

संस्थेचे नांव Internal Quality Assurance Cell
Dr. J. J. Magdum College of Engg, Jaysingpur

मिटींग नोटीस सभा नं.

संस्थेच्या समितीची सभा दि. १४ / ०४ / २०२३ वार रोजी सकाळी / दुपारी /
सायंकाळी / रात्री २:३० pm वाजता Central Meeting Hall या ठिकाणी
खालील कामांचा विचार करण्याकरिता भरणार आहे. तरी कृपया सदर सभेस हजर रहावे अशी विनंती आहे.

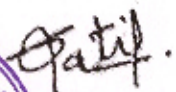
* सभेपुढील कामे *

- १) मागील सभेचा वृत्तांत वाचून कायम करणे
- २) NAAC result declaration
- ३) Congratulations to all stakeholders
- ४) ISO certification
- ५) Result of SU AAA
- ६) Scope of improvement in NAAC
- ७) Best practices.
- ८) NBA
- ९)
- १०)

मा. अध्यक्षांचे परवानगीने आयत्यावेळी येणाऱ्या कामांचा विचार करणे
येणेप्रमाणे असे ता.


चिटणीस

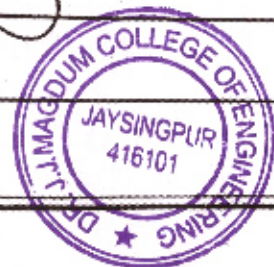



संस्थापती

दि. 28/04/2023

रोजी होणाऱ्या मिर्तीगची नोटीस पोहोचल्या सह्या

अ. नं.	सदस्याचे नांव	सही
1	Dr. Mrs. S.B. Patil	K. Patil
2	Dr. Shital Patil	Shital Patil
3	Prof. S.M. Shaikh	+ Kadam
4	Dr. J.S. Lambe	J.S. Lambe
5	Dr. Mrs. D.A. Nikam	D.A. Nikam
6	Prof. M.M. Kolap	M.M. Kolap
7	Prof. R.A. Sanadi	R.A. Sanadi
8	Prof. M.B. Bhilawade	M.B. Bhilawade
9	Prof. A.S. Sajane	A.S. Sajane
10	Prof. S.T. Jadhav	S.T. Jadhav
11	Mr. J.B. Patil	J.B. Patil
12	Dr. K.P. Pardeshi	K.P. Pardeshi
13	Mr. Vinay Honrao	Vinay Honrao
14	Mr. P.M. Kulkarni	P.M. Kulkarni
15	Prof. P.P. Belagali	P.P. Belagali
16	Mr. Rushikesh. Kekale	Rushikesh Kekale
17	Prof. P.P. Patil	P.P. Patil



संस्थेचे नांव Internal Quality Assurance Cell
Dr. J. J. Magdum College of Engg, Jaysingpur

मिटींग नोटीस सभा नं.

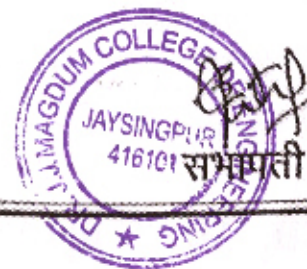
संस्थेच्या समितीची सभा दि. 25/08/2022 वार रोजी सकाळी / दुपारी /
सायंकाळी / रात्री 2:30pm वाजता central meeting Hall या ठिकाणी
खालील कामांचा विचार करण्याकरिता भरणार आहे. तरी कृपया सदर सभेस हजर रहावे अशी विनंती आहे.

* सभेपुढील कामे *

- १) मागील सभेचा वृत्तांत वाचून कायम करणे
- २) Review of NAAC SSR submission.
- ३) Selection of Best practices.
- ४) Follow up of ISO process
- ५) OBE Review
- ६) Academic calendar approval
- ७) Discussion on FDP and RD activities.
- ८) Any other points with permission of
- ९) Vote of thanks. chairperson
- १०)

मा. अध्यक्षांचे परवानगीने आयत्यावेळी येणाऱ्या कामांचा विचार करणे
येणेप्रमाणे असे ता.


चिटणीस



दि. 25/08/2022

रोजी होणाऱ्या मिर्तीगची नोटीस पोहोचल्या सहा

अ. नं.	सदस्याचे नांव	सही
1.	Dr. Mrs. S. B. Patil	
2	Dr. Shital Patil	
3	Prof. S. M. Shaikh	
4	Dr. J. S. Lamb	
5	Dr Mrs. D. A. Nikam	
6	Prof. M. M. Kolap	
7	Prof. R. A. Sanadi	
8	Prof. M. B. Bhilawade	
9	Prof. A. S. Sajane	
10	Prof. S. T. Jadhav	
11	Mr. J. B. Patil	
12	Dr. K. P. Pardeshi	
13	Mr. Vinay Honrao	
14	Mr. P. M. Kulkarni	
15	Prof. Mrs. P. P. Belgali	
16.	Prof. P. P. Patil	
17.	Mr. Rushikesh Kekale.	
18.	Ms. Aishwarya Patil	





संस्थेचे नांव
Name of Institution

Dr. J. J. Magdum College of Engg
Jaysingpur

PROCEEDING

सभेच्या कायदात्मक

१. सभेचा प्रकार
Kind of Meeting

General

३. सभेची तारीख
Date of Meeting

25/8/2022

५. सभेचे स्थळ
Place of Meeting

Central Meeting Hall

२. सभेचा क्रमांक
Sr. No. of Meeting

4/E/22-23

४. सभेची वेळ
Time of Meeting

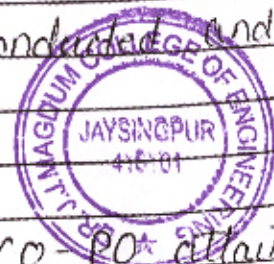
2.30pm

६. सभेस कोणी सन्माननीय गृहस्थ अगर अधिकारी हजर असल्यास त्यांची नांवे (हुद्यासह)
Name & Designation of Officials & Respectable persons present

७. सभेचे अध्यक्ष
Chairman Of the Meeting

Dr. Mrs. S. B. Patil

विषय नंबर Subject No.	ठराव नंबर Resolution No.	सभेपुढे विचाराकरिता आलेले विषय आणि ठराव Resolution & Subject placed before the Meeting for Discussion
		After noting the attendance of the present commenced as per the agenda.
1.		The co-ordinator read the minutes of mee The members confirmed the minutes of
2.		NAAC - Review IQA submitted on 15 th July 2022. SSR will be submitted soon.
3.		For submission of two best practices in ① Departmental Research committee ② Holistic Development of the student
4.		ISO Process status. Different ISO audits conducted and the
5.		OBE Review CO-PO mapping and CO-PO attainment the results of CIE, Practicals conducted



c. सभेस हजर असलेल्या सभासदांची नावे व सही Name & Signature of the members who were present at the meeting.

नं.	नांव	सही	नं.	नांव	सही
१	Dr. Mrs. S. B. Patil		११	Mr. J. B. Patil	
२	Dr. Shital Patil		१२	Dr. K. P. Furdeshi	
३	Prof. S. M. Shaikh		१३	Mr. Vinay Homrao	
४	Dr. J. S. Lambhe		१४	Mr. P. M. Kulkarni	
५	Dr. Mrs. D. A. Nikam		१५	Prof. Mrs. P. P. Belgali	
६	Prof. M. M. Kolap		१६	Mr. Rushikesh Kekate	
७	Prof. R. A. Samadi		१७	Ms. Aishwarya Patil	
८	Prof. M. B. Bhilawade		१८	Prof. P. P. Patil	
९	Prof. A. S. Suryane		१९		
१०	Prof. S. T. Jadhav		२०		

सभेपुढे विचाराकरिता आलेले विषय आणि ठराव
Resolution & Subject placed before the Meeting for Discussion

शेरे आणि तारखेस
ठरावाची अंमलबजावणी
Remarks & of action
taken on the resolution &
Date

members, the proceeding was

of last meeting held on 22/4/2022.
last meeting.

NAAC SSR, following two decided.

process is in final stage.

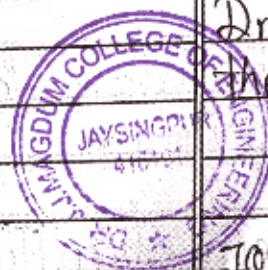
calculations to be done, considering
Final semester result and exit survey.

NAAC co-ordinator
to finalize the date
of SSR submission with

Principal concern.
Noted by NAAC
Co-ordinator.

Dr. Unde oversight
the process
smoothly.

IQAC co-ordinator &
HODs to work on it





गजराज

संस्थेचे नांव
Name of InstitutionPROCEEDING
सभेच्या कामकाज१. सभेचा प्रकार
Kind of Meeting३. सभेची तारीख
Date of Meeting५. सभेचे स्थळ
Places of Meeting२. सभेचा क्रमांक
Sr. No. of Meeting४. सभेची वेळ
Time of Meeting६. सभेस कोणी सन्माननीय गृहस्थ अगर अधिकारी हजर असल्यास त्यांची नांवे (हुद्यासह)
Name & Designation of Officials & Respectable persons present

७. सभेचे अध्यक्ष Chairman Of the Meeting

विषय नंबर Subject No.	उत्तराव संबर Resolution No.	सभेपुढे विचाराकरिता आलेले विषय आणि उत्तराव Resolution & Subject placed before the Meeting for Discussion
6.		Academic Audit for Institute level is to given previously.
7.		Academic Calendar - Activities like R and D activities discussed and
8.		Industrial training must be focused
9.		Appreciation letters must be given to who achieve 100% result in the respe
10.		R and D work reviewed and more the project work carried out by final
11.		Participate in for different awards in Participation in ISTE awards
12.		Promote faculty members to participate in
13.		Vote of thanks.



c. सभेस हजर असलेल्या सभासदांची नांवे व सही Name & Signature of the members who were present at the meeting.

नं.	नांव	सही	नं.	नांव	सही
१			११		
२			१२		
३			१३		
४			१४		
५			१५		
६			१६		
७			१७		
८			१८		
९			१९		
१०			२०		

सभेपुढे विचारकरिता आलेले विषय आणि ठराव
Resolution & Subject placed before the Meeting for Discussion

शेरे आणि तारखेस
ठरावाची अंमलबजावणी
Remarks & of action
taken on the resolution &
Date

be carried out using the formats

IQAC co-ordinator to take the follow up.

CMC, CIE, events, expert lectures, academic calendar approved.

Dean Academics to work on the activities.

for students and faculty members

HODs to look for training of both.

toppers as well as faculty members ve subject (course) they teach.

IQAE to take followup.

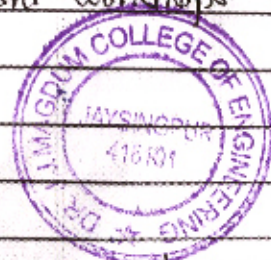
patents must be filled on year students.

Dean RED to arrange different workshops.

different sections.

STPs/Workshops/Seminars and paper publications

Dean FDC to promote the faculty members.





संस्थेचे नाव
Name of Institution

J. J. Magdum College of
Engg Jaysingpur

PROCEEDING
सभेच्या कार्यवाही

१. सभेचा प्रकार
Kind of Meeting General

३. सभेची तारीख
Date of Meeting 28/04/2023

४. सभेचे स्थळ
Places of Meeting Central Meeting Hall

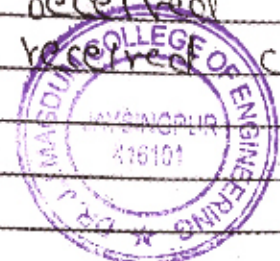
२. सभेचा क्रमांक
Sr. No. of Meeting 2/II/22-23

५. सभेची वेळ
Time of Meeting 2.30pm

६. सभेस कोणी सन्माननीय गृहस्थ अगर अधिकारी हजर असल्यास त्यांची नावे (हुद्यासह)
Name & Designation of Officials & Respectable persons present

७. सभेचे अध्यक्ष
Chairman Of the Meeting Dr. S. B. Patil Madam

विषय नंबर Subject No.	तराव नंबर Resolution No.	सभेपुढे विचाराकरिता आलेले विषय आणि तराव Resolution & Subject placed before the Meeting for Discussion
		After noting the attendance of the was commenced as per the agenda
01.		The co-ordinator read the minutes held on 25/08/2022 The members confirmed the
02.		NAAC Result declaration by All congratulated NAAC co-ordinator Inchargee.
03		Also all stakeholders were Congra Convey message to Alumni, DAB, etc.
04.		ISO Certification received ISO 21001:2018 received congral



BOOK

वृत्तांताचे पुस्तक

सूचना - सभेस हजर असलेल्या सभासदांची नावे भरलेल्या व जरूरीप्रमाणे सतत: कागदावर लिहून ती या कम्प्युटरस जोडलीत.

पान नंबर
Page No.

८. सभेस हजर असलेल्या सभासदांची नावे व सही Name & Signature of the members who were present at the meeting.

नं.	नांव	सही	नं.	नांव	सही
१	Dr. Mrs. S. B. Patil	<i>[Signature]</i>	११	Mr. T. B. Patil	<i>[Signature]</i>
२	Dr. Shital Patil	<i>[Signature]</i>	१२	Dr. K. P. Pardeshi	
३	Prof. S. M. Shaikh	<i>[Signature]</i>	१३	Mr. Vinay Honrao	<i>[Signature]</i>
४	Dr. J. S. Lambe	<i>[Signature]</i>	१४	Mr. P. M. Kulkarni	
५	Dr. Mrs. D. A. Nikam	<i>[Signature]</i>	१५	Prof. Mrs. P. P. Belagali	<i>[Signature]</i>
६	Prof. M. M. Kalap	<i>[Signature]</i>	१६	Mr. Rushikesh Kekale	<i>[Signature]</i>
७	Prof. R. A. Sanadi	<i>[Signature]</i>	१७	Prof. P. P. Patil	<i>[Signature]</i>
८	Prof. M. B. Bhilawade	<i>[Signature]</i>	१८		
९	Prof. A. S. Sajane	<i>[Signature]</i>	१९		
१०	Prof. S. T. Tadhav	<i>[Signature]</i>	२०		

सभेपुढे विचारकरिता आलेले विषय आणि ठराव
Resolution & Subject placed before the Meeting for Discussion

टीपे आणि ठरावेस
ठरावाची अंमलबजावणी
Remarks & of action
taken on the resolution &
Date

present members, the proceeding
of meeting of last meeting
minutes of last meeting

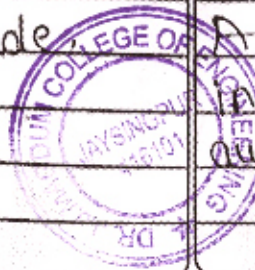
Principal Madam "A" Grade secured
IQAC co-ordinator and criteria

related for NAAC 'A' Grade.
ents, Parents...

ted ISO co-ordinator Dr. Unde

All HODs are
informed to convey
stakeholders.

All HODs are
informed. Next year
audit will be conducted





संस्थेचे नाव
Name of Institution

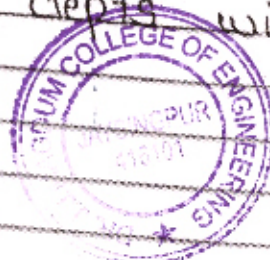
PROCEEDING
संस्थेचा सभेचा प्रस्ताव

१. सभेचा प्रकार
Kind of Meeting
२. सभेची तारीख
Date of Meeting
३. सभेचे स्थान
Place of Meeting
४. सभेचा क्रमांक
S: No. of Meeting
५. सभेची वेळ
Time of Meeting

६. सभेस कोणी सन्माननीय गृहस्थ अगर अधिकारी हजर असल्यास त्यांची नावे (हजेरतह)
Name & Designation of Officials & Respectable persons present

७. सभेचे अध्यक्ष
Chairman Of the Meeting

विषय क्रमांक Subject No.	सभेचा क्रमांक Resolution No.	सभेपूर्वी विचाराधीन आलेले विषय आणि ठराव Resolution & Subject placed before the Meeting for Discussion
05		Result of Academic Audit conducted "A+" grade secured.
06		Observations of NAAC meeting 1) Research work 2) Sponsors.
07		Best practices: It was decided to
08		NBA: All HODs are told to fill qualified depts will go



c. सभेस हजर असलेल्या सभासदांची नांवे व सही Name & Signature of the members who were present at the meeting

नं.	नांव	सही	नं.	नांव	सही
१			११		
२			१२		
३			१३		
४			१४		
५			१५		
६			१६		
७			१७		
८			१८		
९			१९		
१०			२०		

सभेपुढे विचाराकरिता आलेले विषय आणि उदाय Resolution & Subject placed before the Meeting for Discussion	शेरे आणि ताखडेस दराबारी अंमलबजावणी Remarks & of action taken on the resolution & Date
By SUK declared.	All HODs are informed
to improve in following fields projects 3) Funded projects	Dean R&D to work on it. and motivate faculty for research work.
continue with previous Best practices and enhance it.	BYAAC co-ordinator was informed.
The prequalifies of NBA. and for NBA Accreditation.	All HODs are informed



1) तारीख प्रसार 16/12/22 2) तारीख निर्धार 11:15 am 3) तारीख रिपोर्ट HO D Cabin

4) तारीख अग्रिम-मासिक Prof. M. M. Kolap. (HOD ETC & ERPX)

विषय नं.	विवरण नं.	तारीखें विचारकारिता आनेले विषय आणि ठिकाण	शेरे व तारखेसंदर्भात आदेशाची अंमलबजावणी
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1) Review of work assigned in ~~the~~ during meeting conducted on 02/12/22

2) PPB → Not yet completed
C 21/12/22 was deadline?

3) THM :

4) Visit → Not completed
C deadline was 7+8 Dec (12).
Expert lect. → Not completed. →
C for 37 student 'C' programming.

5) MUP → As per mail dated on 13 decem only CVAP score copy Pt. No. 1.2.1 is to be submitted by PPD.

