) All of the above
4. Information rate is defined as
   a) Information per unit time
   b) Average number of bits of information per second
   c) rH
   d) All of the above
5. The relation between entropy and mutual information is
   a) I(X;Y) = H(X/Y) - H(Y/X)
   b) I(X;Y) = H(X) - H(X/Y)
   c) I(X;Y) = H(X) - H(Y)
   d) I(X;Y) = H(Y) - H(X)
6. The memory less source refers to
   a) No previous information
   b) No message storage
   c) Emitted message is independent of previous message
   d) None of the above
7. The expected information contained in a message is called
   a) Entropy
   b) Efficiency

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c) Coded signal
d) None of the above

8. Calculate the amount of information if it is given that P(xi)=1/8
   a) 2 bits
   b) 3 bits
   c) 4 bits
   d) 1 bit
9. The mutual information is symmetric, if
   a) $I(X;Y) \geq 0$
   b) $I(X;Y) = 0$
   c) $I(X;Y) = I(X;Y)$
   d) $I(X;Y) = I(Y;X)$
10. Binary Huffman coding is a
   a) Prefix condition code
   b) Suffix condition code
   c) Prefix & Suffix condition code
   d) None of the mentioned
11. The capacity of Gaussian channel is
   a) $C = 2B \log(1+S/N)$ bits/s
   b) $C = B^2 \log(1+S/N)$ bits/s
   c) $C = B \log(1+S/N)$ bits/s
   d) $C = B \log(1+S/N)2$ bits/s
12. For M equally likely messages, the average amount of information H is
   a) $H = \log_{10}M$
   b) $H = \log_2 M$
   c) $H = \log_{10}M^2$
   d) $H = 2\log_{10}M$
13. For M equally likely messages, M>>1, if the rate of information $R \leq C$, the probability of error is
   a) Arbitrarily small
   b) Close to unity
   c) Not predictable
   d) Unknown
14. A fair is tossed repeatedly until a 'Head' appears for the first time. Let L be the number of tosses to get this first 'Head'. The entropy H(L) in bits is_____
   a) 2.5
   b) 3
   c) 2
   d) 1.5
15. A source generates three symbols with probability 0.25, 0.25, 0.50 at a rate of 3000 symbols per second. Assuming independent generation of symbols, the most efficient source encoder would have average bit rate of
   a) 6000 bits/sec
   b) 4500 bits/sec

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c) 3000 bits/sec
d) 1500 bits/sec

16. A source produces 4 symbols with probability 1/2, 1/4, 1/8 *and* 1/8. For this source, a practical coding scheme has an average codeword length of 2 bits/symbols. The efficiency of the code is
a) 1
b) 7/8
c) 1/2
d) 1/4

17. In digital transmission, the modulation technique that requires minimum bandwidth is
a) Delta modulation
b) PCM
c) DPCM
d) PAM

18. In Differential Pulse Code Modulation techniques, the decoding is performed by
a) Accumulator
b) Sampler
c) PLL
d) Quantizer

19. DPCM is a technique
a) To convert analog signal into digital signal
b) Where difference between successive samples of the analog signals are encoded into n-bit data streams
c) Where digital codes are the quantized values of the predicted value
d) All of the above

20. The factors that cause quantizing error in delta modulation are
a) Slope overload distortion
b) Granular noise
c) White noise
d) Both a and b are correct

21. Granular noise occurs when
a) Step size is too small
b) Step size is too large
c) There is interference from the adjacent channel
d) Bandwidth is too large

22. The digital modulation scheme in which the step size is not fixed is
a) Delta modulation
b) Adaptive delta modulation
c) DPCM
d) PCM

23. In Delta Modulation, the bit rate is
a) N times the sampling frequency

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b) N times the modulating frequency
c) N times the nyquist criteria
d) None of the above

24. Which one of the following statements about differential pulse code modulation (DPCM) is true?
a) The sum of message signal sample with its prediction is quantized
b) The message signal sample id directly quantized, and its prediction is not used
c) The difference of message signal sample and a random signal is quantized
d) The difference of message signal with its prediction is quantized

25. A sinusoidal signal of 2 kHz frequency is applied to a delta modulator. The sampling rate and step-size Δ of the delta modulator are 20,000 samples per second and 0.1 V, respectively. To prevent slope overload, the maximum amplitude of the sinusoidal signal (in Volts) is
a) $1/2\pi$
b) $1/\pi$
c) $2/\pi$
d) π

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DEPARTMENT OF ECE

EC8501- Digital Communication

Internal Exam II

Year/Sem: III/V

Date: 01.10.2020 Time: 2.00PM to 2.45 PM

1. Which waveforms are also called as line codes?
   a)PCM
   b)PAM
   c)FM
   d)AM
2. When pulse code modulation is applied to non-binary symbols we obtain waveform called as
   a)PCM
   b)PAM
   c)M-ary
   d)line codes
3. The method in which small amount of controlled ISI is introduced into the data stream rather than trying to eliminate it completely is called as
   a) Correlative coding
   b) Duo binary signalling
   c) Partial response signalling
   d) All of the mentioned
4. If each pulse of the sequence to be detected is in _____ shape, the pulse can be detected without ISI.
   a) Sine
   b) Cosine
   c) Sinc
   d) None of the mentioned
5. Examples of nyquist filters are
   a) Root raised cosine filter
   b) Raised cosine filter
   c) Root raised & Raised cosine filter
   d) None of the mentioned
6. Roll off factor is the fraction of
   a) Excess bandwidth and absolute bandwidth
   b) Excess bandwidth and minimum nyquist bandwidth
   c) Absolute bandwidth and minimum nyquist bandwidth
   d) None of the mentioned

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7. A pulse shaping filter should satisfy two requirements. They are
   a) Should be realizable
   b) Should have proper roll off factor
   c) Should be realizable & have proper roll off factor
   d) None of the mentioned
8. An error in binary decision making occurs when the channel noise is
   a) Greater than the optimum threshold level
   b) Lesser than the optimum threshold level
   c) Greater or Lesser than the optimum threshold level
   d) None of the mentioned
9. Matched filter provides _____ signal to noise ratio.
   a) Maximum
   b) Minimum
   c) Zero
   d) Infinity
10. Equalization process includes
   a) Maximum likelihood sequence estimation
   b) Equalization with filters
   c) Maximum likelihood sequence estimation & Equalization with filters
   d) None of the mentioned
11. The filters used with the equalizer are of _____ types.
   a) Feed forward
   b) Feed backward
   c) Feed forward and feedback
   d) None of the mentioned
12. Channel's phase response must be a linear function of
   a) Time
   b) Frequency
   c) Time & Frequency
   d) None of the mentioned
13. The limit which represents the threshold Eb/N0 value below which reliable communication cannot be maintained is called as
   a) Probability limit
   b) Error limit
   c) Shannon limit
   d) Communication limit
14. Energy per symbol Es is given as
   a) Es=Eb(log2M)
   b) Es=Eb/(log2M)
   c) Es=2Eb(log2M)
   d) Es=Eb/2(log2M)
15. Which binary waveform uses three levels?
   a) Bipolar RZ
   b) RZ-AMI

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c) Bipolar RZ & RZ-AMI
d) None of the mentioned

16. Zero forced equalizers are used for
a) Reducing ISI to zero
b) Sampling
c) Quantization
d) None of the above

17. Equalization in digital communication
a) Reduces inter symbol interference
b) Removes distortion caused due to channel
c) Is done using linear filters
d) All of the above

18. Nyquist criterion helps in
a) Transmitting the signal without ISI
b) Reduction in transmission bandwidth
c) Increase in transmission bandwidth
d) Both a and b

19. The filter used for pulse shaping is
a) Raised - cosine filter
b) Sinc shaped filter
c) Gaussian filter
d) All of the above

20. Regenerative repeaters are used for
a) Eliminating noise
b) Reconstruction of signals
c) Transmission over long distances
d) All of the above

21. The number of bits of data transmitted per second is called
a) Data signalling rate
b) Modulation rate
c) Coding
d) None of the above

22. For a noise to be white Gaussian noise, the optimum filter is known as
a) Low pass filter
b) Base band filter
c) Matched filter
d) Bessel filter

23. Eye pattern is
a) Is used to study ISI
b) May be seen on CRO
c) Resembles the shape of human eye
d) All of the above

24. The interference caused by the adjacent pulses in digital transmission is called
a) Inter symbol interference
b) White noise

c) Image frequency interference
d) Transit time noise

25. The advantage of using Manchester format of coding is
a) Power saving
b) Polarity sense at the receiver
c) Noise immunity
d) None of the above

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DEPARTMENT OF ECE

EC8501- Digital Communication

Model Exam 1

Year/Sem: III/V

Date: 22.10.2020 Time: 1.00PM to 4.00 PM

PART A (60X1=60Marks)

1. Analog to digital conversion includes
   a) Sampling
   b) Quantization
   c) Sampling & Quantization
   d) None of the mentioned
2. Which FSK has no phase discontinuity?
   a) Continuous FSK
   b) Discrete FSK
   c) Uniform FSK
   d) None of the mentioned
3. When the base of the logarithm is 2, then the unit of measure of information is
   a) Bits
   b) Bytes
   c) Nats
   d) None of the mentioned
4. Information rate is defined as
   a) Information per unit time
   b) Average number of bits of information per second
   c) rH
   d) All of the above
5. FSK reception uses
   a) Correlation receiver
   b) PLL
   c) Correlation receiver & PLL
   d) None of the mentioned
6. In non-coherent reception _____ is measured.
   a) Phase
   b) Energy
   c) Power
   d) None of the mentioned
7. The memory less source refers to
   a) No previous information

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b) No message storage
c) Emitted message is independent of previous message
d) None of the above

8. Which of the following needs re-sending of signal?
a) Error correction
b) Error detection
c) Error correction & detection
d) None of the mentioned

9. Which of the following needs more check bits?
a) Error correction
b) Error detection
c) Error correction & detection
d) None of the mentioned

10. The expected information contained in a message is called
a) Entropy
b) Efficiency
c) Coded signal
d) None of the above

11. Matched filter is a _____ technique.
a) Modulation
b) Demodulation
c) Modulation & Demodulation
d) None of the mentioned

12. Which are forward error correcting codes?
a) Block codes
b) Convolutional codes
c) Block & Convolutional codes
d) None of the mentioned

13. Which operates on continuous stream of data?
a) Block codes
b) Convolutional codes
c) Block & Convolutional codes
d) None of the mentioned

14. Which is called as on-off keying?
a) Amplitude shift keying
b) Uni-polar PAM
c) Amplitude shift keying & Uni-polar PAM
d) None of the mentioned

15. QAM uses _____ as the dimensions.
a) In phase
b) Quadrature
c) In phase & Quadrature
d) None of the mentioned

16. The channel capacity is
a) The maximum information transmitted by one symbol over the channel

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b) Information contained in a signal
c) The amplitude of the modulated signal
d) All of the above

17. Which reduces the size of the data?
a) Source coding
b) Channel coding
c) Source & Channel coding
d) None of the mentioned

18. The maximum bandwidth is occupied by
a) ASK
b) BPSK
c) FSK
d) None of the above

19. Calculate the amount of information if it is given that P(xi)=1/8
a) 2 bits
b) 3 bits
c) 4 bits
d) 1 bit

20. The binary waveform used to generate BPSK signal is encoded in
a) Bipolar NRZ format
b) Manchester coding
c) Differential coding
d) None of the above

21. Which coding method uses entropy coding?
a) Lossless coding
b) Lossy coding
c) Lossless & Lossy coding
d) None of the mentioned

22. The mutual information is symmetric, if
a) $I(X;Y) \geq 0$
b) $I(X;Y) = 0$
c) $I(X;Y) = I(X;Y)$
d) $I(X;Y) = I(Y;X)$

23. Which has same probability of error?
a) BPSK and QPSK
b) BPSK and ASK
c) BPSK and PAM
d) BPSK and QAM

24. How error detection and correction is done?
a) By passing it through equalizer
b) By passing it through filter
c) By amplifying it
d) By adding redundancy bits

25. Which is more efficient?
a) Parity check

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b) Cyclic redundancy check
c) Parity & Cyclic redundancy check
d) None of the mentioned

26. Which can detect two bit errors?
a) Parity check
b) Cyclic redundancy check
c) Parity & Cyclic redundancy check
d) None of the mentioned

27. The relation between entropy and mutual information is
a) I(X;Y) = H(X/Y) - H(Y/X)
b) I(X;Y) = H(X) - H(X/Y)
c) I(X;Y) = H(X) - H(Y)
d) I(X;Y) = H(Y) - H(X)

28. Binary Huffman coding is a
a) Prefix condition code
b) Suffix condition code
c) Prefix & Suffix condition code
d) None of the mentioned

29. For M equally likely messages, the average amount of information H is
a) $H = \log_{10}M$
b) $H = \log_2 M$
c) $H = \log_{10}M^2$
d) $H = 2\log_{10}M$

30. For M equally likely messages, M>>1, if the rate of information $R \leq C$, the probability of error is
a) Arbitrarily small
b) Close to unity
c) Not predictable
d) Unknown

31. A fair is tossed repeatedly until a 'Head' appears for the first time. Let L be the number of tosses to get this first 'Head'. The entropy H(L) in bits is_____
a) 2.5
b) 3
c) 2
d) 1.5

32. Coherent detection of binary ASK signal requires
a) Phase synchronization
b) Timing synchronization
c) Amplitude synchronization
d) Both a and b

33. We can divide coding schemes in to two broad categories _____ and _____
a) Block; linear
b) Linear; nonlinear
c) Block; convolution
d) None of the above

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34. A source generates three symbols with probability 0.25, 0.25, 0.50 at a rate of 3000 symbols per second. Assuming independent generation of symbols, the most efficient source encoder would have average bit rate of
    a) 6000 bits/sec
    b) 4500 bits/sec
    c) 3000 bits/sec
    d) 1500 bits/sec
35. BPSK system modulates at the rate of
    a) 1 bit/ symbol
    b) 2 bit/ symbol
    c) 4 bit/ symbol
    d) None of the above
36. The capacity of Gaussian channel is
    a) $C = 2B \log(1+S/N)$ bits/s
    b) $C = B^2 \log(1+S/N)$ bits/s
    c) $C = B \log(1+S/N)$ bits/s
    d) $C = B \log(1+S/N)2$ bits/s
37. For a (6,4) block code where n = 6, k = 4 and $d_{min} = 3$, how many errors can be corrected by this code?
    a) 0
    b) 1
    c) 2
    d) 3
38. Hamming distance between 100 and 001 is
    a) 2
    b) 0
    c) 1
    d) None of the above
39. Transmission bandwidth depends on
    a) Rate of signalling
    b) Density of signal points
    c) Reduced distance
    d) None of the mentioned
40. In Binary Phase Shift Keying system, the binary symbols 1 and 0 are represented by carrier with phase shift of
    a) $\pi/2$
    b) π
    c) 2π
    d) 0
41. In a linear code, the minimum Hamming distance between any two code words is _____minimum weight of any non-zero code word.
    a) Less than
    b) Greater than
    c) Equal to

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d) None of the above

42. Average energy per bit is given by
a) average energy symbol/log2 M
b) average energy symbol * log2 M
c) log2 M/ Average energy symbol
d) none of the mentioned

43. Which of the following is not a way to represent convolution code?
a) State diagram
b) Trellis diagram
c) Tree diagram
d) Linear matrix

44. ASK modulated signal has the bandwidth
a) Same as the bandwidth of baseband signal
b) Half the bandwidth of baseband signal
c) Double the bandwidth of baseband signal
d) None of the above

45. A source produces 4 symbols with probability 1/2, 1/4, 1/8 *and* 1/8. For this source, a practical coding scheme has an average codeword length of 2 bits/symbols. The efficiency of the code is
a) 1
b) 7/8
c) 1/2
d) 1/4

46. Graphical representation of linear block code is known as
a) Pi graph
b) Matrix
c) Tanner graph
d) None of the above

47. Viterbi algorithm performs _____ decoding of convolutional codes.
a) Maximum likelihood
b) Maximum a posteriori
c) Minimum square
d) Minimum mean square