बुक

1) तारीख एकर अंतर्देशना सुधारणाची नोंद व तालिका -

क्र. नं.	नाम	तारीख	क्र. नं.	नाम	तारीख
1	Prof. M. M. Kolap	15/12/22	11	Prof. V. S. Kamnabji	12/12/22
2	Prof. P. P. Balagade	15/12/22	12	Prof. T. H. Nikhile	12/12/22
3	Prof. T. H. Nikhile	15/12/22	13	Prof. V. N. Kamble	12/12/22
4	Prof. V. N. Kamble	15/12/22	14	Prof. D. V. Sharnan	12/12/22
5	Prof. D. V. Sharnan	15/12/22	15	Prof. S. S. Kamnabji	12/12/22
6	Prof. S. S. Kamnabji	15/12/22	16	Mr. Suresh H. S.	12/12/22
7	Mr. Suresh H. S.	15/12/22	17		
8			18		
9			19		
10			20		



राजपुर, जयसिंगपूर

विषय नं.	विवरण नं.	तारीखें विचारकारिता आनेले विषय आणि ठिकाण	शेरे व तारखेसंदर्भात आदेशाची अंमलबजावणी
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1) SSK → Library issue register C 11/12/22 19/12/22

2) ASS → Result analysis (21/12/22) was deadline on 19/12/22 will submit

3) WK → Dept activity (deadline) was missed will complete till 23/12/22

4) Data submitted for NARC, copy of same should be submitted by every faculty of non respective committee along with paragraphs (typed) (Deadline 8/12/22)
* Only SSK has submitted report on given date.

श्री ॥ श्री ॥

१) कार्यवाही प्रकार _____ ३) कार्यवाही तारीख 27/4/2023 ५) कार्यवाही विभाग HOD (admission)

२) कार्यवाही क्रमांक _____ ४) कार्यवाही वेळ ११:३० AM

६) कार्यवाही संबंधी सामग्रीची प्रत तयार करून अधिकारी द्वारे अस्तव्यस्त करावी (दस्तावेज) नाही

७) कार्यवाही अंदाज - पाठ्यक्रम Dr. M.M. Kolap, HOD ETC & ETRX

क्र. नं.	विद्यार्थी नं.	व्यक्तिगत विवरण	संशोधन विभाग	संशोधन विभाग कार्यालय
1		Direct extend year admission		
	12	P.P. Belgadi → SCU & WCE		
	2005	R. Mahadik → G.P. Kolhapur		
	33	P.K. Upadhye → New polytechnic		
	4)	K.M. Lalkar → W.D. Jadhav Bhule		
	5)	M.V. Phutane → women poly Raigam		
	6)	M.H. Mule → SIT, Bhule		
	7)	S.S. Kumbhar → YCP		

बुक

संशोधन विभाग कार्यालय वृत्तान्त प्रस्ताव

८) कार्यवाही करून अस्तव्यस्त सामग्रीची नोंद व सांगणे -

क्र. नं.	नाम	वर्ग	क्र. नं.	नाम	वर्ग
1	Madhikar	ST	91		
2	Phutane	SC	92		
3	P.P. Belgadi	SC	93		
4	R. Mahadik	SC	94		
5	D.V. Chavan	SC	95		
6	Prathap S. Kumbhar	SC	96		
7	Sifer A.A	SC	97		
8	M. V. Phutane	SC	98		
9	M. Chavan	SC	99		
10			100		



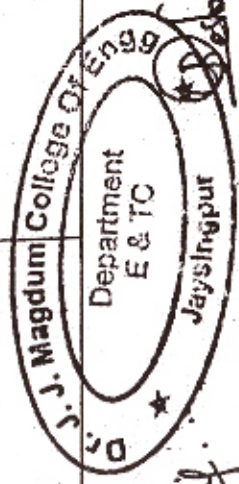
क्र. नं.	विद्यार्थी नं.	व्यक्तिगत विवरण	संशोधन विभाग	संशोधन विभाग कार्यालय
1		A.A. Jadhav → G.P. Miraj		
2		D.V. Chavan → Bapuji Salikhe Kolhapur		
3		V.V. Kumbhar →		



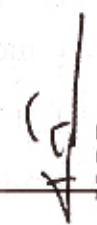
ACADEMIC CALENDAR FOR YEAR 2023-24 SEMESTER I

July 2023

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6 15 days Industrial Training	7 TIME TABLE	8
9	10 Commencement of Semester I-1Y	11	12	13	14	15
16	17	18	19	20	21	22
23	24 Commencement of Semester I -BTech	25	26	27	28 PROCTOR MEET	29 Moharum
30	31 CMC Meeting					



Academic Coordinator



HOD



Dean Academics



I/C Principal



Advisor



Dr. J. J. Magdum College of Engineering, Jaysingpur

Department of Electronics and Telecommunication Engineering

August 2023

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10 T&P ACTIVITY	11	12
13	14	15 Independence day	16 Parsi new year	17	18 T&P ACTIVITY	19
20	21 Commencement of Semester I-SY	22 DRC presentation	23	24 BTech VAC	25 Expert lecture-TY	26
27	28 PROCTOR MEET	29 1 week Training -BTech	30 CMC meeting	31 Higher study cell - Expert lecture		

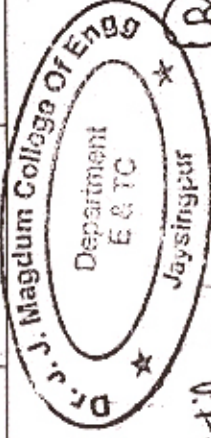


R. Koradiya
Academic Coordinator

[Signature]
Dean Academics

[Signature]
I/C Principal

[Signature]
Advisor





Dr. J. J. Magdum College of Engineering, Jaysingpur

Department of Electronics and Telecommunication Engineering

September 2023

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1 CIE-I	2 CIE-I
3	4 Technical Event -ETESA	5	6 EDC ACTIVITY	7 Expert lecture- BTECH	8 Parents meet	9
10	11	12 AUGMENTATION SY	13 TY VAC	14 Expert lecture- BTech	15 ALUMNI CELL- EXPERT TALK	16 Advisory Board meeting
17	18 AUGMENTATION BTECH	19 Ganesh chaturthi	20	21 PROCTOR MEET	22 Expert lecture-ty	23
24	25 Expert lecture- III cell	26 CMC Meeting	27 Expert lecture- TY	28 Anant Chaurthi	29 SY VAC	30 STTP -Faculty

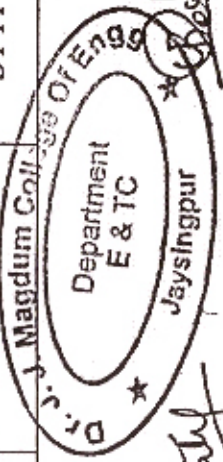


Signature
Academic Coordinator

HOD

Signature
Dean Academics

I/C Principal



Signature
I/C Principal

Advisor



Dr. J. J. Magdum College of Engineering, Jaysingpur

Department of Electronics and Telecommunication Engineering

October 2023

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5 Expert lecture-SY	6 CIE-II	7 CIE-II
8	9 Expert lecture- III cell	10 AUGMENTATION TY	11 Industrial Visit -SY	12 Technical Event -ETESA	13 Industrial Visit -TY	14 Industrial Visit - BTech
15	16	17	18 ALUMNI CELL- EXPERT TALK	19 Expert lecture- SY	20 MoU -Industry	21
22	23	24 Dashera	25	26	27 PROCTOR MEET	28
29	30 CMC Meeting	31				

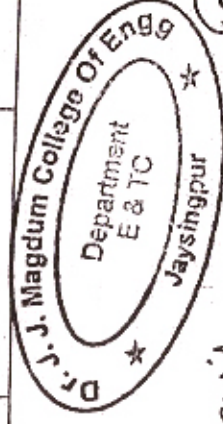


[Signature]
Academic Coordinator

HOD

Dean Academics

I/C Principal



[Signature]

Advisor

[Signature]



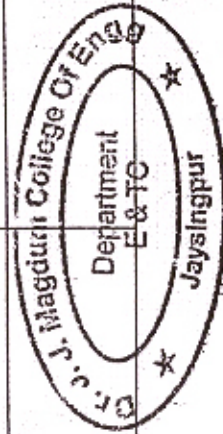
Dr. J. J. Magdum College of Engineering, Jaysingpur

Department of Electronics & Telecommunication Engineering

ACADEMIC CALENDAR FOR YEAR 2022-23 SEMESTER I

August 2022

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24 Commencement of Theory lectures for SY / TY/ Final Year	25	26	27
28	29	30	31 Ganesh chaturthi			



Year 2

[Signature]
Principal

[Signature]
Dean Academics



[Signature]
Academic Coordinator

[Signature]
Campus Director



Dr. J. J. Magdum College of Engineering, Jaysingpur

Department of Electronics & Telecommunication Engineering

September 2022

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5 Teachers Day	6 Workshop for students	7 Workshop for students	8 Workshop for students	9	10
11	12	13	14	15 Engineers day	16	17
18	19	20	21	22 DRC Meeting	23 Field Training presentation for final year	24 NSS Day
25	26 Proctor meeting	27	28 ECESA activity	29 Expert lecture	30 CMC meeting	



Kamran

Academic Coordinator

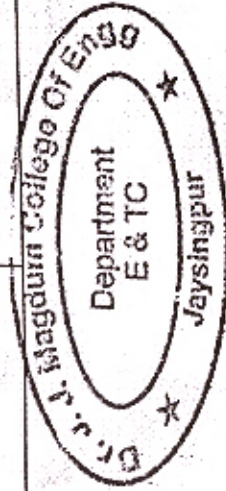
HOD

Adnan

Dean Academics

Asif

Principal



Pravin

Campus Director



Dr. J. J. Magdum College of Engineering, Jaysingpur

Department of Electronics & Telecommunication Engineering

October 2022

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1 Industrial visit for Btech Commencement of Value added course
2	3	4	5 Dasara	6 CIE-1	7 CIE-1	8
9	10	11	12	13	14 BTech Synopsis Presentation	15 ECESA activity
16	17	18	19	20 Expert lecture	21 Augmentation Program	22
23	24 Diwali	25 Diwali	26 Diwali	27	28 Proctor meeting	29 Industrial visit for TY
30	31 CMC meeting					

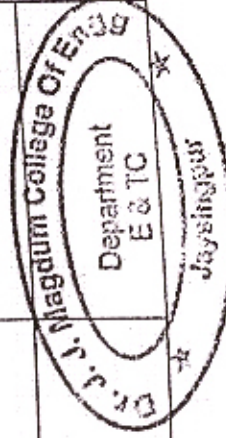


Ramam
Academic Coordinator

Shilpa
Dean Academics

Prin
Principal

Pant
Campus Director



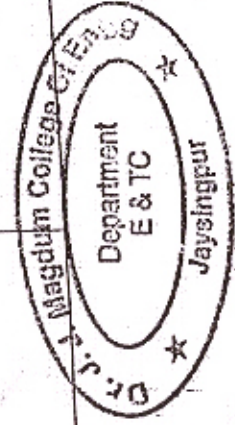


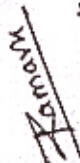
Dr. J. J. Magdum College of Engineering, Jaysingpur

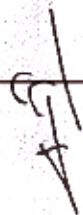
Department of Electronics & Telecommunication Engineering

November 2022

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4 FDP- Webinar for Teaching (ETC)	5 Parents Meet
6	7 Alumni Interaction	8	9	10	11	12
13	14	15 Augmentation Program	16	17	18 Second assessment of project	19 Industrial visit for SY
20	21 CIE-II	22 CIE-II	23	24 Expert lecture	25 Proctor meeting	26
27	28 Advisory Board meeting	29	30 CMC meeting			




Academic Coordinator


HOD


Dean Academics


Principal


Campus Director

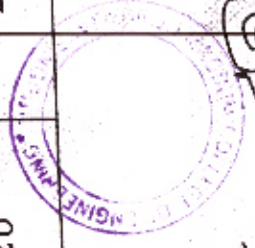


Dr. J. J. Magdum College of Engineering, Jaysingpur

Department of Electronics & Telecommunication Engineering

December 2023

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3 Expert lecture
4	5 Tentative Final submission for SY/TY/Final Year	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	2	122	23	24
25	26	27	28	29	30	31




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Academic Coordinator

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Dean Academics

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Principal


[Signature]
Campus Director

	Dr. J. J. Magdum Trust's
	Dr. J. J. Magdum College of Engineering, Jaysingpur.
	Department of Electronics and Tele-communication
	Subject choice for Academic Year 2022-23 semester -II

SR. NO.	NAME OF THE FACULTY	SUBJECT 1	SUBJECT 2	SUBJECT 3	SIGN
1	Dr.S.B.Patil	MM			
2	Prof.M.M.Kolap	AWP			
3	Dr.S.R.Mahadik	PL-II	PED	VE	
4	Prof.P.P.Belagali	MWE	Linear Integrated Circuits	Miniproject	
5	Prof.T.H.Mohite	WCOM	Mobile Technology (open Elective)	HPCN	
6	Prof.M.U.Phutane	PE	MWE	CS	
7	Prof.V.T.Kamble	Elective	MWE	MM (Practical)	
8	Prof.D.U.Chavan	DS /DCOM	DSP	VE	
9	Prof.A.A.Sutar	CS	OE-II	WCOM	
10	Prof.S.S.Karadge	PED	PE	FEC	




 Prof. S.S.Karadge
 Academic coordinator


 Prof. M.M.Kolap
 H.O.D. (E&TC)



Dr. J. J. Magdum Trust's

Dr. J. J. Magdum College of Engineering, Jaysingpur.

Department of Electronics and Tele-communication

Load distribution for Academic Year 2022-23 semester -II

sr. no.	Name of the Faculty	Subject	Class	Load		TOTAL LOAD
				TH	PR	
1	Dr.S.B.Patil	MM	TY	4		6
		PROJECT	BTECH		2	
2	Prof.M.M.Kolap	AWP	TY	4	8	14
		PROJECT	BTECH		2	
3	Dr.S.R.Mahadik	PL-II	SY	2	8	20
		VE	BTECH	4	4	
		PROJECT	BTECH		2	
4	Prof.P.P.Belagali	ECD-II	SY	2	4	16
		MWE	BTECH	4	4	
		PROJECT	BTECH		2	
5	Prof.T.H.Mohite	WCOM	BTECH	4	4	21
		DCOM	SY	3	8	
		PROJECT	BTECH		2	
6	Prof.M.U.Phutane	PE	TY	4	4	16
		ECD-II	SY	2	4	
		PROJECT	BTECH		2	
7	Prof.V.T.Kamble	ELE-II	BTECH	3	4	21
		FEC	FY	3	2	
		MM	TY		8	
		PROJECT	BTECH		1	
8	Prof.D.U.Chavan	DS	SY	3	4	20
		OE-II	TY	3		
		PE	TY		4	
		MINIPROJECT	TY		4	
		FEC	FY		2	
9	Prof.A.A.Sutar	CS	SY	3	4	8
		DSP	TY	4	8	
		MINIPROJECT	TY		2	
10	Prof.S.S.Karadge	LIC	SY	4	8	21
		PED	BTECH ETRX	4	2	
		MINIPROJECT	TY		2	
11	FACULTY A	FEC	FY	3	8	20
		BEE	FY		6	



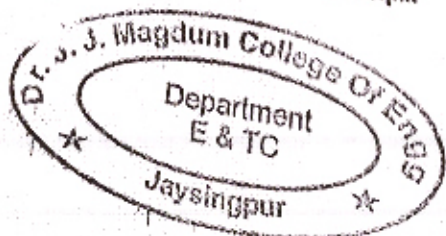
Prof. S.S. Karadge
Academic coordinator

Prof. M.M. Kolap
H.O.D. (E&TC)

Prof. A.S. Sajane
Dean Academics

Dr. S.B. Patil
Principal

Dr. S.S. Alimthe
Campus director



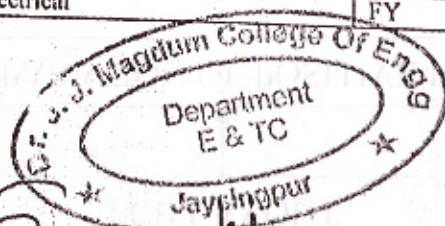
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Dr. J. J. Magdum College of Engineering, Jaysingpur
Department of Electronics and Electronics and Telecommunication
Engineering

Load Distribution for Academic Year 2022 -23 Semester-I

Sr. No.	Name of Faculty	Subject	Class	Load		Total Load
				Th	Pract	
01	Dr. S. B.Patil	Embedded System	B Tech	4	-	06
		Project	B Tech	-	2	
02	Prof.M.M.Kolap.	IP	B Tech	4	4	14
		TAM	SY		2	
		NA	SY		2T	
		Project	B Tech	-	2	
03	Prof.S.R.Mahadik	PL-I	SY	2	8	18
		Open elective-I	TY	3	3T	
		Project	B Tech		2	
04	Prof.P.P.Belgali	OCN	TY	4	8	18
		ECD-1	SY	2	2	
		Project	B Tech		2	
05	Prof. T.H.Mohite	Analog communication	SY	3	8	18
		Elective-1	B Tech	3	2T	
		Project	B Tech		2	
06	Prof. M.U. Phutanc	SATCOM	B Tech	3	1T	18
		ECD-I	SY	2	6	
		FEC	FY		4	
		Project	B Tech		2	
07	Prof.R.V.Kaulgud	Computer networks	B Tech	4	4	14
		TAM	SY		2	
		Open elective-I	TY		1T	
		SATCOM	B Tech		1T	
		Project	B Tech		2	
08	Prof.V.T.Kamble	VLSI Design	TY	4	8	18
		TAM	SY	3	2	
		Project	B Tech		1	
09	Prof.D.U.Chavan	SS	TY	4	4T	20
		ITC (ETRX)	B Tech	3	1T	
		TAM			2	
		EBD	B Tech		4	
		Basic Electrical	FY		2	
10	Prof. A.A.Sutar	EME	TY	3	4T	20
		NA	SY	4	1T	
		Simulation Modeling	TY		6	
		Basic Electrical	FY		2	
11	Prof.S.S.Karadge	FEC	FY	6	8	20
		Simulation Modeling	TY	1	2	
		NA	SY		1T	
		Basic Electrical	FY		2	