48. QPSK is a modulation scheme where each symbol consists of
a) 4 bits
b) 2 bits
c) 1 bit
d) M number of bits, depending upon the requirement

49. In DPSK technique, the technique used to encode bits is
a) AMI
b) Differential code
c) Uni polar RZ format
d) Manchester format

50. In Viterbi's algorithm, the selected paths are regarded as _____
a) Survivors

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b) Defenders
c) Destroyers
d) Carriers

51. For a (7, 4) block code, 7 is the total number of bits and 4 is the number of
a) Information bits
b) Redundant bits
c) Total bits- information bits
d) None of the above

52. Trellis coded modulation uses
a) Non binary method
b) Uses redundant bits
c) No expansion of bandwidth
d) All of the mentioned

53. For decoding in convolution coding, in a code tree,
a) Diverge upward when a bit is 0 and diverge downward when the bit is 1
b) Diverge downward when a bit is 0 and diverge upward when the bit is 1
c) Diverge left when a bit is 0 and diverge right when the bit is 1
d) Diverge right when a bit is 0 and diverge left when the bit is 1

54. Which among the following represents the code in which codewords consists of message bits and parity bits separately?
a) Block Codes
b) Systematic Codes
c) Code Rate
d) Hamming Distance

55. For the 4 states of an encoder on vertical axis of Trellis diagram, what do/does the solid line indicate/s?
a) '0' input
b) '1' input
c) Both a and b
d) None of the above

56. At any given time, the output of an encoder depends on _____
a) Past input
b) Present input
c) Both a and b
d) None of the above

57. Error control for data integrity may be exercised by means of
a) Forward error correction
b) error detection
c) Error correction
d) reverse error correction

58. _____statement says if R>C, every message will be error
a) Positive
b) Negative
c) Neutral
d) None of the above

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59. The syndrome depends only
    a) Transmitted code word
    b) Error pattern
    c) Receive code word
    d) Parity pattern
60. For X= 1011101, what is the hamming weight?
    a) 4
    b) 5
    c) 1
    d) 7

PART B (4X10=40Marks)

1. The linear block codes of (8,4) are generated by

$$b_1=M_1+M_2+M_4$$
$$b_2=M_1+M_2+M_3$$
$$b_3=M_1+M_3+M_4$$
$$b_4=M_2+M_3+M_4$$

   (i) Find the generator matrix and the parity check matrix for this code.
   (ii) List all code vectors
   (iii) Find the errors detecting and correcting capabilities of this code.
   (iv) Decode the received code word 1 1 0 1 1 0 1 0.
2. Decode the received message sequence (0100010000…) using Viterbi algorithm.
3. Explain in detail about carrier synchronisation.
4. A DMS has five equally likely symbols (i) construct a Shannon-Fano code for X and calculate the efficiency of the code. (ii) Repeat the procedure for the Huffman code and compare the result.

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18ECE005 C HEMANANDHINI

Time to complete: 28:18 Points: 42/50

1. Analog to digital conversion includes 0 / 2 pts

Auto-graded

- a) Sampling
- b) Quantization ✗
- c) Sampling & Quantization ✓
- d) None of the mentioned

2. When the base of the logarithm is 2, then the unit of measure of information is 2 / 2 pts

Auto-graded

- Bits ✓
- Bytes
- Nats
- None of the mentioned

3. The channel capacity is 2 / 2 pts

Auto-graded

- a) The maximum information transmitted by one symbol over the channel ✓
- b) Information contained in a signal
- c) The amplitude of the modulated signal
- d) All of the above

4. Information rate is defined as / 2 pts

- a) Information per unit time
- b) Average number of bits of information per second
- c) rH
- d) All of the above

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5. The relation between entropy and mutual information is 2 / 2 pts

Auto-graded

- I(X;Y) = H(X/Y) - H(Y/X)
- b) I(X;Y) = H(X) - H(X/Y) ✓
- c) I(X;Y) = H(X) - H(Y)
- d) I(X;Y) = H(Y) - H(X)

6. The memory less source refers to 2 / 2 pts

Auto-graded

- a) No previous information
- b) No message storage
- c) Emitted message is independent of previous message ✓
- d) None of the above

7. The expected information contained in a message is called 2 / 2 pts

Auto-graded

- a) Entropy ✓
- b) Efficiency
- c) Coded signal
- d) None of the above

8. Calculate the amount of information if it is given that P(xi)=1/8 0 / 2 pts

Auto-graded

- a) 2 bits
- b) 3 bits ✓
- c) 4 bits ✗
- d) 1 bit

9. The mutual information is symmetric, if 2 / 2 pts

Auto-graded

- a) I(X;Y) ≥ 0
- b) I(X;Y) = 0
- c) I(X;Y) = I(X;Y)
- d) I(X;Y) = I(Y;X) ✓

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10. Binary Huffman coding is a — 2 / 2 pts

Auto-graded

- [x] a) Prefix condition code ✓
- [ ] b) Suffix condition code
- [ ] c) Prefix & Suffix condition code
- [ ] d) None of the mentioned

11. The capacity of Gaussian channel is — 2 / 2 pts

Auto-graded

- [ ] a) C = 2B log(1+S/N) bits/s
- [ ] b) C = B2 log(1+S/N) bits/s
- [x] c) C = B log(1+S/N) bits/s ✓
- [ ] d) C = B log(1+S/N)2 bits/s

12. For M equally likely messages, the average amount of information H is — 2 / 2 pts

Auto-graded

- [ ] a) H = log10M
- [x] b) H = log2M ✓
- [ ] c) H = log10M2
- [ ] d) H = 2log10M

13. For M equally likely messages, M>>1, if the rate of information R ≤ C, the probability of error is — 2 / 2 pts

Auto-graded

- [x] a) Arbitrarily small ✓
- [ ] b) Close to unity
- [ ] c) Not predictable
- [ ] d) Unknown

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14. A fair coin is tossed repeatedly until a 'Head' appears for the first time. Let L be the number of tosses to get this first 'Head'. The entropy H(L) in bits is_____ 2 / 2 pts *Auto-graded*

- a) 2.5
- b) 3
- c) 2 ✓
- d) 1.5

15. A source generates three symbols with probability 0.25, 0.25, 0.50 at a rate of 3000 symbols per second. Assuming independent generation of symbols, the most efficient source encoder would have average bit rate of 2 / 2 pts *Auto-graded*

- a) 6000 bits/sec
- b) 4500 bits/sec ✓
- c) 3000 bits/sec
- d) 1500 bits/sec

16. A source produces 4 symbols with probability 1/2, 1/4, 1/8 *and* 1/8. For this source, a practical coding scheme has an average codeword length of 2 bits/symbols. The efficiency of the code is 0 / 2 pts *Auto-graded*

- a) 1
- b) 7/8 ✓
- c) 1/2 ✗
- d) 1/4

17. In digital transmission, the modulation technique that requires minimum bandwidth is 2 / 2 pts *Auto-graded*

- a) Delta modulation ✓
- b) PCM
- c) DPCM
- d) PAM

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18. In Differential Pulse Code Modulation techniques, the decoding is performed by

2 / 2 pts
Auto-graded

- [x] a) Accumulator ✓
- [ ] b) Sampler
- [ ] c) PLL
- [ ] d) Quantizer

19. DPCM is a technique

2 / 2 pts
Auto-graded

- [ ] a) To convert analog signal into digital signal
- [ ] b) Where difference between successive samples of the analog signals are encoded into n-bit data streams
- [ ] c) Where digital codes are the quantized values of the predicted value
- [x] d) All of the above ✓

20. The factors that cause quantizing error in delta modulation are

2 / 2 pts
Auto-graded

- [ ] a) Slope overload distortion
- [ ] b) Granular noise
- [ ] c) White noise
- [x] d) Both a and b are correct ✓

21. Granular noise occurs when

2 / 2 pts
Auto-graded

- [ ] a) Step size is too small
- [x] b) Step size is too large ✓
- [ ] c) There is interference from the adjacent channel
- [ ] d) Bandwidth is too large

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22. The digital modulation scheme in which the step size is not fixed is

2 / 2 pts
Auto-graded

- a) Delta modulation
- b) Adaptive delta modulation ✓
- c) DPCM
- d) PCM

23. In Delta Modulation, the bit rate is

2 / 2 pts
Auto-graded

- a) N times the sampling frequency ✓
- b) N times the modulating frequency
- c) N times the nyquist criteria
- d) None of the above

24. Which one of the following statements about differential pulse code modulation (DPCM) is true?

2 / 2 pts
Auto-graded

- a) The sum of message signal sample with its prediction is quantized
- b) The message signal sample id directly quantized, and its prediction is not used
- c) The difference of message signal sample and a random signal is quantized
- d) The difference of message signal with its prediction is quantized ✓

25. A sinusoidal signal of 2 kHz frequency is applied to a delta modulator. The sampling rate and step-size Δ of the delta modulator are 20,000 samples per second and 0.1 V, respectively. To prevent slope overload, the maximum amplitude of the sinusoidal signal (in Volts) is

2 / 2 pts
Auto-graded

- a) $1/2\pi$ ✓
- b) $1/\pi$
- c) $2/\pi$
- d) π

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18ECE018 E L SARATH

Time to complete: 29:50 Points: 38/50

1. Which waveforms are also called as line codes? 2 / 2 pts
Auto-graded

- a)PCM ✓
- b)PAM
- c)FM
- d)AM

2. When pulse code modulation is applied to non-binary symbols we obtain waveform called as 2 / 2 pts
Auto-graded

- a)PCM
- b)PAM
- c)M-ary ✓
- d)line codes

3. The method in which small amount of controlled ISI is introduced into the data stream rather than trying to eliminate it completely is called as 0 / 2 pts
Auto-graded

- a) Correlative coding ✗
- b) Duo binary signalling
- c) Partial response signalling
- d) All of the mentioned ✓

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4. If each pulse of the sequence to be detected is in _____ shape, the pulse can be detected without ISI. 2 / 2 pts *Auto-graded*

- a) Sine
- b) Cosine
- c) Sinc ✓
- d) None of the mentioned

5. Examples of nyquist filters are 2 / 2 pts *Auto-graded*

- a) Root raised cosine filter
- b) Raised cosine filter
- c) Root raised & Raised cosine filter ✓
- d) None of the mentioned

6. Roll off factor is the fraction of 2 / 2 pts *Auto-graded*

- a) Excess bandwidth and absolute bandwidth
- b) Excess bandwidth and minimum nyquist bandwidth ✓
- c) Absolute bandwidth and minimum nyquist bandwidth
- d) None of the mentioned

7. A pulse shaping filter should satisfy two requirements. They are 2 / 2 pts *Auto-graded*

- a) Should be realizable
- b) Should have proper roll off factor
- c) Should be realizable & have proper roll off factor ✓
- d) None of the mentioned

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noise is

2 / 2 pts
Auto-graded

- a) Greater than the optimum threshold level
- b) Lesser than the optimum threshold level
- c) Greater or Lesser than the optimum threshold level ✓
- d) None of the mentioned

9. Matched filter provides ____ signal to noise ratio.

2 / 2 pts
Auto-graded

- a) Maximum ✓
- b) Minimum
- c) Zero
- d) Infinity

10. Equalization process includes

2 / 2 pts
Auto-graded

- a) Maximum likelihood sequence estimation
- b) Equalization with filters
- c) Maximum likelihood sequence estimation & Equalization with filters ✓
- d) None of the mentioned

11. The filters used with the equalizer are of _____ types.

2 / 2 pts
Auto-graded

- a) Feed forward
- b) Feed backward
- c) Feed forward and feedback ✓
- d) None of the mentioned

12. Channel's phase response must be a linear function of

0 / 2 pts
Auto-graded

- a) Time
- b) Frequency ✗
- c) Time & Frequency ✓
- d) None of the mentioned

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13. The limit which represents the threshold Eb/No value below which reliable communication cannot be maintained is called as — 2 / 2 pts — *Auto-graded*

- a) Probability limit
- b) Error limit
- c) Shannon limit ✓
- d) Communication limit

14. Energy per symbol Es is given as — 2 / 2 pts — *Auto-graded*

- a) Es=Eb(log2M) ✓
- b) Es=Eb/(log2M)
- c) Es=2Eb(log2M)
- d) Es=Eb/2(log2M)

15. Which binary waveform uses three levels? — 2 / 2 pts — *Auto-graded*

- a) Bipolar RZ
- b) RZ-AMI
- c) Bipolar RZ & RZ-AMI ✓
- d) None of the mentioned

16. Zero forced equalizers are used for — 2 / 2 pts — *Auto-graded*

- a) Reducing ISI to zero ✓
- b) Sampling
- c) Quantization
- d) None of the above

17. Equalization in digital communication — 0 / 2 pts — *Auto-graded*

- a) Reduces inter symbol interference ✗
- b) Removes distortion caused due to channel
- c) Is done using linear filters
- d) All of the above ✓

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Nyquist criterion helps in... 2 / 2 pts

Auto-graded

- a) Transmitting the signal without ISI
- b) Reduction in transmission bandwidth
- c) Increase in transmission bandwidth
- d) Both a and b ✓

19. The filter used for pulse shaping is 0 / 2 pts

Auto-graded

- a) Raised - cosine filter
- b) Sinc shaped filter
- c) Gaussian filter ✗
- d) All of the above ✓

20. Regenerative repeaters are used for 2 / 2 pts

Auto-graded

- a) Eliminating noise
- b) Reconstruction of signals
- c) Transmission over long distances
- d) All of the above ✓

21. The number of bits of data transmitted per second is called 2 / 2 pts

Auto-graded

- a) Data signalling rate ✓
- b) Modulation rate
- c) Coding
- d) None of the above

22. For a noise to be white Gaussian noise, the optimum filter is known as 0 / 2 pts

Auto-graded

- a) Low pass filter ✗
- b) Base band filter
- c) Matched filter ✓
- d) Bessel filter

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23. Eye pattern is / 2 pts

Auto-graded

- a) Is used to study ISI
- b) May be seen on CRO
- c) Resembles the shape of human eye ✓
- d) All of the above ✗

24. The interference caused by the adjacent pulses in digital transmission is called 2 / 2 pts

Auto-graded

- a) Inter symbol interference ✓
- b) White noise
- c) Image frequency interference
- d) Transit time noise

25. The advantage of using Manchester format of coding is 2 / 2 pts

Auto-graded

- a) Power saving ✓
- b) Polarity sense at the receiver
- c) Noise immunity
- d) None of the above

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18ECE012 D MADHUMITHAN

Time to complete: 57:46 Points: 54/60

1. 1. Analog to digital conversion includes 0 / 1 pt

Auto-graded

a) Sampling

b) Quantization ✗

c) Sampling & Quantization ✓

d) None of the mentioned

2. 2. Which FSK has no phase discontinuity? 1 / 1 pt

Auto-graded

a) Continuous FSK ✓

b) Discrete FSK

c) Uniform FSK

d) None of the mentioned

3. 3. When the base of the logarithm is 2, then the unit of measure of information is 1 / 1 pt

Auto-graded

a) Bits ✓

b) Bytes

c) Nats

d) None of the mentioned

4. 4. Information rate is defined as 1 / 1 pt

Auto-graded

a) Information per unit time

b) Average number of bits of information per second

c) rH

d) All of the above ✓

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5. 5. PSK reception uses 1 / 1 pt

Auto-graded

- a) Correlation receiver
- b) PLL
- c) Correlation receiver & PLL ✓
- d) None of the mentioned

6. 6. In non-coherent reception ____ is measured. 1 / 1 pt

Auto-graded

- a) Phase
- b) Energy ✓
- c) Power
- d) None of the mentioned

7. 7. The memory less source refers to 1 / 1 pt

Auto-graded

- a) No previous information
- b) No message storage
- c) Emitted message is independent of previous message ✓
- d) None of the above

8. 8. Which of the following needs re-sending of signal? 1 / 1 pt

Auto-graded

- a) Error correction
- b) Error detection ✓
- c) Error correction & detection
- d) None of the mentioned

9. 9. Which of the following needs more check bits? 1 / 1 pt

Auto-graded

- a) Error correction ✓
- b) Error detection
- c) Error correction & detection
- d) None of the mentioned

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10. 10. The expected information contained in a message is called

1 / 1 pt

Auto-graded

- (●) a) Entropy ✓
- ( ) b) Efficiency
- ( ) c) Coded signal
- ( ) d) None of the above

11. 11. Matched filter is a _____ technique.