Zamark
 Prof.R.V.Kaulgud
 Academic Coordinator

A.S.
 Prof.M.M.Kolap
 H.O.D

A.S.
 Prof. A.S.Sajane
 Dean Academics

S.B.P.
 Dr.Mrs.S.B.Patil
 Principal



Dr. J. J. Magdum Trust's (No. E/902)

Dr. J. J. Magdum College of Engineering, Jaysingpur

Department of Electronics & Telecommunication Engineering

◆ TIME TABLE ◆

Academic Year: 2022-23

Department: Electronics & Telecommunication Engineering

Class Coordinator: Prof.D.U.Chavan

Semester: I

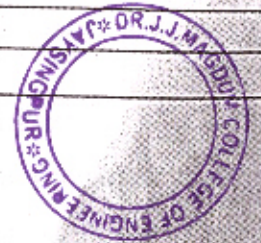
Class: TY

Class Room No.:

W.e.f: 12/9/2022

TIME	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
09.30 am – 10.30 am	OCN(PPB)	VLSI(VTK)	EME(AAS)	VLSI(VTK)	VLSI(VTK)	
10.30 am – 11.30 am	OE-I(SRM)	SM(SSK)	SS(DUC)	OCN(PPB)	SS(DUC)	
11.30 am – 11.40 am	Short Break					
11.40 am – 12.40 pm	E1- OCN(PPB) E2- VLSI(VTK)	E1- VLSI(VTK) E2- SM(AAS)	OCN(PPB)	E1- SM(SSK) E2-SS(DUC)/OE-I (RVK)TUT	E1- SS(DUC)/OE-I (SRM)TUT	
12.40 pm – 01.40 pm	E3- SM(AAS) E4-SS(DUC)/OE-I (SRM)TUT	E3- SS(DUC)/OE-I (SRM)TUT E4- OCN(PPB)	OE-I(SRM)	E3- OCN(PPB) E4-VLSI(VTK)	E2- OCN(PPB) E3- VLSI(VTK) E4- SM(AAS)	
01.40 pm – 02.30 pm	Lunch Break					
02.30 pm – 03.30 pm	EME(AAS)	EME(AAS)	SS(DUC)	EME T(AAS)	SS(DUC)	
03.30 pm – 04.30 pm	VLSI(VTK)	OCN(PPB)	Library hours	EME T(AAS)	OE-I(SRM)	

Name of Subject	Batches	Name of Faculty Member	NAME OF LAB
Optical communication	E1,E2,E3,E4	Prof.P.P.Belagali	Advance communication
Open elective-I(TUT)	E1,E2,E4	Dr.S.R.Mahadik	
Open elective-I(TUT)	E3	Prof.R.V.Kaulgud	
DIGITAL & VLSI	E1,E2,E3,E4	Prof.V.T.Kamble	VLSI & EMBEDDED
SIMULATION & MODELLING	E1	Prof.S.S.Karadge	Programming Language-I
SIMULATION & MODELLING	E2,E3,E4	Prof.A.A.Sutar	Programming Language-I
Electromagnetic Engg.(TUT)	E1,E2,E3,E4	Prof.A.A.Sutar	
Signals & Systems(TUT)	E1,E2,E3,E4	Prof.D.U.Chavan	



Prof. D. U. Chavan
TIME TABLE I/C

Prof. R. V. Kaulgud
Academic coordinator

Prof. M. M. Kolap
HOD ETC

Prof. A. S. Sajane
Dean, Academics

Dr. S. B. Patil
Principal

Dr. S. S. Admuthé
Campus Director



Dr. J. J. Magdum Trust's (No. E/902)

Dr. J. J. Magdum College of Engineering, Jaysingpur

Department of Electronics & Telecommunication Engineering

◆ TIME TABLE ◆

Academic Year: 2022-23

Department: Electronics & Telecommunication Engineering

Class Coordinator: Prof.A.A.Sutar

Semester: I

Class: SY

Class Room No.:

W.e.f.: 12/9/2022

TIME	Monday	Tuesday	Wednesday	Thursday	Friday	Sat
09.30 am – 10.30 am	E1-ECD-I(MUP) E2-ACOM(THM) E3-TAM(VTK) E4-M3 (MRN)/NA(AAS)	E1- ACOM(THM) E2- TAM(DUC) E3- M3 (MRN)/NA(AAS) E4- PL-I(SRM)	E1- TAM(MMK) E2- M3 (MRN)/NA(SSK) E3- PL-I(SRM) E4- ECD-I(PPB)	E1- M3 (MRN)/NA(AAS) E2- PL-I(SRM) E3- ECD-I(MUP) E4- ACOM(THM)	E1- PL-I(SRM) E2- ECD-I(MUP) E3- ACOM(THM) E4- TAM(RVK)	NA(AAS)
10.30 am – 11.30 am						NA(AAS)
11.30 am – 11.40 am	Short Break					
11.40 am – 12.40 pm	Engg.Maths-III(MRN)	ECD-I(MUP)	ACOM(THM)	ES(PAC)	Engg.Maths-III(MRN)	
12.40 pm – 01.40 pm	PL-I(SRM)	Engg.Maths-III(MRN)	NA(AAS)	NA(AAS)	ACOM(THM)	
01.40 pm – 02.30 pm	Lunch Break					
02.30 pm – 03.30 pm	TAM(VTK)	TAM(VTK)	ECD-I(MUP)	PL-I(SRM)	TAM(VTK)	
03.30 pm – 04.30 pm	ACOM(THM)	NA(AAS)	ES(PAC)	ECD-I(PPB)	ECD-I(PPB)	

Name of Subject	Batches	Name of Faculty Member	NAME OF LAB
Electronics Circuit Design-I	E4	Prof.P.P.Belagali	ANALOG ETRX
Electronics Circuit Design-I	E1,E2,E3	Prof.M.U.Phutane	ANALOG ETRX
Analog Communication	E1,E2,E3,E4	Prof.T.H.Mohlte	ANALOG COMMUNICATION
Programming Language-I	E1,E2,E3,E4	Dr.S.R.Mahadik	Programming Language-II
Transducer and Measurement	E1	Prof.M.M.Kolap	MEASUREMENT AND POWER
Transducer and Measurement	E2	Prof.D.U.Chavan	MEASUREMENT AND POWER
Transducer and Measurement	E3	Prof.V.T.Kamble	MEASUREMENT AND POWER
Transducer and Measurement	E4	Prof.R.V.Kaulgud	MEASUREMENT AND POWER
Network Analysis(TUT)	E1,E3	Prof.M.M.Kolap	
Network Analysis(TUT)	E2	Prof.S.S.Karadge	
Network Analysis(TUT)	E4	Prof.A.A.Sutar	
Engg.Maths-III(TUT)	E1,E2,E3,E4	Prof.M.R.Nalk	



D.Chavan
Prof.D.U.Chavan
TIME TABLE I/C

Kamark
Prof.R.V.Kaulgud
Academic coordinator

MS
Prof.M.M.Kolap
HOD ETC

A.Sajane
Prof. A.S.Sajane
Dean, Academics

S.B.Patil
Dr.S.B.Patil
Principal

Dr.SS.Admuthé
Dr.SS.Admuthé
Campus Director



Dr. J. J. Magdum Trust's (No. E/902)

Dr. J. J. Magdum College of Engineering, Jaysingpur

Department of Electronics & Telecommunication Engineering

◆ TIME TABLE ◆

Academic Year: 2022-23
Department: Electronics & Telecommunication Engineering
Class Coordinator: Prof.M.U.Phutane

Semester: I
Class: BTech
Class Room No.:
W.e.f: 12/9/2022

TIME	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
09.30 am – 10.30 am	CN(RVK)	EBD(SBP)	CN(RVK)	EBD(SBP)	EBD(SBP)	
10.30 am – 11.30 am	IP(MMK)	CN(RVK)	EBD(SBP)	CN(RVK)	IP(MMK)	
11.30 am – 11.40 am	Short Break					
11.40 am – 12.40 pm	SAT(MUP)/ ITC(DUC)	IP(MMK)	IP(MMK)	SAT(MUP)/ ITC(DUC)	PROJECT	
12.40 pm – 01.40 pm	ELECTIVE(THM)	SAT(MUP)/ ITC(DUC)	ELECTIVE(THM)	ELECTIVE(THM)		
01.40 pm – 02.30 pm	Lunch Break					
02.30 pm – 03.30 pm	E1-EBD(DUC) E2-CN(RVK)	E1- CN(RVK) E2- EBD(DUC)	E1- IP(MMK) E2-ELECTIVE(THM)/ SAT(MUP)/ ITC(DUC)	E1-ELECTIVE(THM)/ SAT(MUP)/ ITC(DUC) E2- IP(MMK)	PROJECT	
03.30 pm – 04.30 pm						

Name of Subject	Batches	Name of Faculty Member	NAME OF LAB
Embedded systems	E1,E2	Prof.D.U.Chavan	VLSI & Embedded
Computer Network	E1,E2	Prof.R.V.Kaulgud	Programming Language-I
Image processing	E1,E2	Prof.M.M.Kolap	Programming Language-II
Satellite communication(TUT)	E1	Prof.R.V.Kaulgud	
Satellite communication(TUT)	E2	Prof.M.U.Phutane	
Information theory coding & techniques(TUT)	E1	Prof.D.U.Chavan	
Elective-I(TUT)	E1,E2	Prof.T.H.Mohite	



Deharan
Prof.D.U.Chavan
TIME TABLE I/C

Famam
Prof.H.V.Kaulgud
Academic coordinator

MS
Prof.M.M.Kolap
HOD ETC

Ajane
Prof. A.S.Sajane
Dean, Academics

Patil
Dr. S.B.Patil
Principal

Admthe
Dr.S.S.Admthe
Campus Director

Dr. J. J. Magdum College of Engineering, Jaysingpur
Department of Electronics & Telecommunication Engineering

◆ TIME TABLE ◆

Academic Year: 2022-23

Department: Electronics & Telecommunication Engineering

Revision:

Class Coordinator: Prof.A.A.Sutar

Semester: II

Class: SY

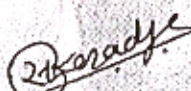
Class Room No.: 1

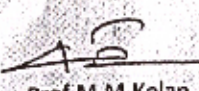
W.e.f.: 31/1/2023

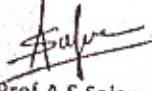
TIME	Monday	Tuesday	Wednesday	Thursday	Friday	Sa
10.30 am – 11.30	E1-DCOM(THM) E2- ECD-II(MUP) E3-PL-II(SRM) E4-LIC(SSK)	ENV(PAC)	LIC(SSK)	E1- PL-II(SRM) E2- LIC(SSK) E3- CS(AAS)/DS(DUC) E4- DCOM(THM)	DS(DUC)	DS(D
11.30 am – 11.45		DCOM(THM)	ECD-II(PPB)		PL-II(SRM)	DS(D
11.45 am – 11.49	Short Break					
12.45 pm – 12.49	ECD-II(MUP)	E1-CS(AAS)/DS(DUC) E2- DCOM(THM) E3- ECD-II(MUP) E4- PL-II(SRM)	CS(AAS)	ECD-II(MUP)	E1- ECD-II(PPB) E2 PL-II(SRM) E3- LIC(SSK) E4- CS(AAS)/DS(DUC)	
1.45 pm – 01.49	DCOM(THM)		PL-II(SRM)	ENV(PAC)		
2.30 pm – 02.30	Short Break					
3.30 pm – 03.30	DS(DUC)	ECD-II(PPB)	E1- LIC(SSK) E2- CS(AAS)/DS(DUC) E3- DCOM(THM) E4- ECD-II(PPB)	LIC(SSK)	DCOM(THM)	
4.30 pm – 04.30	CS(AAS)	LIC(SSK)		CS(AAS)	LIC(SSK)	

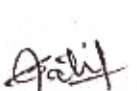
Name of Subject	Batches	Name of Faculty Member	NAME OF LAB
Electronics Circuit Design-II	E1,E4	Prof.P.P.Belagali	Analog ETRX
Electronics Circuit Design-II	E2,E3	Prof.M.U.Phutane	Analog ETRX
Digital Communication	E1,E2,E3,E4	Prof.T.H.Mohite	Digital Communication/MDEE Engg.
Programming Language-II	E1,E2,E3,E4	Dr.S.R.Mahadik	Programming Lab-II
Linear Integrated Circuit	E1,E2,E3,E4	Prof.S.S.Karadge	Design Lab
Data Structure(TUT)	E1,E2,E3,E4	Prof.D.U.Chavan	
Control System(TUT)	E1,E2,E3,E4	Prof.A.A.Sutar	


Prof. D. U. Chavan
Time Table I/C

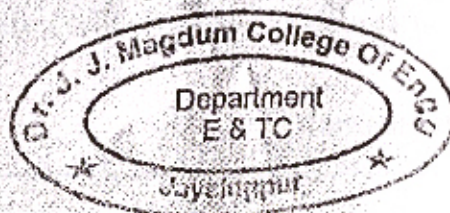

Prof. S. S. Karadge
Academic coordinator


Prof. M. M. Kolap
HOD
ETC & ETRX Engg


Prof. A. S. Sajane
Dean, Academics


Dr. S. B. Patil
I/C Principal


Dr. S. S. Admithe
Campus Director





Dr. J. J. Magdum College of Engineering, Jaysingpur

Department of Electronics & Telecommunication Engineering

◆ TIME TABLE ◆

Academic Year: 2022-23

Department: Electronics & Telecommunication Engineering

Revision:

Class Coordinator: Prof.D.U.Chavan

Semester: II

Class: TY

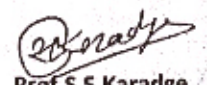
Class Room No.: 2

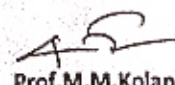
W.e.f.: 30/1/2023

TIME	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
09.30 am – 10.30 am	MM(SBP)	PE(MUP)	E1- PE(MUP) E2- MP(DUC) E3- MM(VTK) E4- DSP(AAS)	PE(MUP)	E1- DSP(AAS) E2- AWP(MMK) E3- PE(MUP) E4- MP(SSK)	
10.30 am – 11.30 am	OE-II(DUC)	MM(SBP)		MM(SBP)		
11.30 am – 11.45 am						
11.45 am – 12.45 pm	E1-MM(VTK) E2-DSP(AAS) E3-AWP(MMK) E4-PE(DUC)	AWP(MMK)	AWP(MMK)	E1- AWP(MMK) E2- PE(DUC) E3- MP(AAS) E4- MM(VTK)	MM(SBP)	
12.45 pm – 01.45 pm		DSP(AAS)	OE-II(DUC)		AWP(MMK)	
01.45 pm – 02.30 pm						
02.30 pm – 03.30 pm	AWP(MMK)	E1-MP(DUC) E2- MM(VTK) E3- DSP(AAS) E4- AWP(MMK)	DSP(AAS)	DSP(AAS)	DSP(AAS)	
03.30 pm – 04.30 pm	PE(MUP)		PE(MUP)		OE-II(DUC)	

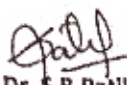
Name of Subject	Batches	Name of Faculty Member	NAME OF LAB
Microprocessor & Microcontroller	E1,E2,E3,E4	Prof.V.T.Kamble	VLSI & EBD LAB
Antena and wave Propagation	E1,E2,E3,E4	Prof.M.M.Kolap	Adavanced Comm.
Power Electronics	E1,E3	Prof.M.U.Phutane	Measurement & Power
Power Electronics	E2,E4	Prof.D.U.Chavan	Measurement & Power
MINI PROJECT	E1,E2	Prof.D.U.Chavan	Design Lab
MINI PROJECT	E3	Prof.A.A.Sutar	Design Lab
MINI PROJECT	E4	Prof.S.S.Karadge	Design Lab
Digital Signal Processing	E1,E2,E3,E4	Prof.A.A.Sutar	Programming Lab-I
Open Elective-II		Prof.D.U.Chavan	


Prof. D. U. Chavan
Time Table I/C

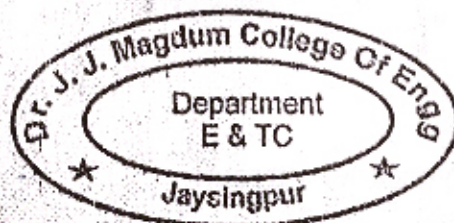

Prof. S. S. Karadge
Academic coordinator


Prof. M. M. Kolap
HOD
ETC & ETRX Engg


Prof. A. S. Sajane
Dean, Academics


Dr. S. B. Patil
I/C Principal


Dr. S. S. Admuthé
Campus Director





Dr. J. J. Magdum Trust's (No. E/902)

Year 2022

Dr. J. J. Magdum College of Engineering, Jaysingpur

Department of Electronics & Telecommunication Engineering

◆ TIME TABLE ◆

Academic Year: 2022-23
Department: ETC & ETRX
Revision:
Class Coordinator: Prof.M.U.Phutane

Semester: II
Class: B. Tech
Class Room No.: 1/2
W.e.f.: 17/1/2023

TIME	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
09.30 am – 10.30 am	Elect-II(VTK)	E1-VE(SRM) E2- MWE(PPB)	WCOM(THM)	MWE(PPB)	PROJECT	PROJE
10.30 am – 11.30 am	MWE(PPB)		VE(SRM)/ PED(SSK)	MWE(PPB)		
11.30 am – 11.45 am						
11.45 am – 12.45 pm	WCOM(THM)	MWE(PPB)	E1- WCOM(THM) E2-Elect(T)(VTK)	WCOM(THM)	PROJECT	
12.45 pm – 01.45 pm	VE(SRM)/ PED(SSK)	Elect-II(VTK)		VE(SRM)/ PED(SSK)		
01.45 pm – 02.30 pm						
02.30 pm – 03.30 pm	E1-MWE(PPB) E2- VE(SRM)/ PED(SSK)	VE(SRM)/ PED(SSK)	Elect-II(VTK)	E1-Elect(T)(VTK) E2- WCOM(THM)	PROJECT	
03.30 pm – 04.30 pm		WCOM(THM)	PROJECT			

Name of Subject	Batches	Name of Faculty Member	NAME OF LAB
Power Electronics & Drives	E2	Prof.S.S.Karadge	Measurement & Power
Video Engg.	E1,E2	Dr.S.R.Mahadik	DCOM Audio & Video
Microwave Engg.	E1,E2	Prof.P.P.Belagali	Advanced Comm.
Wireless Communication	E1,E2	Prof.T.H.Mohite	Analog comm.
ELECTIVE-II	E1,E2(TUT)	Prof.V.T.Kamble	
ELECTIVE-II		Prof.V.T.Kamble	

Prof. D. U. Chavan
Time Table I/C

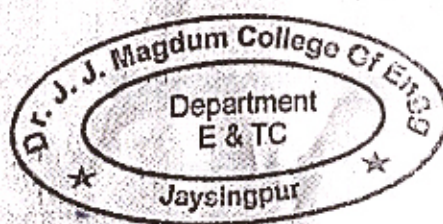
Prof. S. S. Karadge
Academic coordinator

Prof. M. M. Kolap
HOD
ETC & ETRX Engg

Prof. A. S. Sajane
Dean, Academics

Dr. S. B. Patil
I/C Principal

Dr. S. S. Admuthé
Campus Director



Dr.J.J.Magdum Trust's
Dr.J.J.Magdum College of Engineering, Jaysingpur

◆ Department of Electronics & Tele-Communication Engineering ◆



Student Information Manual(SIM)

Academic Year 2022-23 (Sem.-I)



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2. Vision of Institute

Mission of Institute

Quality Policy

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Programme Outcomes (PO's)
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Rubrics for Project Work assessment
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(Counseling, co/extracurricular, leave)



1. Institute Information

Dr J J Magdum College of Engineering was established by Dr J J Magdum Trust, Jaysingpur in the year 1992 with an objective to promote the cause of higher education. The institute is approved by All India Council of Technical Education (AICTE), New Delhi and Government of Maharashtra, affiliated to Shivaji University, Kolhapur. The college offers B. Tech program in Mechanical, Civil, Computer Science Engineering, Electronics & Tele-Communication, Information Technology and M. Tech program in Civil Engineering-Construction Management.