1 / 1 pt

Auto-graded

- ( ) a) Modulation
- (●) b) Demodulation ✓
- ( ) c) Modulation & Demodulation
- ( ) d) None of the mentioned

12. 12. Which are forward error correcting codes?

1 / 1 pt

Auto-graded

- ( ) a) Block codes
- ( ) b) Convolutional codes
- (●) c) Block & Convolutional codes ✓
- ( ) d) None of the mentioned

13. 13. Which operates on continuous stream of data?

1 / 1 pt

Auto-graded

- ( ) a) Block codes
- (●) b) Convolutional codes ✓
- ( ) c) Block & Convolutional codes
- ( ) d) None of the mentioned

14. 14. Which is called as on-off keying?

0 / 1 pt

Auto-graded

- (●) a) Amplitude shift keying ✗
- ( ) b) Uni-polar PAM
- ( ) c) Amplitude shift keying & Uni-polar PAM ✓
- ( ) d) None of the mentioned

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15. 15. QAM uses _____ as the dimensions. 1 / 1 pt

Auto-graded

- a) In phase
- b) Quadrature
- c) In phase & Quadrature ✓
- d) None of the mentioned

16. 16. The channel capacity is 1 / 1 pt

Auto-graded

- a) The maximum information transmitted by one symbol over the channel ✓
- b) Information contained in a signal
- c) The amplitude of the modulated signal
- d) All of the above

17. 17. Which reduces the size of the data? 1 / 1 pt

Auto-graded

- a) Source coding ✓
- b) Channel coding
- c) Source & Channel coding
- d) None of the mentioned

18. 18. The maximum bandwidth is occupied by 1 / 1 pt

Auto-graded

- a) ASK
- b) BPSK
- c) FSK ✓
- d) None of the above

19. 19. Calculate the amount of information if it is given that P(xi)=1/8 0 / 1 pt

Auto-graded

- a) 2 bits
- b) 3 bits ✓
- c) 4 bits ✗
- d) 1 bit

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20. 20. The binary waveform used to generate BPSK signal is encoded in

1 / 1 pt

Auto-graded

- (a) a) Bipolar NRZ format ✓
- b) b) Manchester coding
- c) c) Differential coding
- d) d) None of the above

21. 21. Which coding method uses entropy coding?

1 / 1 pt

Auto-graded

- a) a) Lossless coding
- (b) b) Lossy coding ✓
- c) c) Lossless & Lossy coding
- d) d) None of the mentioned

22. 22. The mutual information is symmetric, if

1 / 1 pt

Auto-graded

- a) a) $I(X;Y) \geq 0$
- b) b) $I(X;Y) = 0$
- c) c) $I(X;Y) = I(X;Y)$
- (d) d) $I(X;Y) = I(Y;X)$ ✓

23. 23. Which has same probability of error?

1 / 1 pt

Auto-graded

- a) a) BPSK and QPSK
- b) b) BPSK and ASK
- (c) c) BPSK and PAM ✓
- d) d) BPSK and QAM

24. 24. How error detection and correction is done?

1 / 1 pt

Auto-graded

- a) a) By passing it through equalizer
- b) b) By passing it through filter
- c) c) By amplifying it
- (d) d) By adding redundancy bits ✓

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25. 25. Which is more efficient? 1 / 1 pt

Auto-graded

- a) Parity check
- b) Cyclic redundancy check ✓
- c) Parity & Cyclic redundancy check
- d) None of the mentioned

26. 26. Which can detect two bit errors? 1 / 1 pt

Auto-graded

- a) Parity check
- b) Cyclic redundancy check ✓
- c) Parity & Cyclic redundancy check
- d) None of the mentioned

27. 27. The relation between entropy and mutual information is 1 / 1 pt

Auto-graded

- a) I(X;Y) = H(X/Y) - H(Y/X)
- b) I(X;Y) = H(X) - H(X/Y) ✓
- c) I(X;Y) = H(X) - H(Y)
- d) I(X;Y) = H(Y) - H(X)

28. 28. Binary Huffman coding is a 1 / 1 pt

Auto-graded

- a) Prefix condition code ✓
- b) Suffix condition code
- c) Prefix & Suffix condition code
- d) None of the mentioned

29. 29. For M equally likely messages, the average amount of information H is 1 / 1 pt

Auto-graded

- a) H = log10M
- b) H = log2M ✓
- c) H = log10M2
- d) H = 2log10M

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information R ≤ C, the probability of error is

1 / 1 pt
Auto-graded

- [x] a) Arbitrarily small
- [ ] b) Close to unity
- [ ] c) Not predictable
- [ ] d) Unknown

31. 31. A fair is tossed repeatedly until a 'Head' appears for the first time. Let L be the number of tosses to get this first 'Head'. The entropy H(L) in bits is_____

1 / 1 pt
Auto-graded

- [ ] a) 2.5
- [ ] b) 3
- [x] c) 2
- [ ] d) 1.5

32. 32. Coherent detection of binary ASK signal requires

1 / 1 pt
Auto-graded

- [ ] a) Phase synchronization
- [ ] b) Timing synchronization
- [ ] c) Amplitude synchronization
- [x] d) Both a and b

33. 33. We can divide coding schemes in to two broad categories _____ and _____

1 / 1 pt
Auto-graded

- [ ] a) Block; linear
- [ ] b) Linear; nonlinear
- [x] c) Block; convolution
- [ ] d) None of the above

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0.25, 0.50 at a rate of 3000 symbols per second. Assuming independent generation of symbols, the most efficient source encoder would have average bit rate of

1 / 1 pt
Auto-graded

a) 6000 bits/sec

b) 4500 bits/sec ✓

c) 3000 bits/sec

d) 1500 bits/sec

35. 35. BPSK system modulates at the rate of

1 / 1 pt
Auto-graded

a) 1 bit/ symbol ✓

b) 2 bit/ symbol

c) 4 bit/ symbol

d) None of the above

36. 36. The capacity of Gaussian channel is

1 / 1 pt
Auto-graded

a) C = 2B log(1+S/N) bits/s

b) C = B2 log(1+S/N) bits/s

c) C = B log(1+S/N) bits/s ✓

d) C = B log(1+S/N)2 bits/s

37. 37. For a (6,4) block code where n = 6, k = 4 and dmin = 3, how many errors can be corrected by this code?

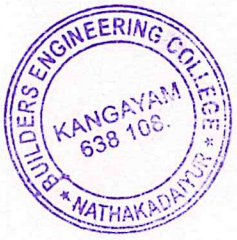
1 / 1 pt
Auto-graded

a) 0

b) 1 ✓

c) 2

d) 3



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38. 38. Hamming distance between 100 and 001 is

Auto-graded

- a) 2 ✓
- b) 0
- c) 1
- d) None of the above

39. 39. Transmission bandwidth depends on

0 / 1 pt

Auto-graded

- a) Rate of signalling ✓
- b) Density of signal points
- c) Reduced distance
- d) None of the mentioned ✗

40. 40. In Binary Phase Shift Keying system, the binary symbols 1 and 0 are represented by carrier with phase shift of

1 / 1 pt

Auto-graded

- a) π/2
- b) π ✓
- c) 2π
- d) 0

41. 41. In a linear code, the minimum Hamming distance between any two code words is _____minimum weight of any non-zero code word.

1 / 1 pt

Auto-graded

- a) Less than
- b) Greater than
- c) Equal to ✓
- d) None of the above

42. 42. Average energy per bit is given by

1 / 1 pt

Auto-graded

- a) average energy symbol/log2 M ✓
- b) average energy symbol * log2 M
- c) log2 M/ Average energy symbol
- d) none of the mentioned

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convolution code?

Auto-graded

- a) State diagram
- b) Trellis diagram
- c) Tree diagram
- d) Linear matrix ✓

44. 44. ASK modulated signal has the bandwidth

1 / 1 pt

Auto-graded

- a) Same as the bandwidth of baseband signal ✓
- b) Half the bandwidth of baseband signal
- c) Double the bandwidth of baseband signal
- d) None of the above

45. 45. A source produces 4 symbols with probability 1/2, 1/4, 1/8 *and* 1/8. For this source, a practical coding scheme has an average codeword length of 2 bits/symbols. The efficiency of the code is

0 / 1 pt

Auto-graded

- a) 1
- b) 7/8 ✓
- c) 1/2 ✗
- d) 1/4

46. 46. Graphical representation of linear block code is known as

1 / 1 pt

Auto-graded

- a) Pi graph
- b) Matrix
- c) Tanner graph ✓
- d) None of the above

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... Viterbi algorithm performs _____ decoding of convolutional codes. 1 / 1 pt

Auto-graded

- (a) Maximum likelihood ✓
- (b) Maximum a posteriori
- (c) Minimum square
- (d) Minimum mean square

48. 48. QPSK is a modulation scheme where each symbol consists of 1 / 1 pt

Auto-graded

- (a) 4 bits
- (b) 2 bits ✓
- (c) 1 bit
- (d) M number of bits, depending upon the requirement

49. 49. In DPSK technique, the technique used to encode bits is 1 / 1 pt

Auto-graded

- (a) AMI
- (b) Differential code ✓
- (c) Uni polar RZ format
- (d) Manchester format

50. 50. In Viterbi's algorithm, the selected paths are regarded as _____ 1 / 1 pt

Auto-graded

- (a) Survivors ✓
- (b) Defenders
- (c) Destroyers
- (d) Carriers

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is the number of

Auto-graded

- a) Information bits ✓
- b) Redundant bits
- c) Total bits- information bits
- d) None of the above

52. 52. Trellis coded modulation uses 1 / 1 pt

Auto-graded

- a) Non binary method
- b) Uses redundant bits
- c) No expansion of bandwidth
- d) All of the mentioned ✓

53. 53. For decoding in convolution coding, in a code tree, 1 / 1 pt

Auto-graded

- a) Diverge upward when a bit is 0 and diverge downward when the bit is 1 ✓
- b) Diverge downward when a bit is 0 and diverge upward when the bit is 1
- c) Diverge left when a bit is 0 and diverge right when the bit is 1
- d) Diverge right when a bit is 0 and diverge left when the bit is 1

54. 54. Which among the following represents the code in which codewords consists of message bits and parity bits separately? 1 / 1 pt

Auto-graded

- a) Block Codes
- b) Systematic Codes ✓
- c) Code Rate
- d) Hamming Distance

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diagram, what do/does the solid line indicate/s?

Auto-graded

- [x] a) '0' input ✓
- [ ] b) '1' input
- [ ] c) Both a and b
- [ ] d) None of the above

56. 56. At any given time, the output of an encoder depends on _____

1 / 1 pt

Auto-graded

- [ ] a) Past input
- [ ] b) Present input
- [x] c) Both a and b ✓
- [ ] d) None of the above

57. 57. Error control for data integrity may be exercised by means of

1 / 1 pt

Auto-graded

- [x] a) Forward error correction ✓
- [ ] b) error detection
- [ ] c) Error correction
- [ ] d) reverse error correction

58. 58. _____statement says if R>C, every message will be error

0 / 1 pt

Auto-graded

- [x] a) Positive ✗
- [ ] b) Negative ✓
- [ ] c) Neutral
- [ ] d) None of the above

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59. 59. The syndrome depends only 1 / 1 pt

Auto-graded

- a) Transmitted code word
- b) Error pattern ✓
- c) Receive code word
- d) Parity pattern

60. 60. For X= 1011101, what is the hamming weight? 1 / 1 pt

Auto-graded

- a) 4
- b) 5 ✓
- c) 1
- d) 7

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1.

Given:

$b_1 = M_1 + M_3 + M_4$

$b_2 = M_1 + M_2 + M_3$

$b_3 = M_1 + M_3 + M_4$

$b_4 = M_2 + M_3 + M_4$

30/40

i) To obtain generator matrix & parity check matrix

$$[b_1\ b_2\ b_3\ b_4]_{1\times4} = [M_1\ M_2\ M_3\ M_4]_{1\times4}\,[P]_{4\times4}$$

$$= [M_1\ M_2\ M_3\ M_4]\begin{bmatrix} P_{11} & P_{12} & P_{13} & P_{14} \\ P_{21} & P_{22} & P_{23} & P_{24} \\ P_{31} & P_{32} & P_{33} & P_{34} \\ P_{41} & P_{42} & P_{43} & P_{44} \end{bmatrix}$$

$b_1 = P_{11}M_1 + P_{21}M_2 + P_{31}M_3 + P_{41}M_4$

$b_2 = P_{12}M_1 + P_{22}M_2 + P_{32}M_3 + P_{42}M_4$

$b_3 = P_{13}M_1 + P_{23}M_2 + P_{33}M_3 + P_{43}M_4$

$b_4 = P_{14}M_1 + P_{24}M_2 + P_{34}M_3 + P_{44}M_4$

$P_{11} = 1$ $P_{21} = 1$ $P_{31} = 0$ $P_{41} = 1$

$P_{12} = 1$ $P_{22} = 1$ $P_{32} = 1$ $P_{42} = 0$

$P_{13} = 1$ $P_{23} = 0$ $P_{33} = 1$ $P_{43} = 1$

$P_{14} = 0$ $P_{24} = 1$ $P_{34} = 1$ $P_{44} = 1$

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$$P = \begin{bmatrix} 1 & 1 & 1 & 0 \\ 1 & 1 & 0 & 1 \\ 0 & 1 & 1 & 1 \\ 1 & 0 & 1 & 1 \end{bmatrix}$$

$G_{K \times n} = [I_K : P_{K \times q}]$

$$G = \left[\begin{array}{cccc:cccc} 1 & 0 & 0 & 0 & 1 & 1 & 1 & 0 \\ 0 & 1 & 0 & 0 & 1 & 1 & 0 & 1 \\ 0 & 0 & 1 & 0 & 0 & 1 & 1 & 1 \\ 0 & 0 & 0 & 1 & 1 & 0 & 1 & 1 \end{array}\right]_{8 \times 4}$$

Parity check matrix is;

$H = [P^T : I_q]$

$$= \left[\begin{array}{cccc:cccc} 1 & 1 & 0 & 1 & 1 & 0 & 0 & 0 \\ 1 & 1 & 1 & 0 & 0 & 1 & 0 & 0 \\ 1 & 0 & 1 & 1 & 0 & 0 & 1 & 0 \\ 0 & 1 & 1 & 1 & 0 & 0 & 0 & 1 \end{array}\right]$$

ii) To list all codes:

Check bits are:

$b_1 = M_1 + M_2 + M_3$

$b_2 = M_1 + M_2 + M_3$

$b_3 = M_1 + M_3 + M_4$

$b_4 = M_2 + M_3 + M_4$

$x = (M_1\ M_2\ M_3\ M_4\ b_1\ b_2\ b_3\ b_4)$

S.no	message vector				Check bits				Code vector x								weight of code
	M_1	M_2	M_3	M_4	b_1	b_2	b_3	b_4	M_1	M_2	M_3	M_4	b_1	b_2	b_3	b_4	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	1	1	0	1	1	0	0	0	1	1	0	1	1	4
2	0	0	1	0	0	1	1	1	0	0	1	0	0	1	1	1	4
3	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	4
4	0	1	0	0	1	1	0	1	0	1	0	0	1	1	0	1	4
5	0	1	0	1	0	1	1	0	0	1	0	1	0	1	1	0	4
6	0	1	1	0	1	0	1	0	0	1	1	0	1	0	1	0	4
7	0	1	1	1	0	0	0	1	0	1	1	1	0	0	0	1	4
8	1	0	0	0	1	1	1	0	1	0	0	0	1	1	1	0	4
9	1	0	0	1	0	1	0	1	1	0	0	1	0	1	0	1	4
10	1	0	1	0	1	0	0	1	1	0	1	0	1	0	0	1	4