Our Management extends its fullest support in building the institution as a center of excellence with technically superior, ethically strong and competent engineers. The serene campus vibrant with aesthetic bliss in an exhilarating convenient location, well connected by road, rail and air is easily accessible. The eco-friendly ambience creates and bestows a healthy learning atmosphere.

The institution is meticulous with modern laboratory, workshop facilities and state of art computer center providing an excellent infrastructure.

The institution has spacious library with vast collection of Books, Newspapers, National & International Journals, Magazines, and Reference books, Encyclopedia, World of science, ASM hand books and course materials. E-learning through NPTEL Video course by NIT and IIT Professors are available.

The Teaching and Non-Teaching Staff of the institute is a blend of senior experienced and young dynamic faculty members devoted to the noble cause of education. Qualified, experienced, versatile and efficient faculty members mould the students diligently in ethical, moral and academic aspects.

We imparts technology based experiential learning through industry visits, live projects, expert talks, MOOC's, workshops, case studies, upscale labs, and virtual classroom sessions.

Industry-Institute interaction and real-time projects nurture and craft the budding engineers to bloom and flourish in the field with the prowess guidance in the campus.



The college equips the students with the latest skills which make them employable and future ready.

Due to able and proper guidance and motivation, many of our students have topped at University. Our training and placement works meticulously to improve and develop life skills to the students and tries hard to seek good jobs for our students. In addition to the academics, the students are engaged in sports and cultural activities which helps them to develop versatile personality. Various Club activities are conducted to encourage, motivate and inspire students from diverse culture to harness the talent through their perseverance.

The institute is having spacious ground and the modern facilities for both indoor and outdoor games and ultra-modern Gymnasium. Due to proper guidance and motivation, many of our students have grabbed prizes at University level and different sport events.

We are committed to stakeholders for best results and produced more than 10000+ engineers getting campus placements.



VISION

To be a leading academic organization, creating skilled and Ethical Human Resource by leveraging Technical Education for Sustainable Development of Society.

MISSION

- To promote learnability of all among stakeholders.
- To empower rural youth to be competent in technical education and imbibe ethical values.
- To contribute local social and economic context, leading to satisfied stakeholders.

QUALITY POLICY

We strive for continual improvement in our performance through methodical academic monitoring, student participation and use of innovative teaching-learning process.



DEPARTMENT VISION

To be the most preferred department delivering fundamental and advanced knowledge in Electronics & Telecommunication and related engineering fields using state-of-the-art teaching methodologies to transform the students into knowledgeable and skilled graduates with ethical behaviour.

DEPARTMENT MISSION

- To provide high-quality technical education and prepare the students to tackle the complex engineering problems using advanced methods with sound footing on fundamental engineering principles.
- To implement technical and managerial skills with innovative research capabilities for exemplary professional conduct.
- To lead and to apply technology for the progress of mankind.
- To adopt to the constantly changing technological environment with highest ethical values as inner strength.

PEO's

Graduates will

- 1.Exhibit analytical and design skills by providing the optimum solutions to the real time problems associated with Electronics & Telecommunication engineering using modern tools and technology.
- 2.Demonstrate professional skills like leadership, team spirit, communication, project management to deliver the in-time solutions to the analyzed and designed technical problems
- 3.Display commitment to high standards of professional & personal ethics, and desire for self and long-life learning.

PSO's

Graduates will be able to,

1. Apply their integrated knowledge of Electronics, Communication and Digital Signal Processing to provide the technical solutions to the problems related with digital communication using simulation tools.
2. Implement the successfully simulated optimum solutions in hardware using modern tools and test those for the designed specifications.



Program Outcomes (POs)

At the end of successful completion of program, the graduates will be able to,

1. **Engineering Knowledge:** Apply knowledge of mathematics, science, engineering Fundamentals and an engineering specialization to the solution of complex engineering pr
2. **Problem Analysis:** Identify, formulate, research literature and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.
3. **Design/Development of Solutions:** Design solutions for complex engineering problems and design system components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal and environmental
4. **Conduct investigations** of complex problems using research-based knowledge and research methods including design of experiments, analysis and interpretation of data and synthesis of information to provide valid
5. **Modern Tool Usage:** Create, select and apply appropriate techniques, resources and modern engineering and IT tools including prediction and modeling to complex engineering activities with an under-standing of the limitations.
6. **The Engineer and Society:** Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering
7. **Environment and Sustainability:** Understand and the impact of professional engineering solutions in societal and environmental contexts and demonstrates knowledge of and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering
9. **Individual and Teamwork:** Function effectively as in visual, and as a member or leader in diverse teams and in multidisciplinary s
10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations and give and receive clear
11. **Project Management and Finance:** Demonstrate knowledge and understanding of engineering and management principles and apply these too noels on work, as a member and leader instead, to manage projects and in multidisciplinary environment.
12. **Lifelong Learning:** Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological



2. Students role and Responsibilities

Code of Conduct:-

- Every student must carry his/her identity card while being present in the college premises.
- Use of cell phones is strictly prohibited during class/labs hour.
- Without the permission of the Principal, students are not allowed to circulate any printed materials within the college campus.
- Every student is expected to maintain the general cleanliness within the classrooms, laboratories and the campus in general.
- Students should handle the college properties with care. Damage to the furniture or any other materials may lead to penalty or suspension from the college.
- Intoxication or possession of narcotics and other dangerous material is strictly prohibited.
- Playing cards, spitting and loitering are strictly prohibited inside the college campus and shall invite severe punishment/disciplinary action.
- Attempted or actual theft of and or damage to property of the college, or property of a member of the college community, or other personal or public property, on or off campus will be considered as a punishable act.
- Every student will remain answerable to the college authority for his/her activity and conduct on the college premises.
- Any act which obstructs teaching, research, administrative activity and other proceedings of the college is strictly prohibited.
- Indulging, ragging, anti-institutional, anti-national, antisocial, communal, immoral or political expressions and activities within the campus and hostel are strongly prohibited as well as punishable.
- Students are required to check the notice board and also website of the college for important announcements.



3. Laboratory Instructions:

- Students must present a valid ID card before entering the laboratory.
- Mobiles are strictly restricted in the laboratories.
- Remove your shoes/chappals/sandals outside the lab.
- Handle all the equipment's such as CRO, Signal generator, educational kits with care.
- If any problem arises switch off the supply and inform the technical assistant, Lab on charge immediately.
- Before switching on power supply, get checked the connections from the technical assistant.
- Perform the practical and note the reading in notebook .Get checked with the reading from subject In charge.
- Switch off the mains, while leaving the lab.
- Playing of games on computer in the lab is strictly prohibited.

Classroom Instructions:-

- Students should know and obey rules and regulations of department as well as college.
- Mobiles are strictly restricted in the classroom.
- Students strive to meet Academic Expectations.
- Students are expected to take all tests at the scheduled times seriously.
- Maintain discipline in the class.
- A student should maintain at least 75% attendance in the Lectures of every subject and 100% overall performance. Otherwise, he or she will be debarred from the University Examination.
- Latecomers will not be entertained to enter into the classroom.
- Participate in the activities organized in the Department as well as in the College.
- While discussion, students should conduct and express themselves in a way that is respectful of all persons.
- Develop positive attitudes
- Be cooperative and considerate.
- Welcome challenges.
- Be helpful to others
- Be kind, polite, and courteous to others.
- Do the assigned work on time.
- Be prepared for classes with all necessary supplies.
- Be Respectful and Punctual.
- Be in the best of behaviors.



4. Academic Planner

ACADEMIC CALENDAR FOR YEAR 2022-23 SEMESTER I

August 2022

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24 <i>Commencement of Theory lectures for SY / TY/ Final Year</i>	25	26	27
28	29	30	31 <i>Ganesh chaturthi</i>			

September 2022

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5 <i>Teachers Day</i>	6 <i>Workshop for students</i>	7 <i>Workshop for students</i>	8 <i>Workshop for students</i>	9	10
11	12	13	14	15 <i>Engineers day</i>	16	17
18	19	20	21	22 <i>DRC Meeting</i>	23 <i>Field Training presentation for final year</i>	24 <i>NSS Day</i>
25	26 <i>Proctor meeting</i>	27	28 <i>ECESA activity</i>	29 <i>Expert lecture</i>	30 <i>CMC meeting</i>	



October 2022

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1 Industrial visit for Btech Commencement of Value added course
2	3	4	5 Dasara	6 CIE-1	7 CIE-1	8
9	10	11	12	13	14 BTech Synopsis Presentation	15 ECESA activity
16	17	18	19	20 Expert lecture	21 Augmentation Program	22
23	24 Diwali	25 Diwali	26 Diwali	27	28 Proctor meeting	29 Industrial visit for TY
30	31 CMC meeting					

November 2022

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4 FDP- Webinar for Teaching (ETC)	5 Parents Meet
6	7 Alumni Interaction	8	9	10	11	12
13	14	15 Augmentation Program	16	17	18 Second assessment of project	19 Industrial visit for SY
20	21 CIE-II	22 CIE-II	23	24 Expert lecture	25 Proctor meeting	26
27	28 Advisory Board meeting	29	30 CMC meeting			



December 2022

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3 <i>Expert lecture</i>
4	5 <i>Tentative Final submission for SY/TY/Final Year</i>	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	2	122	23	24
25	26	27	28	29	30	31



5. Departmental Time-Table
Dr. J. J. Magdum Trust's (No. E/902)



Dr. J. J. Magdum College of Engineering, Jaysingpur

Department of Electronics & Telecommunication Engineering

◆ **TIME TABLE** ◆

Academic Year: 2022-23

Semester: I

Department: Electronics & Telecommunication Engineering

Class: BTech

Class Room No.:

Class Coordinator: Prof.M.U.Phutane

W.e.f.: 12/9/2022

TIME	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
09.30 am – 10.30 am	CN(RVK)	EBD(SBP)	CN(RVK)	EBD(SBP)	EBD(SBP)	
10.30 am – 11.30 am	IP(MMK)	CN(RVK)	EBD(SBP)	CN(RVK)	IP(MMK)	
11.30 am – 11.40 am	Short Break					
11.40 am – 12.40 pm	SAT(MUP)/ ITC(DUC)	IP(MMK)	IP(MMK)	SAT(MUP)/ ITC(DUC)	PROJECT	
12.40 pm – 01.40 pm	ELECTIVE(THM)	SAT(MUP)/ ITC(DUC)	ELECTIVE(THM)	ELECTIVE(THM)		
01.40 pm – 02.30 pm	Lunch Break					
02.30 pm – 03.30 pm	E1-EBD(DUC) E2-CN(RVK)	E1- CN(RVK) E2- EBD(DUC)	E1- IP(MMK) E2-ELECTIVE(THM)/ SAT(MUP)/ ITC(DUC)	E1-ELECTIVE(THM)/ SAT(MUP)/ ITC(DUC) E2- IP(MMK)	PROJECT	
03.30 pm – 04.30 pm						

Name of Subject	Batches	Name of Faculty Member	NAME OF LAB
Embedded systems	E1,E2	Prof.D.U.Chavan	VLSI & Embedded
Computer Network	E1,E2	Prof.R.V.Kaulgud	Programming Language-I
Image processing	E1,E2	Prof.M.M.Kolap	Programming Language-II
Satellite communication(TUT)	E1	Prof.R.V.Kaulgud	
Satellite communication(TUT)	E2	Prof.M.U.Phutane	
Information theory coding & techniques(TUT)	E1	Prof.D.U.Chavan	
Elective-I(TUT)	E1,E2	Prof.T.H.Mohite	



Prof.D.U.Chavan
TIME TABLE I/C

Prof.R.V.Kaulgud
Academic coordinator

Prof.M.M.Kolap
HOD ETC

Prof. A.S.Sajane
Dean, Academics

Dr. S.B.Patil
Principal

Dr.S.S.Admuhe
Campus Director

6. Structure of Syllabus:

SEMESTER - VII																				
Sr. No	Course (Subject Title)	TEACHING SETEME									EXAMINATION SETEME									
		THEORY			TUTORIAL			PRACTICAL			THEORY				PRACTICAL			TERM WORK		
		Credits	No. of Lecture	Hours	Credits	No. of Lecture	Hours	Credits	No. of Lecture	Hours	Hours	Mode	Marks	Total Marks	Min	Hours	Max	Min	Hours	Max
1	PCC-ETC701	3	3	3	1	1	1	-	-	-	-	CIE 30	100	40	As per BOS Guidelines	-	-	2	25	10
2	PCC-ETC702	4	4	4	-	-	-	1	2	2	ESE 70	CIE 30				100	40	50	20	2
3	PCC-ETC703	4	4	4	-	-	-	1	2	2	ESE 70	CIE 30	100	40				50	20	2
4	PCC-ETC704	4	4	4	-	-	-	1	2	2	ESE 70	CIE 30				100	40	-	-	2
5	PCE-ETC701	3	3	3	1	1	1	-	-	-	ESE 70	CIE 30	100	40				-	-	2
6	PW-ETC701	-	-	-	-	-	-	2	4	4	-	-				-	-	25	10	2
TOTAL		18	18	18	2	2	2	5	10	10			500			125			175	
SEMESTER - VIII																				
1	PCC-ETC801	4	4	4	-	-	-	1	2	2	-	CIE 30	100	40	As per BOS Guidelines	50	20	2	25	10
2	PCC-ETC802	4	4	4	-	-	-	1	2	2	ESE 70	CIE 30				100	40	-	-	2
3	PCC-ETC803	4	4	4	-	-	-	1	2	2	ESE 70	CIE 30	100	40				50	20	2
4	PCE-ETC801	3	3	3	1	1	1	-	-	-	ESE 70	CIE 30				100	40	-	-	2
5	PW-ET801	-	-	-	-	-	-	6	8	8	-	-	-	-				150	60	2
TOTAL		15	15	15	1	1	1	9	14	14			400				250			150
TOTAL		33	33	33	3	3	3	14	24	24			900			375			325	

<ul style="list-style-type: none"> • Candidate contact hours per week : 30 Hours (Minimum) • Theory and Practical Lectures : 60 Minutes Each • In theory examination there will be a passing based on separate head of passing for examination of CIE and ESE. • There shall be separate passing for theory and practical (term work) courses. 	<ul style="list-style-type: none"> • Total Marks for B.E. Sem VII & VIII : 1600 • Total Credits for B.E. Sem VII & VIII : 50
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Note:

1. PCC-ET: Professional Core course –Electronics & Telecommunication Engineering is compulsory.
2. PCE-ET: Professional Core Elective –Electronics & Telecommunication Engineering is compulsory.
3. SI-ET: Summer Internship-Electronics & Telecommunication Engineering is compulsory.
4. PW-ET: Project work- Electronics & Telecommunication Engineering is compulsory.
5. MC-ET: Mandatory Course- Electronics & Telecommunication Engineering is compulsory



7. Subject Details

SUBJECT NAME: COMPUTER NETWORK

Course Details

Class	Final Year B. Tech. Sem-VII
Course Code and Course Title	PCC-EN703:Computer Networks
Prerequisites	Digital Communication
Teaching scheme: Lectures + Practical	4 Hrs. + 2 Hr.
Credits	4 + 1
Evaluation Scheme ESE + CIE for Theory	70 (ESE) + 30 (CIE)

Teaching scheme	Examination scheme
Lectures: 4 Hrs. /Week	Theory:100 Marks, 70(ESE) +30 (CIE)
Practical: 2 Hrs./Week	TW: 25 Marks, OE: 50 Marks

Course Objectives:

The course aims to :

1	To provide students with an overview of the concepts and fundamentals of data communication and computer networks
2	Review the state of art in open research area such as LAN, MAN, WLAN & applications Computer Networking
3	Acquire the required skill to design simple computer networks.
4	Describe various functions and protocols at each layer of OSI and TCP/IP reference models.

Course Outcomes:

Upon successful completion of this course, the students will be able to:

1	State the evolution of Computer network, classifies different types of Computer Networks.
2	Design, implements, and analyzes simple computer networks.



3	Identify, formulate, and solve network engineering problems.	
4	Illustrate different OSI and TCP/IP protocols.	
COURSE CONTENTS		
Unit No.1	INTRODUCTION TO COMPUTER NETWORK History and development of computer network, network application, network software and hardware components, reference models: layer details of OSI, TCP/IP models., Network topology, Transmission media and types, Network Devices: Network Connectors, Hubs, Switches, Routers, Bridges.	6 Hrs.
Unit No.2	DATA LINK LAYER Design issues, sliding window protocols. HDLC – types of stations, modes of operation & frame formats, Random access Protocols, IEEE 802.3 frame formats.	6 Hrs.
Unit No.3	NETWORK LAYER Design issues, Routing algorithms – shortest path, distance vector routing, link state routing. Routing protocols - RIP, OSPF, IP Addressing, Subnetting/super netting, IPv4, IPv6 header format and basic address mode, DHCP, Congestion control, traffic shaping algorithms.	8 Hrs.
Unit No.4	TRANSPORT LAYER Transport layer-Process to process delivery, UDP, TCP, TCP services, TCP Segment, TCP Timers, Flow control, congestion control and Quality of Service.	7 Hrs.
Unit No:5	APPLICATION LAYER DNS, HTTP, SMTP, Telnet, FTP	7 Hrs.
Unit No.6	MULTIMEDIA IN INTERNET Streaming stored audio/video, Real-time interactive audio/video, Real-time transport protocol (RTP), Real-time transport control protocol (RTCP), Voice over IP (VoIP)	6 Hrs.



TEXT BOOKS:

1	Forouzan, , "Data Communication and Networking" IIndedition, TataMc-Graw Hill, Publication
2	Tanenbaum, "Computer Networks" , IVth Edition, pearson Education

REFERENCE BOOKS:

1	Wayne Tomasi, "Introduction to Data communications and Networking" Pearson Education.
2	Forouzan, "TCP/IP Protocol Suite" , III rd Edition Tata Mc-Graw Hill publication.

NOTE: Minimum Ten Practical's based on above syllabus.

GUIDELINES TO PAPER SETTER:

In theory ESE examination of 70 marks following points should be considered:

- Q.1 MCQ's based on complete syllabus. (Carries 14 Marks)
- Q.2 based on unit no 1, 2, 3 (Carries 14 Marks)
- Q.3 based on unit no 1, 2, 3 (Carries 14 Marks)
- Q.4 based on unit no 4, 5, 6 (Carries 14 Marks)
- Q.5 based on unit no 4, 5, 6 (Carries 14 Marks)



Lecture plan

Subject :- Computer Networks

Lec . no	Delivery contents
1	Introduction to computer networksHistory and development of computer network
2	reference models: layer details of OSI,TCP/IP models
3	Network topology
4	network software and hardware components
5	Transmission media and types

6	Network Devices: Network Connectors, Hubs, Switches, Routers, Bridge
7	Design issues, sliding window protocols, ,
8	HDLC – types of stations
9	Random access Protocols,
10	IEEE.802.3 frame formats
11	modes of operation & frame formats
12	Design issues
13	distance vector routing, link state routing.
14	Routing algorithms – shortest path
15	Routing protocols - RIP, OSPF
16	IP Addressing, Subnetting/super netting
17	IPv4, IPv6 header format and basic address mode
18	DHCP, Congestion control, traffic shaping algorithms
19	Transport layer-Process to process delivery
20	UDP
21	TCP
22	TCP services, TCP Segment, TCP Timers
23	Flow control
24	congestion control and Quality of Service
25	DNS
26	HTTP
27	SMTP
28	Telnet
29	FTP
30	Streaming stored audio/video, ,
31	Real-time interactive audio/video
32	Real-time transport protocol (RTP)
33	Real-time transport control protocol (RTCP)
34	Voice over IP (VoIP)

List of the experiments

Year: - 2022-23

Class: - BTech

Subject:-Computer Networks



Sr.No.	Title of the experiments	CO
1.	Study of Networking	1
2.	Study and Installation of LAN	2
3.	Character Transfer using simplex method	2

4.	Character Transfer using Half duplex method	2
5.	Simulation and implementation of Shortest path Algorithm	2
6.	Study of Installation of Widows 2003 Server & introduction to DHCP	4
7.	Framing Method – Bit Stuffing and De stuffing	1
8.	Cyclic redundancy code(CRC)	1
9.	Study of Token Bucket Algorithm	3
10.	Introduction to Network Simulator	2

Assignment No-1

1. Explain in detail ISO OSI reference model.
2. Explain TCP/IP reference model with design issues.
3. Write a note on types of networks.
4. Explain different topologies with advantages and disadvantages.

Assignment No-2

1. Explain CDMA Technique.
2. Explain in detail contention protocol.
3. Explain error correction and detection codes.
4. Write a note on HDLC frame format.
5. Explain sliding window protocol.

Assignment No-3

1. Explain in detail resource reservation protocol for eliminating congestion in network.
2. Explain leaky n token bucket algorithm.
3. Explain flow based routing.



4. Explain hierarchical routing.
5. Explain IPV4 header format.

Assignment No-4

1. Explain congestion prevention policies.
2. Difference between TCP and UDP.

Assignment No-5

1. Write a note on Telnet.
2. Write a note on DNS

Assignment No-6

1. Explain Real-time transport protocol (RTP),Real-time transport control protocol(RTCP)
2. Write a note on voice over IP.

SUBJECT NAME: IMAGE PROCESSING

Course Details

Class	Final Year B. Tech. Sem-VII
Course Code and Course Title	PCC-ETC704: Image processing
Prerequisites	Digital Signal processing
Teaching scheme: Lectures + practical	4 Hrs. + 2 Hr.
Credits	4 + 1
Evaluation Scheme ESE + CIE for Theory	70 (ESE) + 30 (CIE)

Teaching scheme	Examination scheme
Lectures: 4 Hrs. /Week	Theory:100 Marks, 70 (ESE) +30 (CIE)
Practical: 2 Hr./Week	TW: 25 Marks



Course Objectives:	
The course aims :	
1	To study fundamentals of Digital Image Processing.

2	To acquaint students with mathematical transforms for image processing.
3	To familiarize students with image filtering techniques.
4	To understand different morphological operations.
5	To introduce various image segmentation techniques.
6	To explain different image compression techniques and color image processing.

Course Outcomes:

Upon successful completion of this course, the students will be able to:

1	List fundamental steps involved in Digital Image Processing.
2	Apply different transforms and filtering techniques on an image.
3	Apply morphological operations
4	Perform image segmentation
5	Apply compression techniques.
6	Perform various operations on color image.

COURSE CONTENTS

Unit No.1	Digital Image Fundamentals Fundamentals steps in DIP, Components of image processing system, Elements of Visual Perception, Image sensing and acquisition, image sampling and quantization, basic relations between pixels	8 Hrs.
	Image Transforms Basic intensity transformation: image negation, Log transformation, power law transformation, Piecewise linear transformation functions, arithmetic and Logic operation, Histogram processing (equalization and matching), sine cosine, Hadamard, Haar, Slant transform .	
Unit No.2		8 Hrs.
Unit No.3	Image filtering Fundamentals of spatial filtering, smoothing and Sharpening in spatial domain, smoothing and Sharpening in frequency domain.	7 Hrs.



Unit No.4	Morphological image processing Dilation & erosion, opening and closing operation, Hit- or - miss transformation. Basic morphological algorithms: Boundary extraction, region filling, thinning and thickening, skeletons	8 Hrs.
UnitNo.5	Image segmentation Detection of discontinuities: Point detection, line detection, edge detection, (Sobel, Prewitt, Laplacian), global and adaptive thresholding, Region based segmentation (region growing, region splitting and merging).	8Hrs.
Unit No.6	Image Compression Fundamentals, Coding redundancy , interpixel redundancy, fidelity criteria , image compression model, lossless predictive coding, Lossy predictive coding Color Image Processing Color fundamentals, Color models , psudocolor, image processing, full color image processing, Color transformations	9 Hrs.

TEXT BOOKS:

1	Digital image processing : Rafael C Gonzalez , Richard E. Woods: Pearson Publication
2	Digital image processing and Analysis- B. Chanda , D. Datta , majnudar
3	Fundamentals of digital Image Processing- Anil K.Jain.

REFERENCEBOOKS:

1	Digital image processing- S. Jayraman, S Esakkiarajan , Veerakumar:MGH
2	Digital image processing and Analysis- B. Chanda , D. Datta, majnudar:PHI
3	Digital image processing using Matlab- Rafael C Gonzalez
4	Fundamentals of Digital Image Processing-S.Annadurai, R. Shanmugalaxmi : Pearson Publication
5	Digital Image Processing- S.Shridhar 6 Digital Image Processing - Pratt



Practical based on MATLAB/Scilab programs: Any 8 experiments based on above syllabus

1	Reading and displaying of image (Various image file format) and to understand the notion of connectivity and neighborhood defined for a point in an image.
2	Simple gray level transformation
3	Histogram processing
4	Image transforms
5	Image arithmetic operations
6	Image smoothening operation
7	Edge detection
8	Morphological operation
9	Segmentation using thresholding
10	image compression
11	Color image Processing

GUIDELINES TO PAPER SETTER:

In theory ESE examination of 70 marks following points should be considered:

- Q.1 MCQ's based on complete syllabus. (Carries 14 Marks)
- Q.2 based on unit no 1, 2, 3 (Carries 14 Marks)
- Q.3 based on unit no 1, 2, 3 (Carries 14 Marks)
- Q.4 based on unit no 4, 5, 6 (Carries 14 Marks)
- Q.5 based on unit no 4, 5, 6 (Carries 14 Marks)

Lecture plan

Subject :- Image Processing

Lec . no	Delivery contents
1	Fundamentals steps in DIP, Components of image processing system, ,
2	Elements of Visual Perception, Image sensing and acquisition
3	image sampling and quantization
4	basic relations between pixels
5	Basic intensity transformation: image negation
6	Log transformation, power law transformation
7	Piecewise linear transformation functions, arithmetic and Logic operation
8	Histogram processing (equalization and matching)



9	sine cosine, Hadamard, Haar, Slant transform .
10	Fundamentals of spatial filtering
11	smoothing and Sharpening in spatial domain
12	smoothing and Sharpening in frequency domain
13	Dilation & erosion
14	opening and closing operation
15	Hit- or –miss transformation
16	Basic morphological algorithms: Boundary extraction, region filling
17	thinning and thickening, skeletons
18	Detection of discontinuities: Point detection, line detection, edge detection, (Sobel, Prewitt, Laplacian)
19	global and adaptive thresholding
20	Region based segmentation (region growing, region splitting and merging)
21	Fundamentals, Coding redundancy
22	interpixel redundancy, fidelity criteria
23	image compression model, lossless predictive coding, Lossy predictive coding
24	Color Image ProcessingColor fundamentals, Color models
25	psudocolor
26	image processing, full color image processing
27	Color transformations

List of the experiments

Subject :- Image Processing (22-23)

Exp . no	Details	CO
1	Reading and displaying of image (Various image file format) and to understand the notion of connectivity and neighborhood defined for a point in an image.	1
2	Simple gray level transformation	2
3	Histogram processing	2
4	Image transforms	2
5	Image arithmetic operations	2
6	Image smoothing operation	2
7	Edge detection	4
8	Morphological operation	3
9	Segmentation using thresholding	4
10	image compression	5
11	Color image Processing	6

ASSIGNMENTS

Chapter no: 1 Digital Image Fundamentals

1. With the help of block diagram explain steps of digital image processing.
2. With the help of block diagram explain components of image processing system.



3. Explain the structure of human eye in detail.
4. Explain image formation model in human eye
5. Write note on brightness adaptation and discrimination.
6. Explain the image acquisition techniques using image sensors.
7. Explain sampling and quantization of image to convert in digital form
8. Explain some basic relationships between pixels
9. Explain applications of image processing in various fields.

Chapter no: 2 Image Transforms:

1. Explain following gray level transformations.
 - a) Image Negatives
 - b) Log
 - c) Power Law
 - d) Piecewise linear transformation
2. Explain use of arithmetic and logical operations for image enhancement
3. What is histogram? What is need of histogram equalization and derive equation for histogram equalization
4. Explain histogram matching for image enhancement.
5. Write note on:
 1. Sine transform
 2. Cosine transform
 3. Hadamard transform
 4. Haar transform
 5. Slant transform

Chapter no: 3 Image filtering`:

1. Explain fundamental mechanics of spatial filtering
2. Write note on Spatial correlation and convolution.
3. Explain vector representation of linear filtering and generating spatial filter masks.



4. Explain smoothing Spatial linear and non linear filters
5. Explain sharpening linear filters using first order and second order derivatives
6. Explain Unsharp Masking and Highboost filtering in spatial domain
7. Explain sharpening non linear image using first order derivatives
8. Explain Ideal, Butterworth and Guassian low pass filter in frequency domain for image smoothing.
9. Explain Ideal, Butterworth and Guassian high pass filter in frequency domain for image sharpening
10. Explain Laplacian in the frequency domain
11. Explain Unsharp Masking and Highboost filtering in frequency domain
12. Explain Homomorphic filtering.

Chapter no: 4 Morphological image processing:

1. Explain dilation and erosion in image processing.
2. Discuss opening and closing operation in detail.
3. Explain boundary extraction and region filling algorithms.
4. Discuss thinning and thickening operation in morphological image processing.

Chapter no: 5: Image segmentation

1. Discuss point detection and line detection in image segmentation.
2. Explain different operators used for edge detection.
3. Discuss adaptive and global thresholding.

4. Explain region based segmentation in detail.

Chapter no:6: Image Compression

1. Discuss image compression model in detail.
2. Explain coding redundancy and inter pixel redundancy.
3. Explain different color models.
4. Discuss Color transformations.



Elective 1 (Java Script)

Chapter No	No. of Lecture	Topics to be covered in each Lecture
INTRODUCTION TO JAVA		
1	1	Overview of JS, Client side JS Advantage & limitation of JS
	2	JS development tools, keywords syntax comments
	3	Variables, global variables
	4	Data Types(primitive & Non primitive) operators
	5	If...else if ...else if statements switch, break, continue statements
	6	For loop, For-in loop, while loop, do while loop
OBJECTS OF JAVA		
2	7	Methods of creating objects
	8	Objects properties
	9	JS objects events
	10	Date, math number
	11	Boolean ,string ,array
	12	Boolean ,string ,array
JAVA SCRIPT FUNCTION		
3	13	Function definition
	14	Syntax, parameters, Arguments
	15	Invocation function
	16	Function with return value
	17	Function objects, methods
	18	Nested function, function constructor
JAVA SCRIPT BOM DOM AND VALIDATION		
4	19	Browser objects:-methods of browser objects
	20	Window,History, Navigator,Screen objects
	21	Documents objects:- properties,
	22	Methods of documents objects, DOM Compatibility
	23	JS Validation:- form validation
	24	JS Email Validation
JAVA SCRIPT OBJECT ORIENTED PROGRAMMING		
5	25	JS class,objects,
	26	Objects methods,prototype.
	27	Constructor method, static method
	28	Encapsulation & inheritance
	29	Polymorphism & Abstraction.
JAVA SCRIPT EVENTS COOKIES,EXCEPTION HANDLING		



6	30	Types of events
	31	Operation using events, cookies & its fields
	32	Cookies operation, page redirection
	33	Exception handling
	34	Types of errors
	35	Debugging,hosting,JS Strict mode
	36	Debugging,hosting,JS Strict mode

Recommended Books:

Text Books:

1. Javascript for Beginners- by Mark Lasso's
2. JavaScript: The Definitive Guide- by David Flanagan, Kindle Edition
3. Eloquent JavaScript-by Marijn Haverbeke

Reference Books:

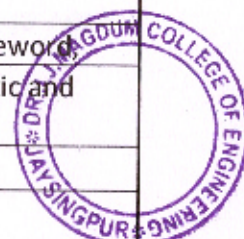
- 1.The Principles of Objects-Oriented JAVASCRIPT- by Nicholas C.Zakas
- 2.Java Script and JQuery: Interactive Front-End web Developmet 1st Edition- by JON Duckett
- 3 HTML, CSS, and JavaScript- by Meloni Julie C.Person Publication

Sr.No.	Tutorials	CO
1	Write a program to use and demonstrate the operators	CO1
2	Write a program using looping statements (For, While, do-While, For-In).	CO1
3	Write a program to demonstrate the applications of Array	CO3
4	Write a program to demonstrate the use of Boolean and Math objects	CO4
5	Write a program using user define functions	CO3
6	Write a program to create registration form and perform Validation	CO2
7	Write a program to create class with Objects	CO2
8	Write a program to perform Constructors	CO2



Subject: INFORMATION THEORY & CODING TECHNIQUES

Chapter	Lect	Details of syllabus planned
No.	No.	
Ch.1	UNIT I: INFORMATION THEORY	
	1	Introduction, Concept of information: Unit, Properties, Entropy (Average Information)
	2	Definition, Mathematical expression of Entropy, Entropy of Binary Source, Properties and Information Rate
	3	Joint Entropy, Conditional entropy, relation between Joint & Conditional Entropies
	4	Mutual Information: Average Mutual Information,
	5	Expression for Mutual information and properties,
	6	Relation between Mutual Information & Entropy
Ch 2	UNIT II: CHANNEL CAPACITY AND CODING	
	7	Channel Capacity, Redundancy and Efficiency of channel, Discrete memory less channel – Channel Matrix,
	8	Classification of channels: lossless Channel, Deterministic Channel, Noise free channel, Binary Symmetric Channel (BSC),
	9	Cascaded Channels and Binary Erasure Channel (BEC), Calculation of channel capacity of all channels,
	10	Shannon's fundamental theorem,
	11	Entropy Coding: Shannon Fano Coding,
	12	Huffman's Coding, Coding Efficiency Calculations.
Ch3	UNIT III: LINEAR BLOCK CODES	
	13	Introduction: Error Control Coding: Need, Objectives & Approaches of Error Control Coding Classification
	14	Error Detection and Error Correction Techniques, Linear Block Code: Structure
	15	Terms Related to Block Code,
	16	Matrix Description of Linear Block Code,
	17	Generator and Parity Check Matrices,
	18	Encoder and Syndrome decoder for (n, k) block Code.
Ch 4	UNIT IV: CYCLIC CODES	
	19	Algebraic structure, Properties, Polynomial representation of Codeword
	20	Generator Polynomial, Generation of Code Vector in Nonsystematic and Systematic form,
	21	Generator and Parity check matrices in Systematic form,
	22	Encoding of Cyclic Code,