11	1	0	1	0	0	0	1	0	1	0	1	1	0	0	4
12	1	1	1	0	0	0	1	1	1	0	0	0	0	1	4
13	1	1	0	0	1	0	0	0	1	1	0	1	1	0	4
14	1	1	0	0	0	1	0	0	1	1	1	0	0	0	4
15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8

iii) error detecting & correcting capabilities:

minimum weight of code is 4. Hence minimum distance $d_{min} = 4$

$d_{min} \geq s+1$

$4 \geq s+1$

$s \leq 3$

$\therefore$ 3 errors can be detected

$d_{min} \geq 2t+1$

$4 \geq 2t+1$

$t \leq \frac{3}{2}$ $\therefore$ one error can be corrected

iv) To decode Received words:

To decode 11011010

Let $y = [11011010]$

$S = yH^T$

$= [11011010] \begin{bmatrix} 1 & 1 & 1 & 0 \\ 1 & 1 & 0 & 1 \\ 0 & 1 & 1 & 1 \\ 1 & 0 & 1 & 1 \\ 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}$

$= [1+1+0+1+1+0+0+0$

$1+1+0+1+0+0+0+0$

$1+0+0+1+0+0+1+0$

$0+1+0+1+0+0+0+0]$

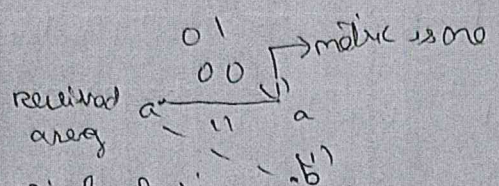
$= [0\ 0\ 1\ 0]$

The received word is 0010

2. Sol:

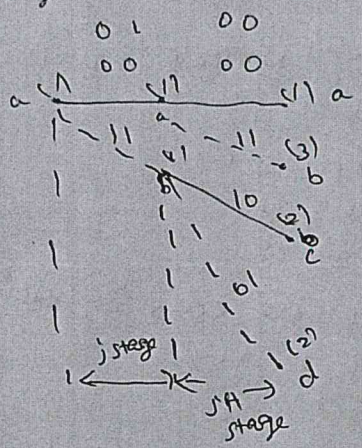
Compute the metric for the single-paths entering each state of encoder (i=1)

first message is 01



Step 2: level → i
increment the level 'i' by '1'

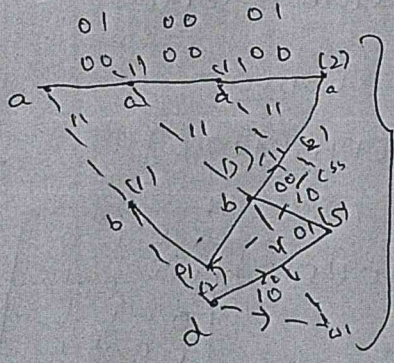
2nd message is 00:



steps:

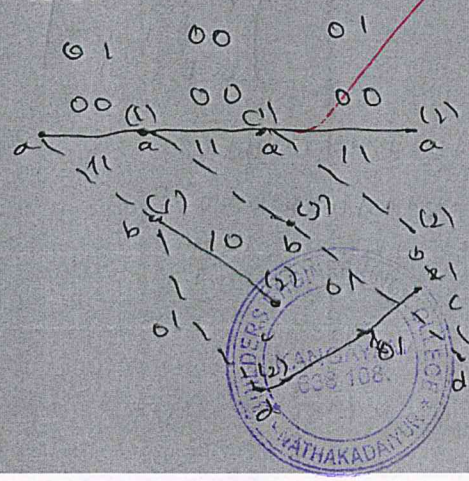
3rd message is 01

increment the level 'i' by '2'

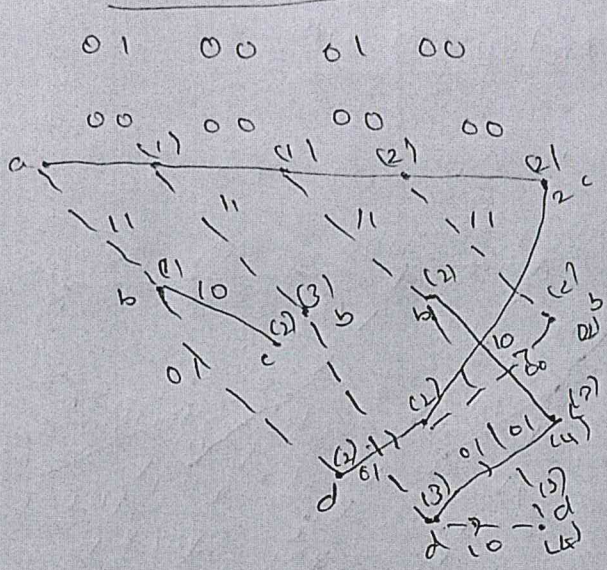


each node consists of two paths - so we have to find out survivors.
[follow the min metric value path & discard more metric in a node]

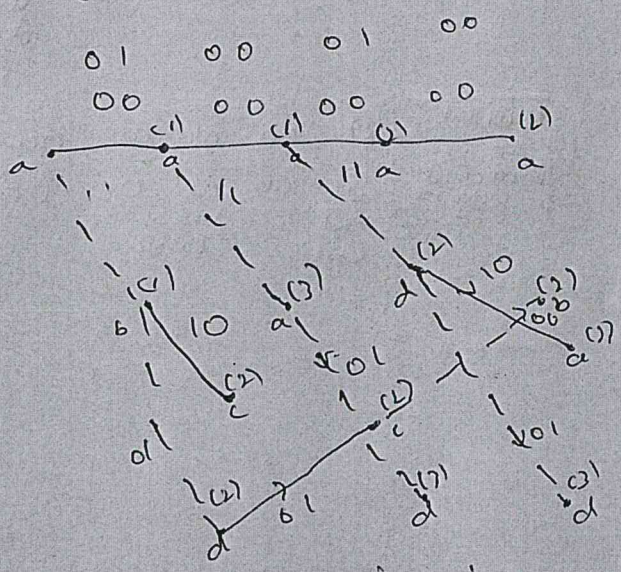
step 4: survivors path:



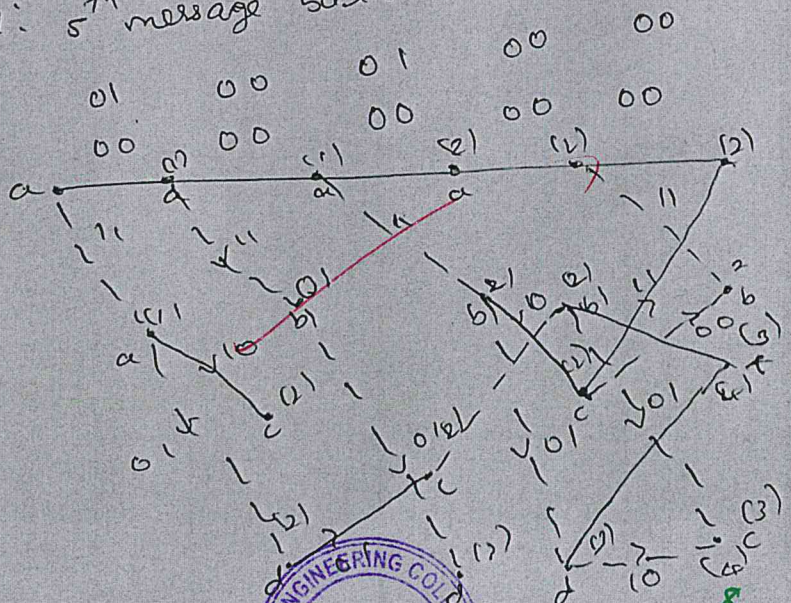
step5: 4th message bit is 00:



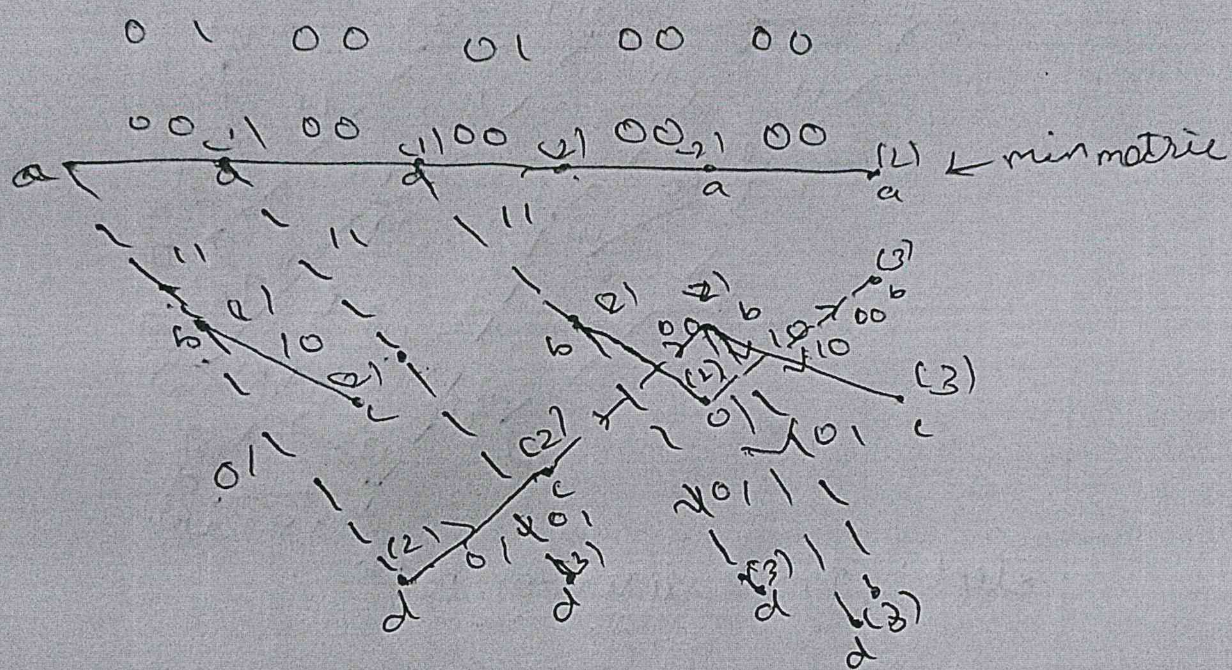
step6: Find survivor path:



step7: 5th message bit is 00:



step 8: <u>And survivor path:</u>

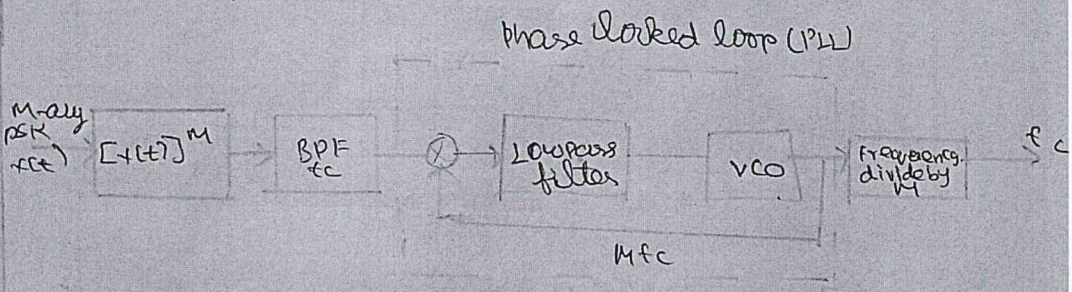


Received seq is	01	00	01	00	00
corrected seq is	00	00	00	00	00
	in error		in error		

3. Carrier synchronization:

- The carrier synchronization is required in coherent detection method to generate a coherent reference at the receiver.
- The data bearing signal is modulated on the carrier in such a way that the power spectrum of the modulated carrier signal contains a discrete component at the carrier frequency.

Carrier synchronization using M^{th} power loop:



- This circuit is called the M^{th} power loop.
- When M=2, then it is called squaring loop.
- When M=2, then M-ary PSK is called as binary PSK.
- The output frequency of VCO is divided by M.
- This is done because the M^{th} power of the i/p signal multiplies carrier frequency by M.

Costas loop for carrier synchronization:

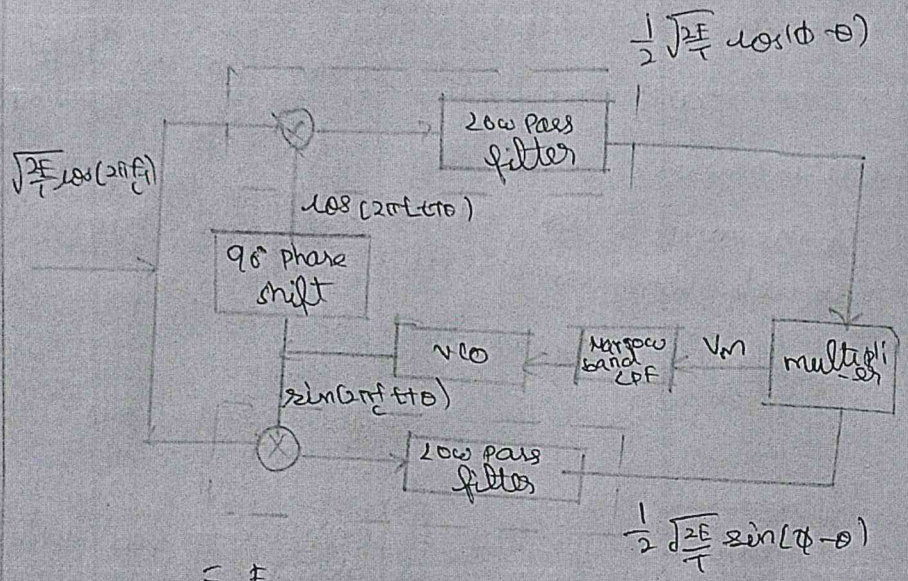
- This is the alternative method for carrier synchronization.
- This is used for binary phase shift keying.
- There are 2 phase locked loops.
- They have a common VCO and seperate phase comparator.

$\frac{1}{2}\sqrt{\frac{2P}{T}}\cos(\phi-\theta)$ and $\frac{1}{2}\sqrt{\frac{2P}{T}}\sin(\phi-\theta)$.

∴ The multiplier O/P is

$$V_m = \frac{1}{4} \cdot \frac{2E}{T} \sin(\phi-\theta)\cos(\phi-\theta)$$

$$= \frac{E}{2T} \cdot \frac{1}{2} \sin 2(\phi-\theta)$$



$$= \frac{E}{4T} \sin 2(\phi-\theta)$$

The power P of the signal over the period T is given by

$$P = \frac{E}{T}$$

$$V_m = \frac{P}{4} \sin 2(\phi-\theta)$$

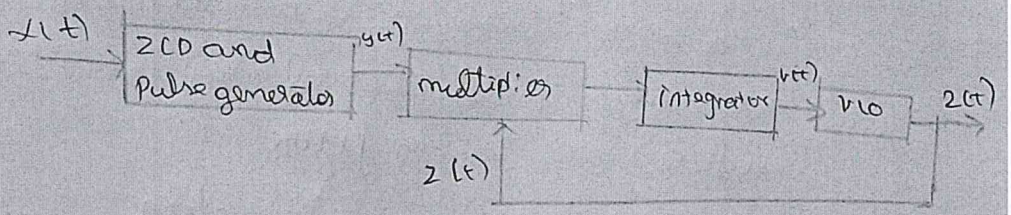
- The change in $(\phi-\theta)$ causes V_m to increase or decrease VCO frequency such that synchronization is maintained.

Bit and symbol synchronization:

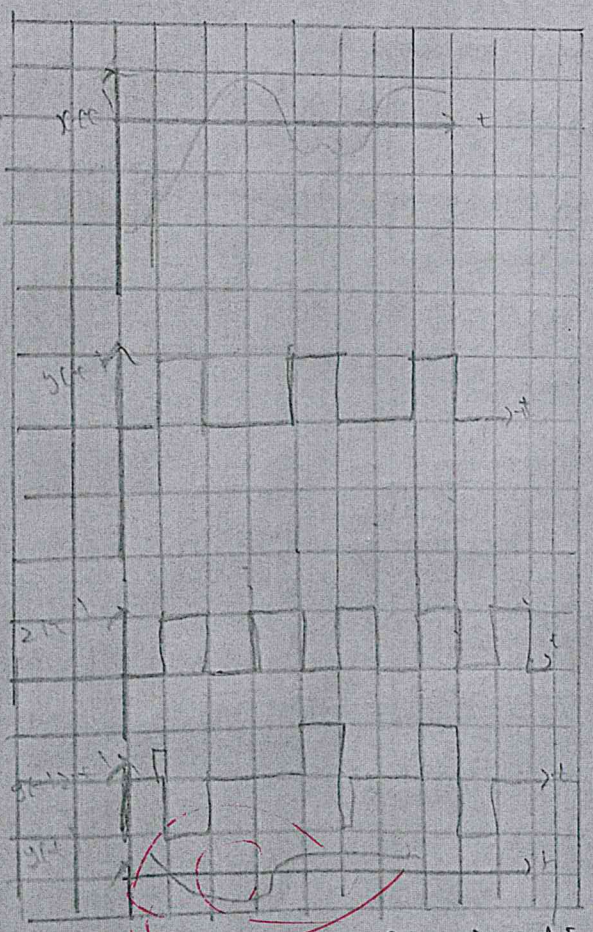
- W.K.T in a matched filter or correlation receiver, the incoming signal is sampled at the end of one bit or symbol duration.
- This is because W.K.T the O/P of matched filter is maximum at $t_m = T$. T is symbol or bit duration.
- Therefore the receiver has to know the instants of time at which a symbol or bit is transmitted.

Closed loop bit synchronization :

- The feedback loop provides a more reliable synchronization.



- When the baseband signal crosses zero the o/p of zero crossing detector is rectangular pulse of half bit duration i.e $T_b/2$



- When there is synchronization be an offset of $T_b/4$, the loop reaches in steady state and control voltage v(t) remains fixed.
- The recovered clock signal z(t) remains locked with an offset of $T_b/4$.

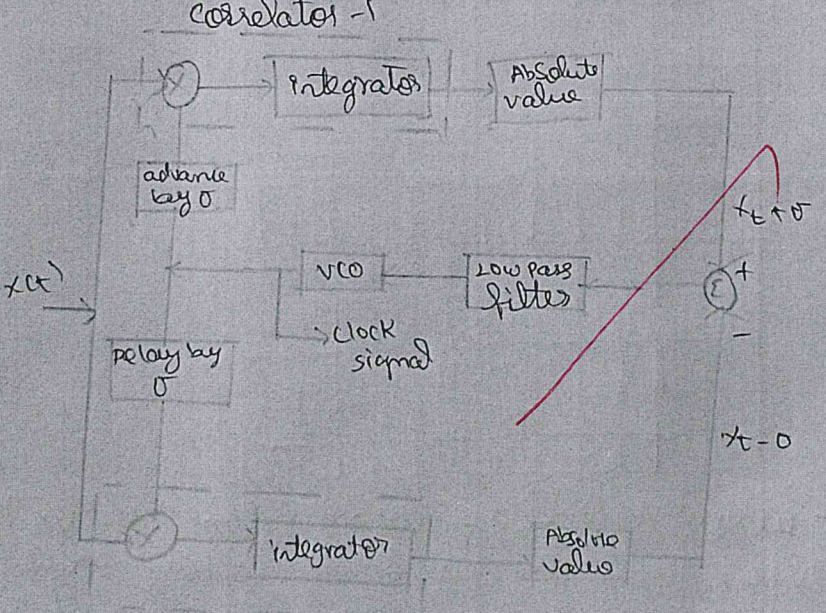
Dis advantages:

- if there is a long string of 1's or 0's then x(t) has no zero crossings and synchronization may be lost.
- if zero crossing of x(t) are not placed at integer multiplies of T_b, the synchronization suffers from Timing jitter.

Early-late gate synchronization:

Principle: The two correlators receive the signal. one correlator receives early and other receives late. The difference of the o/p of two correlators is used to drive VCO.

- The o/p of VCO is corrected clock signal.
- The o/p of VCO is advanced by σ and given to correlator -1.
- The o/p of VCO is delayed by σ and given to correlator -2.



- The absolute values of two correlators are given to the subtractor. The difference of these absolute values of correlators is low pass filtered, it becomes correct signal for VCO.

• if the clock is slightly advanced, then x_L goes to $t_L - D$. This reduces the error signal and hence delays the VCO phase. This in turn slows down the clock signal.

Advantages:

- no zero crossings are required.
- synchronization is more accurate.

Disadvantages:

- integrators are not perfect
- delay / advance of clock is not accurate.

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MODEL PRACTICAL

Name: Kanjana.k
Reg.NO: 730319104016
Lab: DBMS Lab.
Date: 03.02.2021

1). Data base Programming: Implicit and Explicit cursors.

Aim:

To implement Implicit and Explicit cursors using database programming.

Algorithm:

* First declare the cursor object.
* Next open cursor connection.
* Fetch the data in the table from cursor.
* Then close the cursor connection.
* Finally deallocate cursor memory.

Procedure:

Implicit cursor:

```
Select * from customers;
```

ID	NAME	AGE	ADDRESS	SALARY
1	John	32	Karnataka	20000.0
2	David	20	Delhi	15000.0

```
SQL>DECLARE
2 total_rows number(2);
3 BEGIN
4 UPDATE customers
```

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```
5 SET salary = salary + 500
6 IF sql%notfound THEN
7     dbms_output.put_line('no customers selected');
8 ELSIF sql%found THEN
9     total_rows := sql%rowcount
10 dbms_output.put_line(total_rows || ' customers selected');
11 END IF;
12 END;
/
2 customers selected.

PL/SQL procedure successfully completed.
```

Select * from customers

ID	NAME	AGE	ADDRESS	SALARY
1	John	32	Karnataka	20000.0
2	David	20	Delhi	15000.0

Explicit cursors

Syntax:

```
CURSOR cursor_name IS select_statement;
```

Declaring the cursor

```
CURSOR c_customers IS SELECT id, name, address FROM customers
```

Opening the cursor

```
Open c_customers;
```

Fetching the cursor

```
FETCH c_customers INTO c_id, c_name, c_addrs
```

closing the cursor

```
CLOSE c_customers;
```

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```
SQL>DECLARE
    c_id customers.id%type;
    c_name customers.No.ame%type;
    c_addr customers.address%.type;
CURSOR c_customers.is
    SELECT id,name,address FROM customers;
BEGIN
    OPEN c_customers;
LOOP
    FETCH c_customers into c_id, c_name, c_addr;
END LOOP
CLOSE c_customers;
END;
```

Output:

```
1 John Karnataka
2 David Delhi
```

Result:

The PL/SQL procedure executed and verified Successfully.

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2. Exception Handling

Aim:

To implement the Exception handling using PL/SQL queries.

Algorithm:

* First declare & begin the table values.
* Then start the exception handling.
* It shows the name and address of a customer whose ID is given.
* Sometimes the ID is not matched, it will show NO_DATA_FOUND.

Procedure:

NO-DATA-FOUND EXCEPTION.

SQL> create table phonebook (Phone_no number(10) primary key, username varchar(14), doorno varchar(8), Street varchar(34) Place varchar(30), Pincode number(8));
Table created.

SQL> select * from phonebook;

PHONE_NO	USERNAME	DOORNO	STREET	PLACE	PINCODE
2767375	akshay	101/9a	southstreet	trichy	620003
20314	vijay	130/6D	north street	thanjavur	632005

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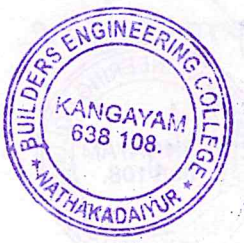
```
SQL>create or replace function findaddress(Phone in number)
return varchar as address varchar(100);
  begin
  select username||', '||doorno||', '||street||', '||place||', '||
                                        pincode into address from
                                                        phonebook.
  where phone_no=phone;
  return address;
  exception.
  when no_data_found then return 'address not found';
  end;
  /
  Function created.

SQL> declare
address varchar(100);
begin
address:=findaddress.(2761375);
dbms_output.put_line (address);
end;
/
akshay, 101/9a SouthStreet, trichy 620003.

SQL>declare
 address varchar(100);
 begin
 address:=findaddress(230612);
 dbms_output.put_line(address);
 end;
 /
```



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Output:

address not found.

Result:

The PL/SQL procedure has been executed and verified successfully.

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

PROJECT WORK (2020-21) - Batch details

S.No.	BATCH NO.	REGISTRATION NO. OF THE STUDENT	NAME OF THE STUDENT	TITLE OF THE PROJECT WORK	NAME OF THE SUPERVISOR
1	1	730317106005	DHIVYA SRI S	AN AUTONOMOUS HELMET- BIKE WITH ALCOHOLIC DRIVE CURTAILMENT	Mr. T. VELMURUGAN, AP/ECE
2		730317106022	PAVITHRA V		
3		730317106301	GUHAN M		
4	2	730317106012	JEEVASREE K S	AN EFFICIENT FINGER VEIN AUTHENTICATION METHOD TO PREVENT PRESENTATION ATTACK	Mr. U. RAJASEKARAN, AP/ECE
5		730317106028	SRIDHAR A		
6		730317106030	YUKESH R		
7	3	730317106011	JAYAVIGNESH R L	FOOD IDENTIFICATION AND CALORIE COMPUTATION USING DECISION TREE ALGORITHM	Mrs. G. SOUNDARYA, AP/ECE
8		730317106027	SANTHOSH KUMAR M P		
9		730317106701	GAYATHRI DEVI J		
10	4	730317106002	BARANI V J	MANHOLE DETECTION USING IMAGE PROCESSING AND ALARMING THROUGH MOBILE APPLICATION	Mr. V. KUMAR, AP/ECE
11		730317106017	MADHUMATHI R		
12		730317106018	MUTHU VIGNESH B		
13	5	730317106001	ABITHA G	TRACK AND RESCUE SYSTEM OF DEMENTIA PATIENTS USING LoRa MODULE	Mr. M. SHANMUGHAM, AP/ECE
14		730317106003	BHARATHI V		
15		730317106007	GNANAPRAKASH R		
16	6	730317106016	KOWSALYA M	SMART SURVEILLANCE ROVER FOR MILITARY APPLICATIONS	Mrs. G. VIJAYAKUMARI, AP/ECE
17		730317106019	NAGARAJAN C		
18		730317106023	POOVAZHAGAN A		
19	7	730317106013	JOTHIKKA L	EFFICIENT DATA COLLECTION BY USING AODV PROTOCOL IN WSN	Mr. R. PRAVEEN KUMAR, AP/ECE
20		730317106014	KALPANA P		
21		730317106024	PRABHAKARAN B		
22	8	730317106004	DEEPAN M	LOW POWER MANTISSA MULTIPLIER DESIGN IN POSIT MULTIPLIER	Mr. M. PRAKASH, AP/ECE
23		730317106020	NANDHINI R		
24		730317106021	NIVEDHA M		
25	9	730317106010	HARIPRIYA A	OBSERVATION OF SOLAR SYSTEM DIRECTION AND APPLIANCES IN HOME THROUGH IoT	Mr. S. MAHENDRAN, AP/ECE
26		730317106025	ROHITH S		
27		730317106026	SAHAYA CAROLINE J		

Faculty Incharge

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Subject Code / Name: EC8811 / PROJECT WORK
Year/Semester: IV/VIII
Review No. : 0
Date: 15.12.2020

S. NO.	BATCH NO.	REGISTRATION NUMBER	NAME OF THE STUDENT	TITLE OF THE PROJECT WORK	PPT (10)	PRESENTATION (10)	ATTENDANCE (5)	TOTAL (25)
1	1	730317106005	DHIVYA SRI S	AN AUTONOMOUS HELMET- BIKE WITH ALCOHOLIC DRIVE CURTAILMENT	10	9	5	24
2		730317106022	PAVITHRA V		10	9	5	24
3		730317106301	GUHAN M		10	6	4	20
4	2	730317106012	JEEVASREE K S	AN EFFICIENT FINGER VEIN AUTHENTICATION METHOD TO PREVENT PRESENTATION ATTACK	10	8	5	23
5		730317106028	SRIDHAR A		10	9	5	24
6		730317106030	YUKESH R		10	6	5	21
7	3	730317106011	JAYAVIGNESH R L	FOOD IDENTIFICATION AND CALORIE COMPUTATION USING DECISION TREE ALGORITHM	10	8	5	23
8		730317106027	SANTHOSH KUMAR M P		10	8	4	22
9		730317106701	GAYATHRI DEVI J		10	9	5	24
10	4	730317106002	BARANI V J	MANHOLE DETECTION USING IMAGE PROCESSING AND ALARMING THROUGH MOBILE APPLICATION	10	6	3	19
11		730317106017	MADHUMATHI R		10	8	5	23
12		730317106018	MUTHU VIGNESH B		10	9	5	24
13	5	730317106001	ABITHA G	TRACK AND RESCUE SYSTEM OF DEMENTIA PATIENTS USING LoRa MODULE	10	8	5	23
14		730317106003	BHARATHI V		10	8	5	23
15		730317106007	GNANAPRAKASH R		10	9	5	24
16	6	730317106016	KOWSALYA M	SMART SURVEILLANCE ROVER FOR MILITARY APPLICATIONS	10	9	5	24
17		730317106019	NAGARAJAN C		10	8	5	23
18		730317106023	POOVAZHAGAN A		10	6	4	20
19	7	730317106013	JOTHIKKA L	EFFICIENT DATA COLLECTION BY USING AODV PROTOCOL IN WSN	10	8	4	22
20		730317106014	KALPANA P		10	9	5	24
21		730317106024	PRABHAKARAN B		10	6	5	21
22	8	730317106004	DEEPAN M	LOW POWER MANTISSA MULTIPLIER DESIGN IN POSIT MULTIPLIER	10	6	3	19
23		730317106020	NANDHINI R		10	9	5	24
24		730317106021	NIVEDHA M		10	9	5	24
25	9	730317106010	HARIPRIYA A	OBSERVATION OF SOLAR SYSTEM DIRECTION AND APPLIANCES IN HOME THROUGH IoT	10	9	5	24
26		730317106025	ROHITH S		10	7	4	21
27		730317106026	SAHAYA CAROLINE J		10	7	4	21

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Subject Code / Name: EC8811 / PROJECT WORK
Year/Semester: IV/VIII
Review No. : 1
Date: 21.01.2021

S. NO.	BATCH NO.	REGISTRATION NUMBER	NAME OF THE STUDENT	TITLE OF THE PROJECT WORK	PPT (10)	PRESENTATION (10)	ATTENDANCE (5)	TOTAL (25)
1	1	730317106005	DHIVYA SRI S	AN AUTONOMOUS HELMET- BIKE WITH ALCOHOLIC DRIVE CURTAILMENT	10	9	5	24
2		730317106022	PAVITHRA V		10	9	5	24
3		730317106301	GUHAN M		10	7	4	21
4	2	730317106012	JEEVASREE K S	AN EFFICIENT FINGER VEIN AUTHENTICATION METHOD TO PREVENT PRESENTATION ATTACK	10	9	5	24
5		730317106028	SRIDHAR A		10	9	5	24
6		730317106030	YUKESH R		10	8	5	23
7	3	730317106011	JAYAVIGNESH R L	FOOD IDENTIFICATION AND CALORIE COMPUTATION USING DECISION TREE ALGORITHM	10	9	5	24
8		730317106027	SANTHOSH KUMAR M P		10	8	4	22
9		730317106701	GAYATHRI DEVI J		10	9	5	24
10	4	730317106002	BARANI V J	MANHOLE DETECTION USING IMAGE PROCESSING AND ALARMING THROUGH MOBILE APPLICATION	10	6	3	19
11		730317106017	MADHUMATHI R		10	8	5	23
12		730317106018	MUTHU VIGNESH B		10	9	5	24
13	5	730317106001	ABITHA G	TRACK AND RESCUE SYSTEM OF DEMENTIA PATIENTS USING LoRa MODULE	10	9	5	24
14		730317106003	BHARATHI V		10	8	5	23
15		730317106007	GNANAPRAKASH R		10	9	5	24
16	6	730317106016	KOWSALYA M	SMART SURVEILLANCE ROVER FOR MILITARY APPLICATIONS	10	9	5	24
17		730317106019	NAGARAJAN C		10	9	5	24
18		730317106023	POOVAZHAGAN A		10	7	5	22
19	7	730317106013	JOTHIKKA L	EFFICIENT DATA COLLECTION BY USING AODV PROTOCOL IN WSN	10	8	5	23
20		730317106014	KALPANA P		10	9	5	24
21		730317106024	PRABHAKARAN B		10	7	4	21
22	8	730317106004	DEEPAN M	LOW POWER MANTISSA MULTIPLIER DESIGN IN POSIT MULTIPLIER	10	7	5	22
23		730317106020	NANDHINI R		10	9	5	24
24		730317106021	NIVEDHA M		10	9	5	24
25	9	730317106010	HARIPRIYA A	OBSERVATION OF SOLAR SYSTEM DIRECTION AND APPLIANCES IN HOME THROUGH IoT	10	9	5	24
26		730317106025	ROHITH S		10	7	4	21
27		730317106026	SAHAYA CAROLINE J		10	8	5	23