	23	Syndrome decoding for Cyclic code, Hardware Representation of (n, k) cyclic code.
	24	Cyclic Redundancy Check Code
Ch 5	UNIT V: BCH & RS CODE	
	25	Binary Field Arithmetic, BCH Code: Properties, Primitive element and primitive polynomial,
	26	Primitive BCH Code, Construction of Galois Field $GF(2^m)$, Addition & Multiplication of $GF(2^m)$
	27	Properties of Galois Field $GF(2^m)$, Minimal & Generator Polynomial for BCH Code
	28	Decoding of BCH Code, Reed-Solomon code: Introduction
	29	Error correction capability of RS code,
	30	RS code in Nonsystematic & Systematic form, Decoding of RS & Nonbinary BCH code.
Ch 6	UNIT VI: CONVOLUTIONAL CODE	
	31	Introduction, Encoding of Convolutional Codes,
	32	Generation of Output code sequence : Time Domain Approach,
	33	Transform Domain Approach, Generator matrix ,
	34	Graphical Approach – Code Tree, State diagram and Trellis Diagram,
	35	Decoding of Codes : Maximum Likelihood Decoding -Viterbi Algorithm,
	36	Sequential Decoding

Recommended Books:

TEXT BOOKS:

1. R.P Singh & S.D. Sapre , “Communication Systems Analog & Digital“, Mc-Graw Hill, 11nd Edition, 2001.
2. Muralidhar Kulkarni, K.S. Shivprakash , “Information Theory & Coding”, Wiley (India) Publication 2014
3. Arijit Saha, Surajit Mandal, “Information Theory, Coding & Cryptography”, Pearson Education, 1st Edition, 2013. Page 6 of 56 Revised Syllabus of B.E.(Electronics Engg.) w.e.f. academic year 2016-17 Shivaji University, Kolhapur.
4. Salvatore Gravano, “Introduction to Error Control Codes”, Oxford University Press, 1st Edition, 2001

REFERENCE BOOKS:

1. Simon Haykin, “Communication Systems “, John Wiley & Sons, Inc, 1Vth Edition



2. Sam Shanmugam, "Digital and Analog Communication Systems", John Wiley Publication, 2005.
3. Martin Roden, "Analog & Digital Communication Systems", Prentice Hall India, 11th Edition.
4. Ranjan Bose, "Information Theory Coding & Cryptography", Tata McGraw-Hill Publishing Company Ltd, 11th Edition 2008

TUTORIALS

TUTORIAL NO.1

- Q.1 a) Explain joint entropy; conditional entropy. Derive the relation between joint entropy; Conditional entropy.
- Q.2 a) Explain mutual information and entropy; state its properties.
- Q.3 a) Define information, its unit & state its properties.
- Q.4 a) A message signal m_k is transmitted by a transmitter. The probability of occurrence of this signal is $\frac{1}{4}$. Calculate the information conveyed by it in terms of bits, nats, decit.
- Q.5 a) Derive an expression for entropy.

TUTORIAL NO.2

Q.1 a) A discrete memoryless source has five symbols x_1, x_2, x_3, x_4, x_5 with probabilities 0.4, 0.19, 0.16, 0.15, 0.15 resp. attached to every symbol.

- 1) construct Shannon-fanocode & calculate code efficiency.
- 2) repeat for Huffman code & compare two techniques.

Q.2 Generate all code words of $[7,4]$ linear block code (LBC) for following generator matrix

$$G = \begin{bmatrix} 1000110 \\ 0100011 \\ 0010111 \\ 0001101 \end{bmatrix}$$

$$G = \begin{bmatrix} 1000110 \\ 0100011 \\ 0010111 \\ 0001101 \end{bmatrix}$$

$$G = \begin{bmatrix} 1000110 \\ 0100011 \\ 0010111 \\ 0001101 \end{bmatrix}$$

$$G = \begin{bmatrix} 1000110 \\ 0100011 \\ 0010111 \\ 0001101 \end{bmatrix}$$

OR

Write a short note on-

1) RS code

2) GOLAY code

Q.3 a) Consider following generator matrix over GF(2)

$$G = \begin{bmatrix} 10100 \\ 10011 \\ 01010 \end{bmatrix}$$

$$G = \begin{bmatrix} 10100 \\ 10011 \\ 01010 \end{bmatrix}$$

$$G = \begin{bmatrix} 10100 \\ 10011 \\ 01010 \end{bmatrix}$$

- 1) Generate all possible code words.
- 2) find parity check matrix.
- 3) find generator matrix of an equivalent systematic code.
- 4) construct standard array for this code.
- 5) what is the min distance of this code
- 6) write down set of error patterns for this code can detect.
- 7) what is the symbol error probability if we use this encoding scheme? compare it with encoded probability.
- 8) is this linear code?



Q.4 a) For a systematic LBC the three parity check bits are

$C1 = m1 \oplus m2 \oplus m3$

$C2 = m2 \oplus m3 \oplus m4$

5. What is Channel Capacity?

6. Explain Redundancy and Efficiency of channel,

7 Write a note on Discrete memory less channel – Channel Matrix,

8 Explain Classification of channels: lossless Channel, Deterministic Channel, Noise free channel, Binar Symmetric Channel (BSC),

TUTORIAL NO.3

1. What is Error Control Coding? Approaches of Error Control Coding .
2. Classify Error Detection and Error Correction Techniques.
3. Explain Linear Block Code: Structure Terms Related to Block Code.
4. Note on Matrix Description of Linear Block Code.

TUTORIAL NO.4

1. Write Algebraic structure, Properties, Polynomial representation of Codeword.
2. Explain Generator Polynomial, Generation of Code Vector in Nonsystematic and Systematic form.
3. NOTE ON Generator and Parity check matrices in Systematic form, Encoding of Cyclic Code.
4. Syndrome decoding for Cyclic code, Hardware Representation of (n, k) cyclic code.
5. Cyclic Redundancy Check Code

TUTORIAL NO.5

1. WRITE A NOTE ON - Binary Field Arithmetic, BCH Code: Properties, Primitive element and primitive polynomial,
2. Primitive BCH Code, Construction of Galois Field $GF(2^m)$, Addition & Multiplication of $GF(2^m)$
3. Explain Properties of Galois Field $GF(2^m)$, Minimal & Generator Polynomial for BCH Code
4. Decoding of BCH Code, Reed-Solomon code: Introduction, Error correction capability of RS code.
5. Explain in detail RS code in Nonsystematic & Systematic form, Decoding of RS & Nonbinary BCH code.

TUTORIAL NO.6

1. Write in detail Encoding of Convolutional Codes.
2. Explain Graphical Approach – Code Tree, State diagram and Trellis Diagram.
3. Decoding of Codes : Maximum Likelihood Decoding - Viterbi Algorithm.
4. Sequential Decoding . Structural & Distance properties of Convolutional codes.



SUBJECT NAME: SATELLITE COMMUNICATION

Course Details

Class	Final Year B.Tech. Sem-VII
Course Code and Course Title	PCC-ETC701:Satellite Communication
Prerequisites	Analog Communication & Digital Communication
Teaching scheme: Lectures + Tutorial	3 Hrs. + 1 Hr.
Credits	3 + 1
Evaluation Scheme ESE + CIE for Theory	70 (ESE) + 30 (CIE)

Teaching scheme	Examination scheme
Lectures: 3 Hrs. /Week	Theory:100 Marks, 70(ESE) +30 (CIE)
Tutorial: 1Hr./Week	TW: 25 Marks

Course Objectives:

The course aims to :

1	To introduce the fundamental concept in the field of satellite communication.
2	To provide understanding of satellite communication system operation, launching Techniques.
3	To analyse, design and evaluate satellite communication subsystem.
4	To examine concept of satellite networking.
5	To outline applications of Satellite Systems in various fields

Course Outcomes:

Upon successful completion of this course, the students will be able to:

1	Understand Orbital aspects involved in satellite communication.
2	Understand various subsystems in satellite communication system
3	Explain and Analyse Link budget calculation.
4	Understand Satellite Network System
5	Explain Non Geostationary Satellite Systems
6	Explain different applications of Satellite Systems



COURSE CONTENTS		
UnitNo.1	INTRODUCTION OF SATELLITE COMMUNICATION: Introduction, basic concept of satellite communication, Orbital Mechanics, Look angle determination, Orbital perturbation, Orbital determination Launchers and Launch vehicles, Orbital effects in communication system performance.	7 Hrs.
UnitNo.2	SATELLITE SUBSYSTEM: Introduction, Attitude and control system(AOCS), Telemetry, Tracking, Command and Monitoring, Power systems, Communication subsystem, Satellite antennas, Equipment reliability and space qualification.	7 Hrs.
UnitNo.3	SATELLITE LINK DESIGN: Introduction, Basic transmission Theory, System Noise Temperature and G/T Ration, Design of Downlinks, Uplink Design, Design of specified C/N : Combining C/N and C/I values in Satellite Links. (Numerical Expected)	6 Hrs.
UnitNo.4	SATELLITE NETWORKS: Reference architecture for satellite networks, basic characteristics of satellite networks, Onboard connectivity with transparent processing, analogue transparent switching, Frame organization, Window organization, On board connectivity with beam scanning.	6 Hrs.
UnitNo.5	LOW EARTH ORBIT AND NON GEO-STATIONARY SATELLITE SYSTEM: Introduction, Orbit considerations, Coverage and Frequency Consideration, Delay and Throughput Consideration, Operational NGSO constellation design: Iridium, Teledesic.	4 Hrs.
UnitNo.6	SATELLITE APPLICATIONS: Communication Satellite-Digital DBS TV, Satellite Radio Broadcasting, Navigation Satellite, GPS Position Location Principles, GPS Receivers and codes. Military Satellite- Directed Energy Laser Weapons, Weather Forecasting Satellite Application	6 Hrs.

TEXT BOOKS:

1	Satellite Communications-Timothy Pratt, Charles Bostian, Jeremy Allnut John Wiley & Sons (II Edition)(For Unit 1,2,3,5)
2	Satellite Communications-Anil k. Maine and Varsha Agarawal, Wiley Publications (All Units)
3	Satellite Technology Principles and Applications Anil K. Maini and Varsha Agarawal, Wiley Publications, Third Edition (Unit 6)



REFERENCE BOOKS:

1	Satellite Communications- Dennis Roody McGraw Hill Fourth Edition (All Units)
2	Satellite Communications- Gerard Maral and Michel Bousquet, Wiley Publication (5 th Edition For Unit 4)
3	Satellite Communications systems Engineering, 2nd edition- Wilbur L. Pritchard, Henri G. Suyderhoud and Robert A. Nelson. (Unit 1)

NOTE:

1. Students, as a part of their term work, should visit satellite earth station and submit a report of visit.
2. Minimum 8 tutorials / assignment based on above syllabus.

Note for question paper setter: 62 marks theory + 6 marks problem.

GUIDELINES TO PAPER SETTER:

In theory ESE examination of 70 marks following points should be considered:

- Q.1 MCQ's based on complete syllabus. (Carries 14 Marks)
- Q.2 based on unit no 1, 2, 3 (Carries 14 Marks)
- Q.3 based on unit no 1, 2, 3 (Carries 14 Marks)
- Q.4 based on unit no 4, 5, 6 (Carries 14 Marks)
- Q.5 based on unit no 4, 5, 6 (Carries 14 Marks)

Teaching Plan

Class: B.E. ETC.

Year: 2022-23

Sub:-Satellite Communication

Lecture: 3/week

Faculty Name: Mrs. Phutane M.U.

Lecture No.	Content Of Lecture
	UNIT 1
1.	Introduction, basic concept of satellite communication
2.	Orbital Mechanics
3.	Look angle determination
4.	Orbital perturbation
5.	Orbital determination
6.	Launchers and Launch vehicles
7.	Orbital effects in communication system performance.



UNIT 2	
8.	Introduction, Attitude and control system
9.	Telemetry
10.	Tracking
11.	Command and Monitoring, Power systems
12.	Communication subsystem
13.	Satellite antennas
14.	Equipment reliability and space qualification
UNIT 3	
15.	Introduction, , System Noise
16.	Basic transmission Theory
17.	Temperature and G/T Ration
18.	Design of Downlinks
19.	Uplink Design
20.	Design of specified C/N : Combining C/N and C/I values in Satellite Links. (Numerical Expected)
UNIT 4	
21.	Reference architecture for satellite networks, basic characteristics of satellite networks
22.	Onboard connectivity with transparent processing
23.	analogue transparent switching
24.	Frame organization
25.	Window organization
26.	On board connectivity with beam scanning
UNIT 5	
27.	Introduction, Orbit considerations
28.	Coverage and Frequency Consideration
29.	Delay and Throughput Consideration
30.	Operational NGSO constellation design: Iridium, Teledesic
UNIT 6	
31.	Communication Satellite-Digital DBS TV
32.	Satellite Radio Broadcasting
33.	Navigation Satellite
34.	GPS Position Location Principles ,GPS Receivers and codes
35.	Military Satellite- Directed Energy Laser Weapons
36.	Weather Forecasting Satellite Application

TEXT BOOKS

1	Satellite Communications-Timothy Pratt, Charles Bostian, Jeremy Allnut Wiley & Sons (II Edition)(For Unit 1,2,3,5)
2	Satellite Communications-Anil k. Maine and Varsha Agarawal, Wiley Publications (All Units)
3	Satellite Technology Principles and Applications Anil K. Maini and Varsha Agarawal, Wiley Publications, Third Edition (Unit 6)



REFERENCE BOOKS

1	Satellite Communications- Dennis Roody McGraw Hill Fourth Edition (All Units)
2	Satellite Communications- Gerard Maral and Michel Bousquet, Wiley Publication (5 th Edition For Unit 4)
3	Satellite Communications systems Engineering, 2nd edition- Wilbur L. Pritchard, Henri G. Suyderhoud and Robert A. Nelson. (Unit I)

Tutorial 1

1. What are Kepler's laws of planetary motion? Also explain the parameters to describe satellite orbit.
2. Explain elevation angle calculation and azimuth angle calculation for antenna at receiving earth station.
3. Write short note on Satellite Communication.
4. Write short note on Orbital perturbations.

Tutorial 2

1. Write short note on Orbital Determination.
2. Write short note on Launch Vehicles.
3. Write short note on Orbital effects in communication system Performance.
4. Write short note on Altitude and orbit control system.

Tutorial 3

1. With suitable diagram explain tracking, telemetry, command and monitoring system.
2. Write short note on Power System.
3. Write short note on communication system.

Tutorial 4

1. Write short note on Satellite antennas.
2. Explain in detail space qualification, Reliability, and Redundancy in case of communication satellite system.



SUBJECT NAME: EMBEDDED SYSTEMS

Course Details

Class	Final Year B. Tech. Semester - VII
Course Code and Course Title	PCC-ETC 702: Embedded Systems
Prerequisites	Fundamentals of Microprocessor and Microcontroller and 'C' Programming
Teaching scheme :Lectures + Practical	4 Hrs. + 2 Hrs.
Credits	4 + 1
Evaluation Scheme ESE + CIE for Theory	70 (ESE) + 30 (CIE)

Teaching scheme	Examination scheme
Lectures : 4 Hrs./ Week	Theory : 100 Marks, 70 (ESE) + 30 (CIE)
Practical : 2 Hrs./ Week	TW: 25 Marks POE: 50 Marks

Course Objectives: The course aims to :	
1.	Study different concepts and programming of PIC 16F877
2.	Study different on-chip resources of PIC 16F877
3.	Study different concepts of ARM7
4.	Study Programming of ARM7
5.	Study different on chip resources of LPC 2148
6.	Understand basic concepts of RTOS

Outcomes: Upon successful completion of this course, the students will be able to:	
1.	Develop programs using PIC 16F877
2.	Apply on-chip resource facility of PIC 16F877.
3.	Understand Embedded systems and concepts of ARM7.
4.	Develop programs using ARM7
5.	Apply on chip resource facility of LPC 2148.
6.	Understand RTOS concept



COURSE CONTENTS		
Unit No: 1	Introduction to PIC Microcontroller Difference between RISC and CISC architecture, Features of PIC 16F877, Functional Pinout, CPU Architecture, Memory organization, Register file	08 Hrs.

	structure, CPU Registers: Status Word, FSR, INDF, PCLATH, PCI, Instruction set, Addressing modes and Simple assembly language Programming.	
Unit No: 2	On-Chip Resources of PIC 16F877 I/O Ports, Timers, CCP Module, ADC, I2C, SPI, Associate registers and programming, Interrupt structure, Configuration word, Oscillator configuration, Reset alternatives.	08 Hrs.
Unit No: 3	Introduction to Embedded System and ARM Processor Embedded System: Embedded System definition, Types of Embedded System, Characteristics and Design issues of Embedded systems. ARM: Embedded system Hardware, ARM data flow model, Register set, CPSR, Pipelining, Exceptions Interrupts & Vector Table, Cache and Tightly coupled memory, ARM Nomenclature.	08 Hrs.
Unit No: 4	Instruction Set and Programming ARM Instruction set, Thumb Instruction set, Simple assembly language programming.	07 Hrs.
Unit No: 5	LPC 2148 Microcontroller Features, Architecture details, Port structure, Timer/Counter, UART, ADC module, Embedded 'C' programming for interfacing LED's, LCD, Keyboard.	09 Hrs.
Unit No: 6	Real Time Operating System (RTOS) Introduction to RTOS concept, Embedded software architectures: Round robin, Round robin with interrupts, Function queue scheduling and Real time operating system, Tasks and Task states, Task scheduling, Shared data and Reentrancy, Semaphores and shared data using semaphores, Protecting shared data.	08 Hrs.

Text Books:

1.	Design with PIC Microcontrollers by John B. Peatman, Pearson
2.	Embedded System Design By Frank Vahid / Tony Givargis, Wiley Publication
3.	An Embedded Software Primer, David E. Simon Pearson Education, Asia Publication
4.	ARM System Developers Guide Designing & Optimizing System Software by Andrew N., Dominic Sloss, and Chris Wright.
5.	Datasheet of PIC16F877 and LPC 2148

REFERENCE BOOKS:

1.	Embedded systems by Raj Kamal, McGraw Hill
2.	Real- Time Systems Design and Analysis by Phillips A. Laplante, Wiley insia Edition.
3.	Embedded/ Real-Time Systems: Concepts, Design & Programming By Dr. K V K K Prasad, Dreamtech Press
4.	Embedded Systems (A contemporary design tool) by James K Peckol, Wiley Publication.