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Subject Code / Name: EC8811 / PROJECT WORK
Year/Semester: IV/VIII
Review No. : 2
Date: 26.02.2021

S. NO.	BATCH NO.	REGISTRATION NUMBER	NAME OF THE STUDENT	TITLE OF THE PROJECT WORK	PPT (10)	PRESENTATION (10)	ATTENDANCE (5)	TOTAL (25)
1	1	730317106005	DHIVYA SRI S	AN AUTONOMOUS HELMET- BIKE WITH ALCOHOLIC DRIVE CURTAILMENT	10	9	5	24
2		730317106022	PAVITHRA V		10	9	5	24
3		730317106301	GUHAN M		10	7	3	20
4	2	730317106012	JEEVASREE K S	AN EFFICIENT FINGER VEIN AUTHENTICATION METHOD TO PREVENT PRESENTATION ATTACK	10	8	4	22
5		730317106028	SRIDHAR A		10	9	5	24
6		730317106030	YUKESH R		10	6	3	19
7	3	730317106011	JAYAVIGNESH R L	FOOD IDENTIFICATION AND CALORIE COMPUTATION USING DECISION TREE ALGORITHM	10	8	5	23
8		730317106027	SANTHOSH KUMAR M P		10	7	3	20
9		730317106701	GAYATHRI DEVI J		10	9	5	24
10	4	730317106002	BARANI V J	MANHOLE DETECTION USING IMAGE PROCESSING AND ALARMING THROUGH MOBILE APPLICATION	10	5	3	18
11		730317106017	MADHUMATHI R		10	8	5	23
12		730317106018	MUTHU VIGNESH B		10	9	5	24
13	5	730317106001	ABITHA G	TRACK AND RESCUE SYSTEM OF DEMENTIA PATIENTS USING LoRa MODULE	10	8	5	23
14		730317106003	BHARATHI V		10	7	4	21
15		730317106007	GNANAPRAKASH R		10	8	4	22
16	6	730317106016	KOWSALYA M	SMART SURVEILLANCE ROVER FOR MILITARY APPLICATIONS	10	9	5	24
17		730317106019	NAGARAJAN C		10	8	4	22
18		730317106023	POOVAZHAGAN A		10	6	3	19
19	7	730317106013	JOTHIKKA L	EFFICIENT DATA COLLECTION BY USING AODV PROTOCOL IN WSN	10	7	4	21
20		730317106014	KALPANA P		10	9	5	24
21		730317106024	PRABHAKARAN B		10	5	3	18
22	8	730317106004	DEEPAN M	LOW POWER MANTISSA MULTIPLIER DESIGN IN POSIT MULTIPLIER	10	5	3	18
23		730317106020	NANDHINI R		10	8	5	23
24		730317106021	NIVEDHA M		10	9	5	24
25	9	730317106010	HARIPRIYA A	OBSERVATION OF SOLAR SYSTEM DIRECTION AND APPLIANCES IN HOME THROUGH IoT	10	9	5	24
26		730317106025	ROHITH S		10	5	3	18
27		730317106026	SAHAYA CAROLINE J		10	6	3	19

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Subject Code / Name: EC8811 / PROJECT WORK
Year/Semester: IV/VIII
Review No. : 3
Date: 08.04.2021

S. NO.	BATCH NO.	REGISTRATION NUMBER	NAME OF THE STUDENT	TITLE OF THE PROJECT WORK	PPT (10)	PRESENTATION (10)	ATTENDANCE (5)	TOTAL (25)
1	1	730317106005	DHIVYA SRI S	AN AUTONOMOUS HELMET- BIKE WITH ALCOHOLIC DRIVE CURTAILMENT	10	10	5	25
2		730317106022	PAVITHRA V		10	10	5	25
3		730317106301	GUHAN M		10	7	5	22
4	2	730317106012	JEEVASREE K S	AN EFFICIENT FINGER VEIN AUTHENTICATION METHOD TO PREVENT PRESENTATION ATTACK	10	9	5	24
5		730317106028	SRIDHAR A		10	10	5	25
6		730317106030	YUKESH R		10	7	5	22
7	3	730317106011	JAYAVIGNESH R L	FOOD IDENTIFICATION AND CALORIE COMPUTATION USING DECISION TREE ALGORITHM	10	8	5	23
8		730317106027	SANTHOSH KUMAR M P		10	8	5	23
9		730317106701	GAYATHRI DEVI J		10	10	5	25
10	4	730317106002	BARANI V J	MANHOLE DETECTION USING IMAGE PROCESSING AND ALARMING THROUGH MOBILE APPLICATION	10	7	4	21
11		730317106017	MADHUMATHI R		10	9	5	24
12		730317106018	MUTHU VIGNESH B		10	10	5	25
13	5	730317106001	ABITHA G	TRACK AND RESCUE SYSTEM OF DEMENTIA PATIENTS USING LoRa MODULE	10	8	5	23
14		730317106003	BHARATHI V		10	8	5	23
15		730317106007	GNANAPRAKASH R		10	9	5	24
16	6	730317106016	KOWSALYA M	SMART SURVEILLANCE ROVER FOR MILITARY APPLICATIONS	10	10	5	25
17		730317106019	NAGARAJAN C		10	9	5	24
18		730317106023	POOVAZHAGAN A		10	7	5	22
19	7	730317106013	JOTHIKKA L	EFFICIENT DATA COLLECTION BY USING AODV PROTOCOL IN WSN	10	8	5	23
20		730317106014	KALPANA P		10	10	5	25
21		730317106024	PRABHAKARAN B		10	7	5	22
22	8	730317106004	DEEPAN M	LOW POWER MANTISSA MULTIPLIER DESIGN IN POSIT MULTIPLIER	10	7	5	22
23		730317106020	NANDHINI R		10	9	5	24
24		730317106021	NIVEDHA M		10	9	5	24
25	9	730317106010	HARIPRIYA A	OBSERVATION OF SOLAR SYSTEM DIRECTION AND APPLIANCES IN HOME THROUGH IoT	10	10	5	25
26		730317106025	ROHITH S		10	7	5	22
27		730317106026	SAHAYA CAROLINE J		10	8	5	23

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Subject Code / Name: EC8811 / PROJECT WORK

Year/Semester: IV/VIII

S. NO.	BATCH NO.	REGISTRATION NUMBER	NAME OF THE STUDENT	TITLE OF THE PROJECT WORK	ZEROTH REVIEW	FIRST REVIEW	SECOND REVIEW	THIRD REVIEW	TOTAL (100)
1	1	730317106005	DHIVYA SRI S	AN AUTONOMOUS HELMET- BIKE WITH ALCOHOLIC DRIVE CURTAILMENT	24	24	24	25	97
2		730317106022	PAVITHRA V		24	24	24	25	97
3		730317106301	GUHAN M		20	21	20	22	83
4	2	730317106012	JEEVASREE K S	AN EFFICIENT FINGER VEIN AUTHENTICATION METHOD TO PREVENT PRESENTATION ATTACK	23	24	22	24	93
5		730317106028	SRIDHAR A		24	24	24	25	97
6		730317106030	YUKESH R		21	23	19	22	85
7	3	730317106011	JAYAVIGNESH R L	FOOD IDENTIFICATION AND CALORIE COMPUTATION USING DECISION TREE ALGORITHM	23	24	23	23	93
8		730317106027	SANTHOSH KUMAR M P		22	22	20	23	87
9		730317106701	GAYATHRI DEVI J		24	24	24	25	97
10	4	730317106002	BARANI V J	MANHOLE DETECTION USING IMAGE PROCESSING AND ALARMING THROUGH MOBILE APPLICATION	19	19	18	21	77
11		730317106017	MADHUMATHI R		23	23	23	24	93
12		730317106018	MUTHU VIGNESH B		24	24	24	25	97
13	5	730317106001	ABITHA G	TRACK AND RESCUE SYSTEM OF DEMENTIA PATIENTS USING LoRa MODULE	23	24	23	23	93
14		730317106003	BHARATHI V		23	23	21	23	90
15		730317106007	GNANAPRAKASH R		24	24	22	24	94
16	6	730317106016	KOWSALYA M	SMART SURVEILLANCE ROVER FOR MILITARY APPLICATIONS	24	24	24	25	97
17		730317106019	NAGARAJAN C		23	24	22	24	93
18		730317106023	POOVAZHAGAN A		20	22	19	22	83
19	7	730317106013	JOTHIKKA L	EFFICIENT DATA COLLECTION BY USING AODV PROTOCOL IN WSN	22	23	21	23	89
20		730317106014	KALPANA P		24	24	24	25	97
21		730317106024	PRABHAKARAN B		21	21	18	22	82
22	8	730317106004	DEEPAN M	LOW POWER MANTISSA MULTIPLIER DESIGN IN POSIT MULTIPLIER	19	22	18	22	81
23		730317106020	NANDHINI R		24	24	23	24	95
24		730317106021	NIVEDHA M		24	24	24	24	96
25	9	730317106010	HARIPRIYA A	OBSERVATION OF SOLAR SYSTEM DIRECTION AND APPLIANCES IN HOME THROUGH IoT	24	24	24	25	97
26		730317106025	ROHITH S		21	21	18	22	82
27		730317106026	SAHAYA CAROLINE J		21	23	19	23	86

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BEC\MBA\Class Committee\Circular\2020-21 (Odd)\01

09/12/2020

The First Class committee Meeting of I MBA will be held on 15/12/2020 by Virtual Mode (Google Meet) at 1.00PM. All the Members are requested to attend the meeting without fail.

Class-Advisor **HoD**

Copy submitted to the Principal

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- fom@builderscollege.edu.in
- Principal@builderscollege.edu.in
- I MBA Whatsapp Group

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Nathakadaiyur, Kangayam - 638 108, Tirupur Dt.

Minutes of the Meeting

Name of the Meeting : Class Committee – I MBA
Period of Review : Commencement of Class
Date of meeting : 15/12/2020
Members attended

Name	Designation	Signature
Dr G Suresh	Associate Professor	
Dr S Ravishankar	Assistant Professor	
Prof P Nalini	Assistant Professor	
Prof R.Sivakumar	Assistant Professor	
Prof K.Sivakumar	Assistant Professor	
Prof S.Nithya devi	Assistant Professor	
Atchaya M	Student - I MBA	
Monisha G	Student - I MBA	
Sivakesavan S	Student - I MBA	
Thamaraiselvan S	Student - I MBA	
Jayaprakash R	Student - I MBA	
Karthika T	Student - I MBA	

Decisions taken:

Points of Review	Decisions taken	Responsibility	Target date
Briefing of Class Committee Meeting HoD explained about the reasons for conducting Class Committee Meeting and the procedures for carrying out the meeting.			
Other issues discussed from faculty side: • Class Adviser requested students to install MS Team Application for future academic class; the Login ID and Password are circulated in the I MBA Whatsapp group. • Class Adviser instructed the students to be present for all the Academic class and they should on time		Prof R.Sivakumar	24/12/2020
Students requested the HoD to change the teaching pedagogy for SFM	Class advisor to look into this issue	Prof R.Sivakumar & Prof S Nithyadevi \	31/12/2020

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Students Requested the HoD to arrange session on soft skill Training	HoD informed that he will arrange the soft skill training Class	Dr.S Ravishankar	31/12/2020
HoD informed students about Value Added program for their First Semester. He informed Dr.GS and Prof.SR to Plan accordingly		Dr G Suresh and Dr.S Ravishankar	

Date : 15/12/2020

Prepared by: R.Sivakumar

Approved by

C.C.TO:

1. All Faculty members
2. Students of I MBA
3. Principal

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DEPARTMENT OF COMPUTER SCIENCE AD ENGINEERING

CLASS COMMITTEE MEETING CIRCULAR

Ref: BEC/FoE/ B.E /CSE/ IV YEAR/ VIII SEM. /CCM/20-21/001 **12.01.2021**

This is to inform that the Class Committee is constituted with the following members consisting of Student representatives and a Chairperson. The Class Committee will meet before or after each Internal Tests and discuss the problems experienced by students in the classroom and in the laboratories along with the respective faculty members.

CHAIRPERSON

K.RAVIKUMAR, AP-CSE

MEMBERS

1.	S.SARANYA (730317104029)	B.E/CSE/IV YEAR /VIII SEM
2.	G.SATHISH(730317104030)	B.E/CSE/IV YEAR /VIII SEM
3.	S.SATHIYA(730317104031)	B.E/CSE/IV YEAR /VIII SEM
4.	C.SOWMIYA (730317104032)	B.E/CSE/IV YEAR /VIII SEM
5.	R.SRINANDHINI (730317104033)	B.E/CSE/IV YEAR /VIII SEM

In addition, the Principal, HOD and the Class Advisor may be invited for the meeting which will be conducted as per the norms of Anna University, Chennai.

Chairperson **HoD** **Principal**

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Department of Computer Science and Engineering

MINUTES OF CLASS COMMITTEE MEETING

Held on Date: 13.01.2021 **Class/ Year/ Sem:** BE-CSE/ IV/ VIII

Members:

1. S.SARANYA (730317104029)
2. G.SATHISH(730317104030)
3. S.SATHIYA(730317104031)
4. C.SOWMIYA (730317104032)
5. R.SRINANDHINI (730317104033)

S. No.		SUBJECTS	POINTS DISCUSSED	FORWARDED TO	ACTION TAKEN / REMARKS
1.	a)	Professional Ethics In Engineering	Satisfied	-	-
	b)	Green Computing	Satisfied	-	-
	c)	Project Work	Satisfied	-	-
2.		Girls Restroom in ground floor "B" Block is not cleaned often		HOD	
3.		Cooler is not working in "B" block ground floor		HOD	

CHAIR PERSON **HOD-CSE** **PRINCIPAL**

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Faculty Signature:

S.NO	FACULTY NAME	SUBJECT NAME	SIGNATURE
1	Mr. K. RAVIKUMAR, AP-CSE	Professional Ethics In Engineering	
2	Mr. S. GOBINATH, AP-CSE	Green computing	
3	Mr. K. RAVIKUMAR, AP-CSE	Project Work	

Members Signature:

S.NO	COMMITEE MEMBER	SIGNATURE
1	S.SARANYA	
2	G.SATHISH	
3	S.SATHIYA	
4	C.SOWMIYA	
5	R.SRINANDHINI	

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Department of Mechanical Engineering

Date: 12/02/2021

Circular

The faculty members along with IQAC Coordinator and Placement Officer are requested to assemble for a meeting at 11:00 am on 15/02/2021 in MECH HoD Cabin.

Agenda:

1. Review of Anna University Curriculum and Syllabus
2. Review of gaps identified
3. Suggestions for Add on / Certificate course during academic Year 2020-2021
4. Suggestions to the bridge the gap

HoD / MECH

Copy to:

1. Principal
2. MECH Department faculty members
3. Placement Officer
4. IQAC Coordinator

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Department of Mechanical Engineering

Date: 15/02/2021

Minutes of Meeting

All the faculty members of MECH, IQAC coordinator and Placement officer were present in the meeting conducted on 15/02/2021 at MECH.HoD Cabin to finalize the add on course / Certificate course to be offered for the current academic year to bridge the gap identified in the Curriculum.

After analyzing the feedback received from various stakeholders like students, faculty, Alumni and Employers, the gap in the Curriculum prescribed by Anna University is identified. Further the discussion is held on selection of Add on course/Certificate course on par with the Standards of premier institutes and Industry expectations. Finalized the following add on courses/Certificate course for the Academic Year 2020-2021.

Details of Add on Courses/Certificate course:

S. No	Name of Add on Course	Year/ Semester	Total No of Hours	Date of Commencement	Faculty Coordinator
1	Product Design and Assembly on CATIA V6	IV/VII	35	22/02/2021	Mr. M. Mohanraju, AP/Mech
2	Fiber Reinforced Composite Materials	III/VI	35	22/02/2021	Dr. K. Sakthi Vadivel, ASP/Mech
3	Simulation & Analysis Using Ansys and MAT LAB	IV/VII	35	22/02/2021	Mr.M.Suresh, AP/Mech

The faculty members will be initiated at the earliest to design the curriculum for the specified Add on course / Certificate course after getting approval from the Principal.

HoD-MECH

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Department of Mechanical Engineering

From

Head of the Department
Mechanical Engineering
Builders Engineering College,
Kangeyam.

To

The Principal,
Builders Engineering College,
Kangeyam.

Respected Sir,

SUB: Permission for allocating faculty members for Add on course/Certificate Course-Reg.

The department meeting is convened on 15/02/2021 for finalizing the Add on course /Certificate Courses for the academic year 2020-2021. We along with IQAC coordinator and Placement Officer framed the following add-on course/Certificate Courses:

S.No	Name of Add on Course	Year/ Semester	Total No of Hours	Faculty Coordinator
1	Product Design and Assembly on CATIA V6	IV/VII	35	Mr. M. Mohanraju, AP/Mech
2	Fiber Reinforced Composite Materials	III/VI	35	Dr. K. Sakthi Vadivel AP/Mech
3	Simulation & Analysis Using Ansys and MAT LAB	IV/VII	35	Mr. M. Suresh, AP/Mech

I request you kindly to nominate the faculty members for designing the curriculum for the above mentioned add on/ Certificate Courses.

Thanking You,

Yours faithfully,

HoD-MECH

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Department of Mechanical Engineering

Certificate Course

1.	Academic Year	: 2020-2021
2.	Tile of the Course	: MEC1004 - Fiber Reinforced Composite Materials
3.	Objective of the Course	➢ Explain basic concepts of composite materials and application of composite material in various engineering fields. ➢ Describe various FRP processing. ➢ Describe selection, requirements for production and application of MMC. ➢ Explain students to various techniques used for MMC production. ➢ Describe concepts of nano-materials, nano technology and use of nano materials. ➢ Analyze micro mechanical properties of lamina using various approaches.
4.	Beneficiary	: Students
5.	Date and Duration of the Course	: 22/02/2021 to 13/03/2021 (35 Hours)
6.	Proposed Timing	: 04.30 pm to 06.30 pm **(2 hours per day)**
7.	No of Hours Required	: 35
8.	Internal Resources	: Dr K SAKTHI VADIVEL, AsP/MECH
9.	Internal Assessment	:Assessment (All Units)
10.	Course Registration Fees	:Nil
11.	Contents of Courses	:Enclosed Separately
12.	Credits and Certification	: Those who have 80 % of Attendance and scored 60 % of Assessment Marks
13.	Venue	: Online

COURSE COORDINATOR **HOD/MECH** **PRINCIPAL**

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Department of Mechanical Engineering

Circular

Ref: BEC/ Mech / Certificate Course / Circular / 2020-21/ 01 **16.02.2018**

The Department of Mechanical Engineering is planned to conduct a certificate course for third year Mechanical Engineering students. So it is informed to the students to enroll their names for the MEC1004 - Fiber Reinforced Composite Materials course which will held on this year. Students are asked to enroll their names to their respective class advisor on or before 18.02.2021. The course syllabus is attached.

Name of the Course : MEC1004 - Fiber Reinforced Composite Materials

Course Duration : 22/02/2021 to 13/03/2021 **(18 days)**

Time Duration : 04.30 pm to 06.30 pm **(2 hours per day)**

Subject Handling Faculty : Dr K. Sakthi Vadivel, AsP/Mech

Course Coordinator

K. Sakthi Vadivel, AP/Mech

HoD/Mech

Principal

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Department of Mechanical Engineering
CERTIFICATE COURSE

MEC1004 - Fiber Reinforced Composite Materials

Course Objective:

- Explain basic concepts of composite materials and application of composite material in various engineering fields.
- Describe various FRP processing.
- Describe selection, requirements for production and application of MMC.
- Explain students to various techniques used for MMC production.
- Describe concepts of nano-materials, nano technology and use of nano materials.
- Analyze micro mechanical properties of lamina using various approaches.

Course Outcomes:

- Describe basic concepts of composite materials and application of composite materials in various engineering fields.
- Describe various FRP processing.
- Describe selection, requirements for production and application of MMCs.
- Describe concepts of nano materials, nano technology and use of nano materials.
- Use various techniques used for MMCs production.
- Analyze micro mechanical properties of lamina using various approaches.

UNIT I INTRODUCTION& MANUFACTURING 7

Definition –Need – General Characteristics, Applications. Fibers – Glass, Carbon, Ceramic and Aramid fibers. Matrices – Polymer, Graphite, Ceramic and Metal Matrices – Characteristics of fibers and matrices. Lamina Constitutive Equations. Manufacturing: Bag Moulding – Compression Moulding – Pultrusion – Filament Winding – Other Manufacturing Processes.

UNIT II FLAT PLATE LAMINATE CONSTITUTE EQUATIONS 7

Definition of stress and Moment Resultants. Strain Displacement relations. Basic Assumptions of Laminated anisotropic plates. Laminate Constitutive Equations – Coupling Interactions, Balanced Laminates, Symmetric Laminates, Angle Ply Laminates, Cross Ply Laminates. Laminate Structural Moduli. Evaluation of Lamina Properties from Laminate Tests. Quasi Isotropic Laminates. Determination of Lamina stresses within Laminates.

UNIT III METAL MATRIX COMPOSITES 7

Metal Matrix Composites: Reinforcement materials, types, characteristics and selection base metals, Need for production, MMC's and its application. Fabrication Process for MMCs: Powder metallurgy technique and its application, liquid metallurgy technique and its application and secondary processing, special fabrication.

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UNIT IV THERMAL ANALYSIS 7

Assumption of Constant C.T.E's. Modification of Hooke's Law. Modification of Laminate Constitutive Equations. Orthotropic Lamina C.T.E's. C.T.E's for special Laminate Configurations – Unidirectional, Off-axis, Symmetric Balanced Laminates, Zero C.T.E laminates, Thermally Quasi-Isotropic Laminates.

UNIT V ANALYSIS OF LAMINATED FLAT PLATES 7

Equilibrium Equations of Motion. Energy Formulations. Static Bending Analysis. Buckling Analysis. Free Vibrations – Natural Frequencies.

TOTAL: 35 PERIODS

REFERENCES:

1. Gibson, R.F., Principles of Composite Material Mechanics, McGraw-Hill, 1994, Second Edition - CRC press in progress.
2. Mallick, P.K., Fiber –"Reinforced Composites: Materials, Manufacturing and Design", Maneel Dekker Inc, 1993
3. Agarwal, B.D., and Broutman L.J., "Analysis and Performance of Fiber Composites", John Wiley and Sons, New York, 1990.
4. Mallick, P.K. and Newman, S., (edition), "Composite Materials Technology: Processes and Properties", Hansen Publisher, Munish, 1990.

Prepared By	Verified By	Approved by	Principal
Dr. K. Sakthi Vadivel,			
AsP/Mech			

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Department of Mechanical Engineering

Certificate Course: MEC1004 - Fiber Reinforced Composite Materials			
Name of the Certificate Course	**Composite Materials for Automobiles**	**Name of the Handling Faculty**	Dr. K. Sakthi Vadivel, AsP/Mech

Course Objective

- To understand the fundamentals of composite material strength and its mechanical behavior Understanding the analysis of fiber reinforced Laminate design for different
- Combinations of plies with different orientations of the fiber.
- Thermo-mechanical behavior and study of residual stresses in Laminates during processing. Implementation of Classical Laminate Theory (CLT) to study and analysis for residual stresses in an isotropic layered structure such as electronic chips.

Learning Outcomes

- Summarize the various types of Fibers, Equations and manufacturing methods for Composite materials
- Derive Flat plate Laminate equations
- Analyze Lamina strength
- Analyze the thermal behavior of Composite laminates
- Analyze Laminate flat plates

Lesson Plan for Certificate Course

SI. No	Topic	T / R* Book	Periods Required	Mode of Teaching
UNIT 1 INTRODUCTION & MANUFACTURING				
1.	Definition –Need – General Characteristics, Applications.	R1, R4	1	PPT
2.	Fibers – Glass, Carbon, Ceramic and Aramid fibers.	R1	1	PPT
3.	Matrices – Polymer, Graphite, Ceramic and Metal	R1	1	PPT
4.	Matrices – Characteristics of fibers and matrices. Lamina Constitutive Equations	R1	1	PPT
5.	Manufacturing: Bag Moulding	R1, R4	1	PPT
6.	Compression Moulding	R1	1	PPT

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7.	Pultrusion – Filament Winding, Other Manufacturing Processes.	R1	1	PPT
UNIT FLAT PLATE LAMINATE CONSTITUTE EQUATIONS				
8.	Definition of stress and Moment Resultants. Strain Displacement relations.	R1, R4	1	PPT
9.	Basic Assumptions of Laminated anisotropic plates.	R1	1	PPT
10.	Laminate Constitutive Equations – Coupling Interactions	R1	1	PPT
11.	Balanced Laminates, Symmetric Laminates, Angle Ply Laminates	R1	1	PPT
12.	Cross Ply Laminates. Laminate Structural Moduli.	R1	1	PPT
13.	Evaluation of Lamina Properties from Laminate Tests.	R1	1	PPT
14.	Quasi Isotropic Laminates. Determination of Lamina stresses within Laminates.	R1	1	PPT
UNIT 3 METAL MATRIX COMPOSITES				
15.	Metal Matrix Composites: Reinforcement materials	R2, R4	1	PPT
16.	Types, characteristics and selection base metals	R2	1	PPT
17.	Need for production, MMC's and its application.	R2	1	PPT
18.	Fabrication Process for MMCs: Powder metallurgy technique	R2	1	PPT
19.	Liquid metallurgy technique	R2	1	PPT
20.	Application	R2	1	PPT
21.	Secondary processing, Special fabrication.	R2	1	PPT
UNIT 4 THERMAL ANALYSIS				
22.	Assumption of Constant C.T.E's.	R3, R4	1	PPT
23.	Modification of Hooke's Law.	R3, R4	1	PPT

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24.	Modification of Laminate Constitutive Equations.	R3	1	PPT
25.	Orthotropic Lamina C.T.E's.	R3	1	PPT
26.	C.T.E's for special Laminate	R3	1	PPT
27.	Configurations, Unidirectional, Off-axis, Symmetric Balanced Laminates	R3	1	PPT
28.	Zero C.T.E laminates, Thermally Quasi-Isotropic Laminates.	R3	1	PPT
UNIT 5 ANALYSIS OF LAMINATED FLAT PLATES				
29.	Equilibrium Equations of Motion.	R3	1	PPT
30.	Equilibrium Equations of Motion.	R3	1	PPT
31.	Energy Formulations.	R3	1	PPT
32.	Static Bending Analysis.	R3	1	PPT
33.	Buckling Analysis.	R3	1	PPT
34.	Buckling Analysis.	R3	1	PPT
35.	Free Vibrations & Natural Frequencies.	R3	1	PPT

ASSESSMENT

R1: Gibson, R.F., Principles of Composite Material Mechanics, McGraw-Hill, 1994, Second Edition - CRC press in progress.

R2: Mallick, P.K., Fiber –"Reinforced Composites: Materials, Manufacturing and Design", Maneel Dekker Inc, 1993

R3: Agarwal, B.D., and Broutman L.J., "Analysis and Performance of Fiber Composites", John Wiley and Sons, New York, 1990.

R4: Mallick, P.K. and Newman, S., (edition), "Composite Materials Technology: Processes and Properties", Hansen Publisher, Munish, 1990.

Name & Signature of Faculty In charge: Dr. K. SAKTHI VADIVEL, AsP/MECH

Head of the Department :

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Department of Mechanical Engineering
List of Students Enrolled for Certificate course
MEC1004 - Fiber Reinforced Composite Materials

Academic Year: 2020-2021 **Batch 2018-2022**

Year: III/VI Semester

S.No	Roll No.	Name of the students
1.	18MEC001	ABIKANNAN L
2.	18MEC002	BASKAR E
3.	18MEC003	BHUVANESWARAN M
4.	18MEC004	DINESHKUMAR M
5.	18MEC005	JAYA KUMAR T
6.	18MEC006	KUMARAN G
7.	18MEC008	MEIYARASU E
8.	18MEC009	NARESH R
9.	18MEC011	NITHEESH E
10.	18MEC012	PRAKASH M
11.	18MEC013	PRASANTH KANNAN K
12.	18MEC014	SAKTHI SIVACHALAPATHY P
13.	18MEC015	SAKTHI VADIVEL P
14.	18MEC016	SHANMUGAM T
15.	18MEC017	SIVA SANKAR B
16.	18MEC018	SIVASANKARAN M
17.	18LMEC203	MOHAMED SYED ARAFATH M.E.H
18.	18LMEC204	VISHNUPREETHI B

Course Coordinator **HOD/MECH**

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Department of Mechanical Engineering

Certificate course – MEC1004 - Fiber Reinforced Composite Materials

Academic Year: 2020-2021 **Batch 2018-2022**

Year: III/VI Semester

S.No	Roll No.	Name of the students	22.02.21	23.02.21	24.02.21	25.02.21	26.02.21	27.02.21
1.	18MEC001	ABIKANNAN L	/	/	/	/	/	/
2.	18MEC002	BASKAR E	/	/	a	/	/	/
3.	18MEC003	BHUVANESWARAN M	/	/	/	/	/	/
4.	18MEC004	DINESHKUMAR M	/	/	/	/	/	/
5.	18MEC005	JAYA KUMAR T	/	/	/	/	/	/
6.	18MEC006	KUMARAN G	/	/	/	/	/	/
7.	18MEC008	MEIYARASU E	/	/	/	/	/	a
8.	18MEC009	NARESH R	/	/	/	/	/	/
9.	18MEC011	NITHEESH E	/	/	/	/	/	/
10.	18MEC012	PRAKASH M	/	/	/	/	/	/
11.	18MEC013	PRASANTH KANNAN K	/	/	/	/	/	/
12.	18MEC014	SAKTHI SIVACHALAPATHY P	/	/	/	/	/	/
13.	18MEC015	SAKTHI VADIVEL P	/	/	/	/	/	/
14.	18MEC016	SHANMUGAM T	/	/	/	a	/	/
15.	18MEC017	SIVA SANKAR B	/	/	/	/	/	/
16.	18MEC018	SIVASANKARAN M	/	/	/	/	/	/
17.	18LMEC203	MOHAMED SYED ARAFATH M.E.H	/	/	/	/	/	/
18.	18LMEC204	VISHNUPREETHI B	/	/	/	/	/	a

K.Q.
Course Coordinator

HOD/MECH

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Department of Mechanical Engineering