LIST OF EXPERIMENTS (Minimum 08 experiments):

Sr. No.	Title of Experiment
1.	To study Arithmetic and Logical instructions in PIC 16F877.
2.	To study Indirect Addressing mode in PIC 16F877.
3.	To Flash LED connected to Port using Timer delay in PIC 16F877
4.	To study any application using CCP Module in PIC 16F877
5.	To demonstrate serial communication in PIC 16F877
6.	To study Arithmetic and Logical instructions in LPC 2148
7.	To study Load and Store instructions in LPC 2148
8.	To flash the Port pin of LPC 2148 using Embedded 'C'.
9.	To demonstrate input/ output device interfacing related programs in LPC 2148 using Embedded 'C'.
10.	To demonstrate serial communication in LPC 2148 using Embedded 'C'.

GUIDELINES TO PAPER SETTER:

In theory ESE examination of 70 marks following points should be considered:

Question paper should contain 30% programming and 70% theory.

- Q.1 MCQ's based on complete syllabus. (14 Marks)
- Q.2 Based on unit no 1, 2, 3 (Carries 14 marks)
- Q.3 Based on unit no 1, 2, 3 (Carries 14 marks)
- Q.4 Based on unit no 4, 5, 6 (Carries 14 marks)
- Q.5 Based on unit no 4, 5, 6 (Carries 14 marks)



Teaching Plan

Class: B.E. ETC.

Year: 2022-23

Sub:- Embedded System Design

Lecture:4/week

Faculty Name:

Lecture No.	Content Of Lecture
UNIT 3	
1.	Embedded System definition, Types of Embedded System
2.	Characteristics and Design issues of Embedded systems.
3.	Embedded system Hardware
4.	ARM data flow model
5.	Register set, CPSR
6.	Pipelining
7.	Exceptions Interrupts & Vector Table
8.	Cache and Tightly coupled memory, ARM Nomenclature
UNIT 4	
9.	ARM Instruction set
10.	ARM Instruction set
11.	ARM Instruction set,
12.	Thumb Instruction set
13.	Thumb Instruction set
14.	Simple assembly language programming.
15.	Simple assembly language programming.
UNIT 5	
16.	Features
17.	Architecture details
18.	Port structure
19.	Timer/Counter
20.	UART
21.	ADC module
22.	Embedded 'C' programming for interfacing LED's
23.	Embedded 'C' programming for interfacing LCD
24.	Embedded 'C' programming for interfacing Keyboard
UNIT 1	
25.	Difference between RISC and CISC architecture, Features of PIC 16F877
26.	Functional Pin out, CPU Architecture
27.	Memory organization, Register file structure
28.	CPU Registers
29.	Instruction set
30.	Instruction set
31.	Addressing modes
32.	Simple assembly language Programming
UNIT 2	



33.	I/O Ports Associate registers and programming
34.	Timers Associate registers and programming
35.	CCP Module Associate registers and programming
36.	ADC Associate registers and programming
37.	I2C Associate registers and programming
38.	SPI, Associate registers and programming
39.	Interrupt structure, Configuration word
40.	Oscillator configuration, Reset alternatives.
UNIT 6	
41.	Introduction to RTOS concept
42.	Embedded software architectures: Round robin, Round robin with interrupts
43.	Function queue scheduling and Real time operating system
44.	Tasks and Task states
45.	Task scheduling
46.	Shared data and Reentrancy
47.	Semaphores and shared data using semaphores
48.	Protecting shared data



1. Seminar Evaluation Sheet

Name of Student:-

Roll No.:

Class:

Name of Seminar Topic:

Name of Guide:

Semester:

Academic Year:

Marking Scheme:

Sr. No.	Details	Max. Marks		Valuated Marks
		For 25 Marks	For 50 Marks	
1.	Selection of Seminar Topic (Scope, Relevance)	2	5	
2.	Literature Survey	3	10	
3.	Presentation	5	10	
4.	Understanding of Subject	3	5	
5.	Seminar Report	4	5	
6.	Question Answer	3	5	
7.	Interaction with Guide	5	10	

Total:

Sign of Guide:

Date:

Sr. No.	Details	Max. Marks		Valuated Marks
		For 25 Marks	For 50 Marks	
1.	Selection of Seminar Topic (Scope, Relevance)	2	5	
2.	Literature Survey	3	10	
3.	Presentation	5	10	
4.	Understanding of Subject	3	5	
5.	Seminar Report	4	5	
6.	Question Answer	3	5	

Total:

Name and Sign of Judge:

Sr. No.	Details	Max. Marks		Valuated Marks
		For 25 Marks	For 50 Marks	
1.	Selection of Seminar Topic (Scope, Relevance)	2	5	
2.	Literature Survey	3	10	
3.	Presentation	5	10	
4.	Understanding of Subject	3	5	
5.	Seminar Report	4	5	
6.	Question Answer	3	5	

Total:

Name and Sign of Judge:

Total Marks: Details of sr. no. 7+ Average of sr.no.1 to 6

Total Marks	Details of sr.no. 7	Average of sr.no.1 to 6



**RUBRICS B. TECH PROJECT EVALUATION
PROJECT MARKING SCHEME (Semester-I)**

Activity	Nature of Activity	Total Marks for Activity	Rubric for Activity			
			Unsatisfactory	Developing	Satisfactory	Excellent
A1	Submission of Project Topic with names of group member	A1= 0.08* TM1	0.00*A1	0.40*A1	0.80*A1	1.00*A1
A2	Presentation of Synopsis in front of DRC	A2= 0.08* TM1	0.00*A2	0.40*A2	0.80*A2	1.00*A2
A3	Introduction and literature Review presentation	A3= 0.24* TM1	0.25*A3	0.60*A3	0.85*A3	1.00*A3
A4	Methodology and future work presentation	A4= 0.30* TM1	0.25*A4	0.60*A4	0.90*A4	1.00*A4
A5	Guide Marks	A5= 0.30* TM1	0.25*A5	0.60*A5	0.90*A5	1.00*A5

PROJECT MARKING SCHEME (Semester-II)

Activity	Nature of Activity	Total Marks for Activity	Rubric for Activity			
			Unsatisfactory	Developing	Satisfactory	Excellent
A6	Progress presentation 1	A6= 0.20* TM2	0.20*A6	0.65*A6	0.90*A6	1.00*A6
A7	Progress presentation 2	A7= 0.20* TM2	0.20*A7	0.65*A7	0.90*A7	1.00*A7
A8	Final presentation in front of DRC along with submission of spiral bound copy	A8= 0.30* TM2	0.25*A8	0.70*A8	0.95*A8	1.00*A8
A9	Guide Marks	A9= 0.30* TM2	0.25*A9	0.70*A9	0.95*A9	1.00*A9

*TM1:- Term Work Marks in Sem-I for Project

*TM2:- Term Work Marks in Sem-II for Project



10. Departmental Faculty Details

Sr. No.	Name of Faculty
1	Dr. (Mrs.) S. B. Patil
2	Mr. M. M. Kolap
3	Dr. (Mrs.) S. R. Mahadik
4	Mrs. P. P. Belagali
5	Mrs. M. U. Phutane
6	Mrs. T. H. Mohite
7	Mrs. R. V. Kaulgud
9	Mr.V.T.kamble
10	Mrs. D. U. Chavan
11	Mr. A. S. Sutar
12	Mrs.S.S.Karadge

Department Staff

Sr. No.	Name of Faculty
1	Mr. P. K. Upadhye
2	Mr. K. M. Kulkarni
3	Mrs. H. S. Swami



11. Activity Record:

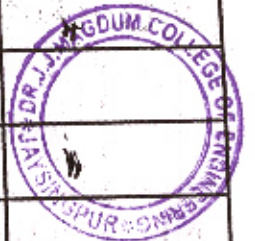
2021-2022		
Sr. No.	Name of Event/Activity	Planned / Conducted
1	IGNITION 2k22	Conducted for Diploma students
2	Junior College Activity	Conducted
2020-2021		
1	Vande Matram(video making contest	Conducted for all
2	SUBH-AARAMBH(Paper presentation contest)	Conducted for all
3	NTD 2k21 Quiz contest	Conducted for all
4	Farewell Party BE students	Conducted for BE
2019-2020		
1	VLSI Back End Programming	Conducted TE
2	Python Programming	Conducted SE
3	Arts Club Inauguration (Kalavishkar 2k19)	Conducted for all
4	GD Club Inauguration	Conducted for all
5	BOX Cricket	Conducted for all
6	IGNITION 2k19	Conducted for Degree & Diploma students
7	Colour code Activity	Conducted for SE
8	English Spelling Activity	Conducted for TE
9	Drishti Online Context By Texas Instrument Bangalore.	Conducted for all
10	Inauguration of EESA and IOE 2019-20	Conducted for all
11	Industry 4.0.Workshop	Conducted for all
12	Fresher's Party	Conducted for all



LECTURE PLAN

Unit No.: 1, 2 Subject: Optical Commⁿ
 No. of Lectures prescribed in syllabus: 6, 6 Class: TY
 Actual No. of lectures Planned: 5, 5

Lect. No.	Date Of Delivery		Reason for deviation if any	Topic Covered	Modern Teaching aid used if any
	Planned	Actual			
1	12/9	12/9		Motivation for lightwave communication.	LCD used.
2	13/9	13/9		Basic Network Information Rates, The evolution of Optic System.	for all Lectures
3	14/9	14/9		Elements of Optical Fiber Transmission link, Optical spectral band.	(PPTs)
4	15/9	15/9		The nature of light, Basic Optical laws and Definitions.	LCD
5	19/9	19/9 3/10		Single Mode Fibers, Graded Index fiber structures.	"
6	19/9	19/9		Optical Fiber Modes	"
7	20/9	20/9 28/9		Optical fiber configurations	"
8	21/9	21/9 3/10		Mode Theory for waveguides	"
9	22/9	22/9		Fiber Materials	"



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PRINCIPAL

Unit No. : 3, 4

No. of Lectures prescribed in syllabus : 8, 7

Actual No. of lectures Planned : 6, 5

Lect. No.	Date Of Delivery		Reason for deviation if any	Topic Covered	Mode Teaching used if
	Planned	Actual			
10	26/9	26/9		Fiber Optic Cables	LCE
11	27/9	28/9		Attenuation	"
12	28/9	10/10		Material Absorption losses	"
13	29/9	12/10		Scattering losses, Bending losses	"
14	3/10	12/10		Dispersion	LCD
15	4/10	13/10		Polarization	"
16	5/10	19/10		Nonlinear effects	"
17	6/10	01/11		Semiconductor Physics	"
18	10/10	02/11		Light emitting Diodes (LEDs) LED structures	"
19	11/10	03/11		SLED, ELED, Quantum efficiency and LED Power.	"
20	12/10	10/11		Laser Diodes, Laser diode structures and radiation patterns	"
21	13/10	14/11		Light source Linearity	"
22	17/10	15/11		Physical Principle	"

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PRINCIPAL

LECTURE PLAN

Unit No. : 5

No. of Lectures prescribed in syllabus : 7

Actual No. of lectures Planned : 5

Lect. No.	Date Of Delivery		Reason for deviation if any	Topic Covered	Modern Teaching aid used if any
	Planned	Actual			
23	18/10	16/11		of photodiodes. Photodetector Noise, Detectors Response Time.	LCD
24	19/10	17/11 21/11		Structure for InGaAs APD's, Temperature effect of Avalanche Gain	"
25	20/10	22/11 24/11		Comparison of photo detectors, Fundamental Receiver Operation.	LCD
26	31/10	28/11		Digital Receiver Performance	"
27	1/11	29/11		Operational Principles of WDM	"
28	2/11	30/11 1/12		Passive Components	"
29	3/11	1/12 5/12		Tunable Sources, Tunable Filters	"
30	7/11	6/12 7/12		Optical switching, SONET/SDH	"



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PRINCIPAL

LECTURE PLAN

Unit No. : 1

Sub: Electronic ckt design-3

No. of Lectures prescribed in syllabus : 8

Class: SY

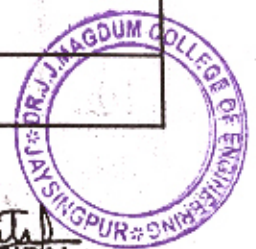
Actual No. of lectures Planned : 8

Lect. No.	Date Of Delivery		Reason for deviation if any	Topic Covered	Modern Teaching aid used if any
	Planned	Actual			
1				Low pass & high pass RC circuits (analysis for step, square input)	
2				High pass RC circuit as a differentiator, Sag/Tilt calculation	
3				Low pass RC circuit as a integrator (Step and Square I/P)	
4				Clipping circuits: Single level, Transfer characteristics.	
5				Clipping circuits: Double level Clipping Transfer characteristics.	
6				Clamping circuits: Classification, clamping operations.	
7				Clamping circuit theorem practical clamping circuits	


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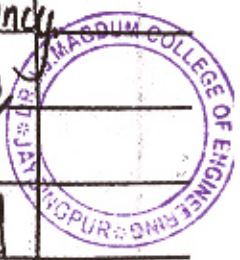
LECTURE PLAN

Unit No. : 2

No. of Lectures prescribed in syllabus : 8

Actual No. of lectures Planned : 6

Lect. No.	Date Of Delivery		Reason for deviation if any	Topic Covered	Modern Teaching used if a
	Planned	Actual			
8				Voltage Multipliers (Doubler and Tripler)	
9				Rectifiers: Half wave, analysis for different parameters: PIV, TUF, efficiency, ripple factor, regulation, form factor etc.	
10				Rectifiers: Full Wave, Center tap analysis for different parameters: PIV, TUF, efficiency, ripple factor, regulation, form factor etc.	
11				Rectifiers: Bridge type, analysis for different parameters: PIV, TUF, efficiency, ripple factor, regulation, form factor etc.	
12				Rectifiers: Filters: Need	



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LECTURE PLAN

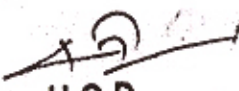
Unit No. : 3

No. of Lectures prescribed in syllabus : 8

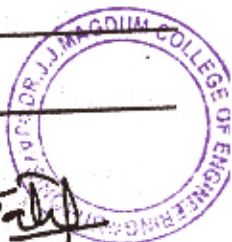
Actual No. of lectures Planned : 7

Lect. No.	Date Of Delivery		Reason for deviation if any	Topic Covered	Modern Teaching aid used if any
	Planned	Actual			
				of filters, Types: capacitor inductor, Analysis for 'r'	
13				Rectifiers: Filters: Need of filters, Types: LC, CLC, and analysis for 'r'	
14				Design of unregulated power supply with filter using full wave rectifier.	
15				Need of voltage regulator Stabilization factors	
16				Analysis & Design of Shunt Regulator (using Zener diode)	
17				Analysis & Design of Shunt Regulator (using BJT)	
18				Emitter follower regulator.	
19				Series pass regulator	


FACULTY


H.O.D.


PRINCIPAL





Dr. J. J. Magdum College of Engineering, Jaysingpur.

COURSE - OUTLINE

Department Name: Electronics & Telecomm. Engg.
Course Title: Optical Communication
Course Contact Hours: 4 hrs (L), 2 hrs (P)/Week
Faculty Name: Mrs. P.P.Belagali
Qualification: Ph. D Pursing

Course Number: PCC- ETC- 504
Course Designation: Professional Core
Course Type: Lecture (L), Practical (P).
Designation: Ass Professor.
Year : 2022 - 23 Sem : 1

1) Course Mapping with Faculty Expertise:

P.G. in concerned course	Related Hands on Experience	Related refresher Courses Attended	Teaching experience of the course	Any other
√	√	√	√	-

Course Pre-requisites: 1. Physics, Optoelectronics

Course Assessment Methods:

- 1) Continuous assessment of performance in lab work
- 2) CIE, Assignments and Tests
- 3) University theory and Practical Oral Exam

Program Outcomes (POs):

At the end of successful completion of program, Engineering Graduates will be able to:

- 1) **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- 2) **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- 3) **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

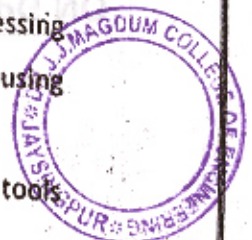


- 4) **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- 5) **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- 6) **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- 7) **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- 8) **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- 9) **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- 10) **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- 11) **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- 12) **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Specific Outcome:

Graduate can be able to,

- 13) Apply their integrated knowledge of Electronics, Communication and Digital Signal Processing to provide the technical solutions to the problems related with digital communication using simulation tools
- 14) Implement the successfully simulated optimum solutions in hardware using modern tools and test those for the designed specifications.



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Course Outcomes:

Upon successful completion of this course, the students will be able to:

1. Differentiate the different types of optical fiber structures and light propagating mechanisms
2. Acquire knowledge of signal degradation mechanism in optical fiber
3. Understand the construction of and working of optical sources and detectors.
4. Understand the operational principle of WDM and Passive components

Mapping of course outcomes with Program outcomes

PO → CO ↓	Statements	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Differentiate	-	3	-	-	-	1	-	-	-	-	-	-	-	-
2	Acquire	3	-	-	-	2	-	-	-	-	-	-	-	3	-
3	Understand	-	-	3	-	-	-	-	-	-	-	-	-	-	-
4	Understand	-	-	-	3	-	-	-	-	-	-	-	-	-	3

Strong contribution

3

Medium Contribution

2

Weak Contribution

1

Date of Test:

Date of displaying marks:



VSKIQMTEDCWENL

Chapter No: - 1. Overview of Optical Fiber Communication

No. of Lectures specified in syllabus: -6

No. of Lectures Planned: -5

Topics to be covered In each Lecture: -

Sr.No.	Topics to be covered
1.	Motivation for light wave communication
2.	Basic Network Information Rates, The evolution of Optic System,
3.	Elements of Optical Fiber Transmission Link, optical spectral band,
4.	The nature of Light, Basic Optical Laws and Definitions,
5.	Single Mode Fibers, Graded Index fiber structures.