Certificate course – MEC1004 - Fiber Reinforced Composite Materials

Academic Year: 2020-2021 **Batch 2018-2022**

Year: III/VI Semester

S.No	Roll No.	Name of the students	01.03.21	02.03.21	03.03.21	04.03.21	05.03.21	06.03.21
1.	18MEC001	ABIKANNAN L	/	/	/	/	/	/
2.	18MEC002	BASKAR E	/	/	/	/	/	/
3.	18MEC003	BHUVANESWARAN M	/	/	/	9	/	/
4.	18MEC004	DINESHKUMAR M	/	/	/	/	/	/
5.	18MEC005	JAYA KUMAR T	/	/	/	/	/	/
6.	18MEC006	KUMARAN G	/	9	/	/	9	/
7.	18MEC008	MEIYARASU E	/	/	/	/	/	/
8.	18MEC009	NARESH R	/	/	/	/	/	/
9.	18MEC011	NITHEESH E	/	/	/	/	/	/
10.	18MEC012	PRAKASH M	/	/	/	/	/	/
11.	18MEC013	PRASANTH KANNAN K	/	/	/	/	/	/
12.	18MEC014	SAKTHI SIVACHALAPATHY P	/	/	/	/	/	/
13.	18MEC015	SAKTHI VADIVEL P	/	/	/	/	/	/
14.	18MEC016	SHANMUGAM T	/	/	/	/	/	/
15.	18MEC017	SIVA SANKAR B	/	/	/	/	/	/
16.	18MEC018	SIVASANKARAN M	/	/	/	/	/	/
17.	18LMEC203	MOHAMED SYED ARAFATH M.E.H	/	/	/	/	/	/
18.	18LMEC204	VISHNUPREETHI B	/	/	/	/	/	/

Course Coordinator

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Department of Mechanical Engineering

Certificate course – MEC1004 - Fiber Reinforced Composite Materials

Academic Year: 2020-2021 **Batch 2018-2022**

Year: III/VI Semester

S.No	Roll No.	Name of the students	08.03.21	09.03.21	10.03.21	11.03.21	12.03.21	13.03.21
1.	18MEC001	ABIKANNAN L						
2.	18MEC002	BASKAR E						
3.	18MEC003	BHUVANESWARAN M						
4.	18MEC004	DINESHKUMAR M						
5.	18MEC005	JAYA KUMAR T						
6.	18MEC006	KUMARAN G						
7.	18MEC008	MEIYARASU E						
8.	18MEC009	NARESH R						
9.	18MEC011	NITHEESH E						
10.	18MEC012	PRAKASH M						
11.	18MEC013	PRASANTH KANNAN K						
12.	18MEC014	SAKTHI SIVACHALAPATHY P						
13.	18MEC015	SAKTHI VADIVEL P						
14.	18MEC016	SHANMUGAM T						
15.	18MEC017	SIVA SANKAR B						
16.	18MEC018	SIVASANKARAN M						
17.	18LMEC203	MOHAMED SYED ARAFATH M.E.H						
18.	18LMEC204	VISHNUPREETHI B						

Course Coordinator

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Department of Mechanical Engineering

Certificate course – MEC1004 - Fiber Reinforced Composite Materials

Date: 13.03.2021 **Time: 0.45 Hrs**
Class: III YEAR MECH **Max. Marks: 25**

PART – A

Answer all the questions **25 * 1 = 25 Marks**

1. Usually softer constituent of a composite is
(a) Matrix (b) Reinforcement (c) Both are of equal strength (d) Can't define

2. Major load carrier in dispersion-strengthened composites
(a) Matrix (b) Fiber (c) Both (d) Can't define

3. Composite materials are classified based on:
(a) Type of matrix (b) Size-and-shape of reinforcement (c) Both (d) None

4. Usually stronger constituent of a composite is
(a) Matrix (b) Reinforcement (c) Both are of equal strength (d) Can't define

5. Last constituent to fail in fiber reinforced composites
(a) Matrix (b) Fiber (c) Both fails at same time (d) Can't define

6. Size range of dispersoids used in dispersion strengthened composites
(a) 0.01-0.1 μm (b) 0.01-0.1 nm (c) 0.01-0.1 mm (d) None

7. Rule-of-mixture provides _____ bounds for mechanical properties of particulate composites.
(a) Lower (b) Upper (c) Both (d) None

8. Al-alloys for engine/automobile parts are reinforced to increase their
(a) Strength (b) Wear resistance (c) Elastic modulus (d) Density

9. Mechanical properties of fiber-reinforced composites depend on
(a) Properties of constituents (b) Interface strength (c) Fiber length, orientation, and volume fraction
(d) All the above

10. Longitudinal strength of fiber reinforced composite is mainly influenced by
(a) Fiber strength (b) Fiber orientation (c) Fiber volume fraction (d) Fiber length

11. The following material can be used for filling in sandwich structures
(a) Polymers (b) Cement (c) Wood (d) All

12. Not an example for laminar composite
(a) Wood (b) Bimetallic (c) Coatings/Paints (d) Claddings

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13. Composite can be classified on the basis of:
a) Matrix type b) Reinforcement constituent c) Matrix type & Reinforcement constituent d) None of the mentioned

14. Which of the following is not a laminar composite?
a) Bimetallic b) Cladding c) Paints d) Wood

15. Matrix constituents of composites are softer and reinforced constituent of composites are softer.
a) True b) False

16. In sandwich composites, which of the following material can be used for filling purpose?
a) Wood b) Cement c) Polymer d) All of the mentioned

17. Which of the following have a greater impact on longitudinal strength of reinforced composites?
a) Fiber orientation b) Fiber strength c) Fiber length d) None of the mentioned

18. Which of the following may alter the mechanical properties of reinforced composites?
a) Constituent properties b) Fiber length c) Fiber orientation d) All of the mentioned

19. Which of the following property can be enhanced by reinforcing aluminum alloy?
a) Density b) Torsion resistance c) Wear resistance d) Strength

20. Which of the following is correct for size range in micrometer of dispersoids in dispersion strengthened composites?
a) 0.0001-0.0009 b) 0.01-0.1 c) 0.1-1.0 d) 2.0-2.7

21. Which of the following is correct about dimensional nature of flake composites?
a) 1-D b) 2-D c) 3-D d) 4-D

22. Fire point of composite is high.
a) True b) False

23. Which of the following does not combine with fiber to give composites?
a) Metals b) Ceramics c) Non-metals d) Polymers

24. Which of the following type of composite is not classified under the category of number of layers?
a) Unidirectional fibre reinforced b) Laminar c) Sandwich panels d) Glass-fibre reinforced

25. Which of the following is not a property of matrix materials which are modified by adding particulate fillers?
a) Improved performance at elevated temperature b) Decrease in surface hardness
c) Modification in electrical conductivity d) Improved abrasion resistance

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Certificate course – MEC1004 - Fiber Reinforced Composite Materials

Answers

1. A
2. A
3. C
4. B
5. A
6. A
7. C
8. B
9. D
10. A
11. D
12. A
13. C
14. D
15. B
16. D
17. B
18. D
19. C
20. B
21. B
22. B
23. C
24. D
25. B

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Department of Mechanical Engineering

Certificate course – MEC1004 - Fiber Reinforced Composite Materials

Mark Sheet

Academic Year: 2020-2021 **Batch 2018-2022**

Year: III/VI Semester

S.No	Roll No.	Name of the students	Marks (25)
1.	18MEC001	ABIKANNAN L	17
2.	18MEC002	BASKAR E	20
3.	18MEC003	BHUVANESWARAN M	21
4.	18MEC004	DINESHKUMAR M	20
5.	18MEC005	JAYA KUMAR T	21
6.	18MEC006	KUMARAN G	20
7.	18MEC008	MEIYARASU E	22
8.	18MEC009	NARESH R	18
9.	18MEC011	NITHEESH E	20
10.	18MEC012	PRAKASH M	20
11.	18MEC013	PRASANTH KANNAN K	19
12.	18MEC014	SAKTHI SIVACHALAPATHY P	20
13.	18MEC015	SAKTHI VADIVEL P	20
14.	18MEC016	SHANMUGAM T	18
15.	18MEC017	SIVA SANKAR B	21
16.	18MEC018	SIVASANKARAN M	23
17.	18LMEC203	MOHAMED SYED ARAFATH M.E.H	21
18.	18LMEC204	VISHNUPREETHI B	22

Course Coordinator **HOD/MECH**

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Consolidated Report for the Certificate course – MEC1004 - Fiber Reinforced Composite Materials

Academic Year: 2020-2021 **Batch 2018-2022**

Year: III/VI Semester

Name of the Activity	: Certificate Course
Title of the Activity	: MEC1004 - Fiber Reinforced Composite Materials
Staff Incharges	: Dr. K. Sakthi Vadivel, AsP/Mech
Place of the Activity	: Online
No. of Participants	: 18
No. of Qualified	: 18
Objective of the Activity	: To understand the fundamentals of composite material strength and its mechanical behavior, analysis of fiber reinforced Laminate design for different combinations of plies.
Outcome of the Activity	: To enlighten the students about the composite materials and their chactericts.

HoD-MECH

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Department of Mechanical Engineering

Certificate course - Students Feedback

Course Name: MEC1004 - Fiber Reinforced Composite Materials

Academic Year: 2020-21

Course/Branch: BE/MECH **Year/Semester:** III/VI

Student Name: Naveen.R **Roll No:** 18MEC009

Feedback Rate: Excellent 4, Good 3, Moderate 2, Poor 1 (Tick any one)

1. Does this course improve your technical skills?

1	2	3 ✓	4

2. Does the course improve your practical exposure?

1	2	3 ✓	4

3. Have you learnt any modern tools through this course?

1	2	3	4 ✓

4. Have you got any ideas to improve our environmental and social needs?

1	2	3	4 ✓

5. Is the syllabus covered fundamentals and advanced topics?

1	2	3 ✓	4

6. Did the courses enable to build your future career?

1	2	3 ✓	4

7. Rate the depth of knowledge about the courses.

1	2	3	4 ✓

8. Are the courses providing good balance between theory and application?

1	2	3 ✓	4

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Certificate course - Students Feedback

Course Name: MEC1004 - Fiber Reinforced Composite Materials

Academic Year: 2020-21

Course/Branch: BE/MECH **Year/Semester:** III/VI

Student Name: BASKAR.E **Roll No:** 18ME0002

Feedback Rate: Excellent 4, Good 3, Moderate 2, Poor 1 (Tick any one)

1. Does this course improve your technical skills?

1	2	3	4 ✓

2. Does the course improve your practical exposure?

1	2	3	4 ✓

3. Have you learnt any modern tools through this course?

1	2	3 ✓	4

4. Have you got any ideas to improve our environmental and social needs?

1	2	3 ✓	4

5. Is the syllabus covered fundamentals and advanced topics?

1	2	3	4 ✓

6. Did the courses enable to build your future career?

1	2	3	4 ✓

7. Rate the depth of knowledge about the courses.

1	2	3 ✓	4

8. Are the courses providing good balance between theory and application?

1	2	3	4 ✓

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Department of Mechanical Engineering

Certificate course - Students Feedback

Course Name: MEC1004 - Fiber Reinforced Composite Materials

Academic Year: 2020-21

Course/Branch: BE/MECH **Year/Semester:** III/VI

Student Name: 18LMEC204 - B.Vishnupreethi **Roll No:** 18LMEC204

Feedback Rate: Excellent 4, Good 3, Moderate 2, Poor 1 (Tick any one)

1. Does this course improve your technical skills?

1	2	3	4
			✓

2. Does the course improve your practical exposure?

1	2	3	4
			✓

3. Have you learnt any modern tools through this course?

1	2	3	4
			✓

4. Have you got any ideas to improve our environmental and social needs?

1	2	3	4
		✓	

5. Is the syllabus covered fundamentals and advanced topics?

1	2	3	4
			✓

6. Did the courses enable to build your future career?

1	2	3	4
		✓	

7. Rate the depth of knowledge about the courses.

1	2	3	4
		✓	

8. Are the courses providing good balance between theory and application?

1	2	3	4
			✓

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Certificate course - Students Feedback Analysis

MEC1004 - Fiber Reinforced Composite Materials

S. No	Parameters	Average
1.	Does this course improve your technical skills?	3.7
2.	Does the course improve your practical exposure?	3.5
3.	Have you learnt any modern tools through this course?	3.5
4.	Have you got any ideas to improve our environmental and social needs?	3.7
5.	Is the syllabus covered fundamentals and advanced topics?	3.7
6.	Did the courses enable to build your future career?	3.7
7.	Rate the depth of knowledge about the courses.	3.8
8.	Are the courses providing good balance between theory and application?	3.6

Course Coordinator **HOD/MECH** **Principal**

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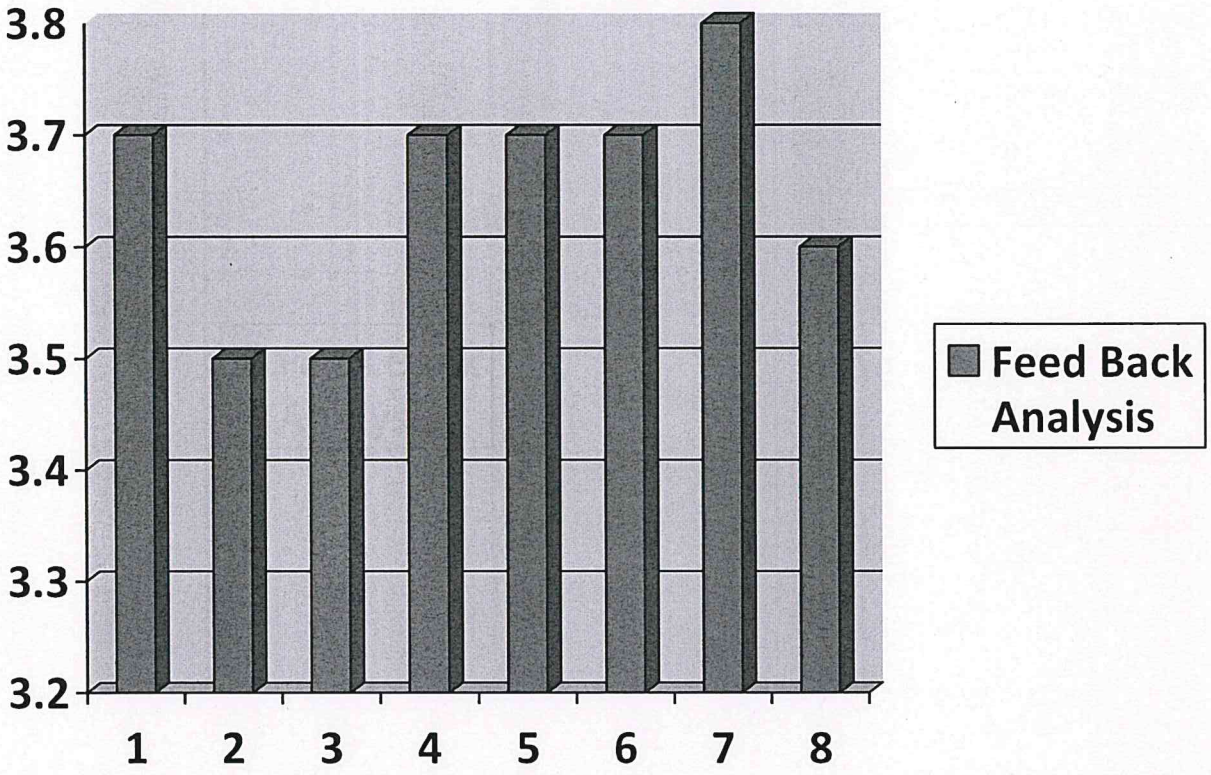
Department of Mechanical Engineering

Certificate course - Students Feedback Analysis

MEC1004 - Fiber Reinforced Composite Materials



Course Coordinator **HOD/MECH** **Principal**

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Certificate of Completion

This is to certify that Mr. B. SIVA SANKAR *of Third year B.E Mechanical Engineering has successfully completed the certificate course on "MEC1004 - Fiber Reinforced Composite Materials" for the duration of 35 hours organized by the Department of Mechanical Engineering during the academic year 2020-21.*

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CO-ORDINATOR HOD PRINCIPAL

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Certificate of Completion

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