Content delivery method:-

The above topics will be delivered by -----

Topic Number	Content delivery method
1	Chalk and talk method and LCD
2	Chalk and talk method and LCD
3	Chalk and talk method and LCD
4	Chalk and talk method and LCD
5	Chalk and talk method and LCD

Outcomes of the Chapter:

1. To get understanding of elements of optical fiber transmission link
2. To be able to identify different fiber structures

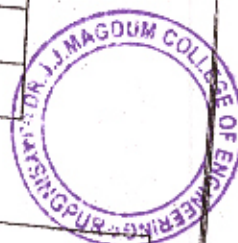
Mapping with Course Outcomes with Chapter Outcomes: -

Course Outcomes Chapter Outcomes	1	2	3	4
1	3	2	-	-
2	3	-	2	-

Books Referred For This Topic:-

Sr.No	Title of the book	Author	Publisher
1.	"Optical Fiber Communication"	Gerd Keiser	5th Edition, Tata Mcgraw Hill Publication
2.	"Optical Communication"	Senior,	3rd Edition, Pearson Education.
3.	"Optical Fiber Communication"	Agarwal	3rd edition, Wiley India
4.	"Optical Networks"	Ramaswamy	Elsevier India
5.	"Fiber optics and optoelectronics"	R. P. Khare	Oxford University Press

Plan for teaching beyond syllabus: Nil



Chapter No: - 2. Optical Fibers: Structures and Wave guiding:

No. of lectures in syllabus:6

No. of lectures in Planned: 5

Topics to be covered in each Lecture: -

Sr.No.	Topics to be covered
1.	Optical Fiber Modes,
2.	Optical Fiber Configurations
3.	Mode theory for waveguides.
4.	Fiber Materials
5.	Fiber Optic cables.

Content delivery method:-

The above topics will be delivered by -----

Topic Number	Content delivery method
1.	Chalk and talk method and LCD
2.	Chalk and talk method and LCD
3.	Chalk and talk method and LCD
4.	Chalk and talk method and LCD
5.	Chalk and talk method and LCD

Outcomes of the Chapter:

1. To explain optical fiber modes and configuration
2. To summarize fiber material and fiber optic cables

Mapping with Course Outcomes with Chapter Outcomes: -

Course Outcomes	1	2	3	4
Chapter Outcomes				
1	2	1	-	-
2	1	-	-	-

Books Referred For This Topic:-

Sr.No	Title of the book	Author	Publisher
1.	"Optical Fiber Communication"	Gerd Keiser	5th Edition, Tata Mcgraw Hill Publication
2.	"Optical Communication"	Senior,	3rd Edition, Pearson Education.
3.	"Optical Fiber Communication"	Agarwal	3rd edition, Wiley India
4.	"Optical Networks"	Ramaswamy	Elsevier India
5.	"Fiber optics and optoelectronics"	R. P. Khare	Oxford University Press

Plan for teaching beyond syllabus: Nil

Chapter No: - 3. Transmission characteristics of optical fibers:

No. of lectures in syllabus:8

No. of lectures in Planned:6

Topics to be covered in each Lecture: -

Sr.No.	Topics to be covered
1.	Attenuation
2.	Material absorption losses
3.	Scattering losses, Bending losses
4.	Dispersion
5.	Polarization
6.	Nonlinear effects

Content delivery method:-

The above topics will be delivered by -----

Topic Number	Content delivery method
1.	Chalk and talk method and LCD
2.	Chalk and talk method and LCD
3.	Chalk and talk method and LCD
4.	Chalk and talk method and LCD
5.	Chalk and talk method and LCD
6.	Chalk and talk method and LCD

Outcomes of the Chapter:

1. To elobarate transmission characteristics of optical fiber
2. To differentiate different optical fiber losses

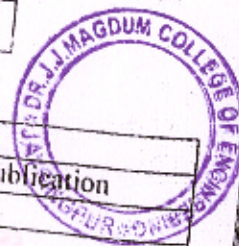
Mapping with Course objective: -

Course Outcomes	1	2	3	4
Chapter Outcomes				
1	-	3	-	-
2	-	3	1	-

Books Referred For This Topic:-

Sr.No	Title of the book	Author	Publisher
1.	"Optical Fiber Communication"	Gerd Keiser	5th Edition, Tata Mcgraw Hill Publication
2.	"Optical Communication"	Senior,	3rd Edition, Pearson Education.
3.	"Optical Fiber Communication"	Agarwal	3rd edition, Wiley India
4.	"Optical Networks"	Ramaswamy	Elsevier India
5.	"Fiber optics and optoelectronics"	R. P. Khare	Oxford University Press

Plan for teaching beyond syllabus: Nil



Chapter No: - 4. Optical Sources:

No. of lectures in syllabus: 7

No. of lectures in Planned: 5

Topics to be covered in each Lecture: -

Sr.No.	Topics to be covered
1.	Semiconductor Physics,
2.	Light-Emitting Diodes (LEDs), LED structures
3.	SLED, ELED. Quantum efficiency and LED Power .
4.	Laser Diodes, Laser diode structures and radiation patterns
5.	Light Source Linearity

Content delivery method:-

The above topics will be delivered by -----

Topic Number	Content delivery method
1.	Chalk and talk method and LCD
2.	Chalk and talk method and LCD
3.	Chalk and talk method and LCD
4.	Chalk and talk method and LCD
5.	Chalk and talk method and LCD

Outcomes of the Chapter:

1. To get basic understanding of optical sources
2. To analyze different optical sources

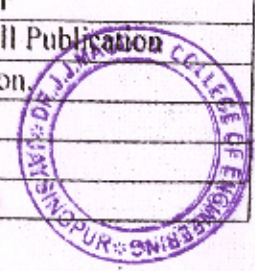
Mapping with Course Outcomes with Chapter Outcomes: -

Course Outcomes	1	2	3	4
Chapter Outcomes				
1	-	-	3	-
2	-	-	3	-

Books Referred For This Topic:-

Sr.No	Title of the book	Author	Publisher
1.	"Optical Fiber Communication"	Gerd Keiser	5th Edition, Tata Mcgraw Hill Publication
2.	"Optical Communication"	Senior,	3rd Edition, Pearson Education.
3.	"Optical Fiber Communication"	Agarwal	3rd edition, Wiley India
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5.	"Fiber optics and optoelectronics"	R. P. Khare	Oxford University Press

Plan for teaching beyond syllabus: Nil



Chapter No: - 5. Optical Receiver:

No. of lectures in syllabus:7

No. of lectures in Planned: 5

Topics to be covered in each Lecture: -

Sr.No.	Topics to be covered
1.	Physical Principle of Photodiodes,
2.	Photo detector Noise, Detectors Responsivity, Time
3.	Structure for InGaAsAPDs, Temperature effect of Avalanche Gain
4.	Comparison of Photo detectors , Fundamental Receiver Operation,
5.	Digital Receiver Performance

Content delivery method:-

The above topics will be delivered by -----

Topic Number	Content delivery method
1.	Chalk and talk method and LCD
2.	Chalk and talk method and LCD
3.	Chalk and talk method and LCD
4.	Chalk and talk method and LCD
5.	Chalk and talk method and LCD

Outcomes of the Chapter:

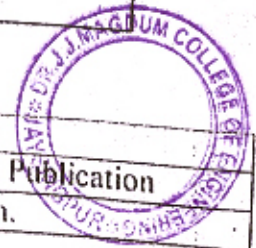
1. To describe physical principle of photodiode
2. To elaborate design and structure of photodiode.
3. To state Receiver operation.

Mapping with Course Outcomes with Chapter Outcomes: -

Course Outcomes →	1	2	3	4
Chapter Outcomes ↓				
1	-	-	3	-
2	-	-	3	-
3	-	2	3	-

Books Referred For This Topic:-

Sr.No	Title of the book	Author	Publisher
1.	"Optical Fiber Communication"	Gerd Keiser	5th Edition, Tata Mcgraw Hill Publication
2.	"Optical Communication"	Senior,	3rd Edition, Pearson Education.
3.	"Optical Fiber Communication"	Agarwal	3rd edition, Wiley India
4.	"Optical Networks"	Ramaswamy	Elsevier India
5.	"Fiber optics and optoelectronics"	R. P. Khare	Oxford University Press



Plan for teaching beyond syllabus: Nil

Chapter No: - 6 Advances in Optical Fiber System

No. of lectures in syllabus: 8

No. of lectures in Planned: 6

Topics to be covered in each Lecture: -

Sr.No.	Topics to be covered
1.	Operational Principles of WDM,
2.	Passive Components,
3.	Tunable Sources, Tunable Filters,
4.	optical switching, SONET/SDH,
5.	Performance of WDM+EDFA Systems, optical CDMA
6.	Overall revision

Content delivery method:-

The above topics will be delivered by -----

Topic Number	Content delivery method
1.	Chalk and talk method and LCD
2.	Chalk and talk method and LCD
3.	Chalk and talk method and LCD
4.	Chalk and talk method and LCD
5.	Chalk and talk method and LCD
6.	Chalk and talk method and LCD

Outcomes of the Chapter:

1. To review the operational principles of WDM.
2. To judge different advances in optical fiber system.

Mapping with Course Outcomes with Chapter Outcomes: -

Course Outcomes	Chapter Outcomes	1	2	3	4
	1	-	-	-	3
	2	1	-	-	3


Books Referred For This Topic:-

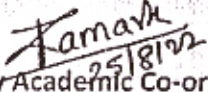
Sr.No	Title of the book	Author	Publisher
1.	"Optical Fiber Communication"	Gerl Keiser	5th Edition, Tata Mcgraw Hill Publication
2.	"Optical Communication"	Senior,	3rd Edition, Pearson Education
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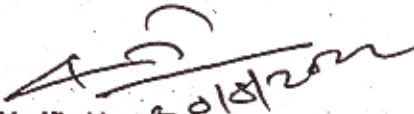
Plan for teaching beyond syllabus: Nil

No. of Lectures specified in syllabus: - 42

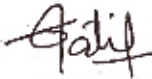
No. of Lectures Planned: -32

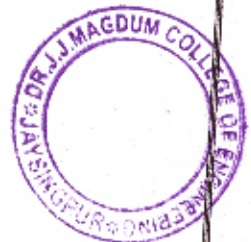

Signature of the Faculty: -


Checked by Academic Co-ordinator:-


Verified by HOD:-


Approved by Dean (Academics):-


Approved by VP/P:-





Dr. J. J. Magdum College of Engineering, Jaysingpur.

COURSE - OUTLINE

Department Name: Electronics & Telecomm. Engineering. Course Number: I'CC-ETC801
Course Title: Microwave Engineering Course Designation: Core
Course Contact Hours: 4 hrs (L), 2hrs (P)/Week Course Type: Lecture (L), Practical (P).
Faculty Name: Mrs. P.P.Belagali Designation: Associate Professor.
Qualification: Ph. D Pursuing Year: 2022-23 Sem: II

Course Mapping with Faculty Expertise:

P.G. in concerned course	Related Hands on Experience	Related refresher Courses Attended	Teaching experience of the course	Any other
√	-	-	√	-

Course Pre-requisites:

1. Knowledge of Basic concepts of Microwave.
2. Knowledge of wave propagation & power transmission.

Course Assessment Methods:

a) Internal Assessment Methods:

1. Continuous assessment of performance in lab work
2. Tests and Assignments

b) External assessment Methods:

1. University Theory Examination

Program Outcomes (POs):

At the end of successful completion of program, Engineering Graduates will be able to:

- 1) **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- 2) **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- 3) **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- 4) **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.



- 5) **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- 6) **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- 7) **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- 8) **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- 9) **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- 10) **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- 11) **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- 12) **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Specific Outcome:

Graduate can be able to,

- 13) Apply their integrated knowledge of Electronics, Communication and Digital Signal Processing to provide the technical solutions to the problems related with digital communication using simulation tools
- 14) Implement the successfully simulated optimum solutions in hardware using modern tools and test those for the designed specifications.

Course Outcomes:

Upon successful completion of this course, the student will be able to:

1. Analyze the microwave waveguides and passive circuit components..
2. Identify and differentiate the state of art in microwave tubes and their uses in real life
3. Identify materials used in MMIC and microwave hazards.
4. Differentiate solid state devices used in microwave based on their characteristics and operations.
5. Measure the output power, VSWR, impedance, frequency and wavelength of microwave signal
6. Apply the microwave antenna knowledge for industrial and scientific purposes



Mapping of course outcomes with Program outcomes

PO → CO ↓	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	2												2	
2		3	2											
3			3				2							
4	2			1										
5		3											2	
6				3										2

Strong contribution

3

Medium Contribution

2

Low Contribution

1



Unit No: - 1. Wave guides and microwave components

No. of Lectures specified in syllabus: - 8

No. of Lectures Planned: -7

Topics to be covered in each Lecture: -

Sr.No.	Topics to be covered
1.	Rectangular wave guides: TE mode wave,
2.	Rectangular wave guides: TM mode wave,
3.	Power transmission in wave guide, Power losses in wave guide,
4.	Excitation of modes in wave guide.
5.	Microwave cavities, Microwave hybrid circuits,
6.	Directional coupler, Circulators and Isolators,
7.	Microwave attenuators. (Numerical Expected)

Content delivery method:-

The above topics will be delivered by -----

Topic Number	Content delivery method
1	Chalk and talk method and LCD
2	Chalk and talk method and LCD
3	Chalk and talk method and LCD
4	Chalk and talk method and LCD
5	Chalk and talk method and LCD
6	Chalk and talk method and LCD
7	Chalk and talk method and LCD

Outcomes of the Chapter:

1. To describe power transmission and losses in waveguide.
2. To list characteristics of standard waveguides
3. To understand types and working of different microwave components.

Mapping with Course Outcomes with Chapter Outcomes: -

Course outcomes Chapter Outcomes	1	2	3	4	5	6
1	3	1	2	1	1	1
2	3	1	1	1	2	1
3	3	1	2	1	2	

Date of giving Assignment: - 22nd Feb 2023

Date of Submission: - 28th Feb 2023

Date of returning back the corrected assignment: -3rd March 2023



Books Referred For This Topic:-

Text Books:

1.	Samuel Liao, "Microwave Devices and Circuit", Prentice Hall of India
2.	Annapurna Das & Sisir K Das, "Microwave Engineering", Tata Mc-Graw Hill.
3.	G.S.N. Raju, "Antennas and wave propagation", Pearson Education

Reference Books:

1.	K. T. Matthew, "Microwave Engineering", Wiley India, 2011
2.	Shrushu Das, "Microwave Engineering", Oxford Press.
3.	M. Kulkarni, "Microwave and Radar Engineering", Umesh Publications.

Plan for teaching beyond syllabus: S Parameters



Unit No: - 2. Microwave Tubes

No. of lectures in syllabus: 8

No. of lectures in Planned: 7

Topics to be covered in each Lecture: -

Sr.No.	Topics to be covered
1.	Microwave linear beam Tubes: Klystrons, Reentrant Cavities,
2.	Velocity-Modulation Process, Bunching Process in Klystrons.
3.	Reflex klystron, Slow wave structures
4.	Principle of operation of Helix Traveling-Wave Tubes (TWTs).
5.	Microwave CROSSED-FIELD TUBES: Magnetron Oscillators,
6.	Cylindrical Magnetron, Forward wave crossed field amplifier(CFA),.
7.	Backward wave crossed field amplifier(CFA),.

Content delivery method:-

The above topics will be delivered by -----

Topic Number	Content delivery method
1	Chalk and talk method and LCD
2	Chalk and talk method and LCD
3	Chalk and talk method and LCD
4	Chalk and talk method and LCD
5	Chalk and talk method and LCD
6	Chalk and talk method and LCD
7	Chalk and talk method and LCD

Outcomes of the Chapter:

1. To explain operating principles of microwave linear beam tubes.
2. To explain operating principles of microwave crossed field tubes.
3. To understand working of Magnetron

Mapping with Course Outcomes with Chapter Outcomes: -

Course Outcomes →	1	2	3	4	5	6
Chapter Outcomes ↓						
1	1	1	3	1	1	1
2	2	2	2	2	2	1
3	2	2	3	2	3	1

Date of giving Assignment: -6th March 2023

Date of Submission: - 13th March 2023

Date of returning back the corrected assignment: - 15th March 2023



Books Referred For This Topic:-

Text Books:

- | | |
|----|--|
| 1. | Samuel Liao, "Microwave Devices and Circuit", Prentice Hall of India |
| 2. | Annapurna Das & Sisir K Das, "Microwave Engineering", Tata Mc-Graw Hill. |
| 3. | G.S.N. Raju, "Antennas and wave propagation", Pearson Education |

Reference Books:

- | | |
|----|---|
| 1. | K. T. Matthew, "Microwave Engineering", Wiley India, 2011 |
| 2. | Shrushut Das, "Microwave Engineering", Oxford Press. |
| 3. | M. Kulkarni, "Microwave and Radar Engineering", Umesh Publications. |

Plan for teaching beyond syllabus: Nil



Unit No: - 3. Monolithic Microwave Integrated Circuits and Hazards

No. of lectures in syllabus: 6

No. of lectures in Planned:4

Topics to be covered in each Lecture: -

Sr.No.	Topics to be covered
1.	Materials: substrate, conductor dielectric ϵ . resistive MMIC growth, thin film formation,
2.	Hybrid microwave I.C. fabrication,
3.	Electromagnetic compatibility, plane wave propagation in shielded rooms, anechoic chambers, microwave clean rooms,
4.	Microwave hazards.

Content delivery method:-

The above topics will be delivered by -----

Topic Number	Content delivery method
1	Chalk and talk method and LCD
2	Chalk and talk method and LCD
3	Chalk and talk method and LCD
4	Chalk and talk method and LCD

Outcomes of the Chapter:

1. To list different materials, different IC fabrication techniques
2. To list different microwave hazards.

Mapping with Course objective: -

Course Outcomes Chapter Outcomes ↓	1	2	3	4	5	6
1	2	1	1	1	3	1
2	1	2	1	1	3	1



Date of Assignment: -

20th March 2023

Date of Submission: -

28th March 2023

Date of returning back the corrected assignment:-

31st March 2023

Books Referred For This Topic:-

Text Books:

1.	Samuel Liao, "Microwave Devices and Circuit", Prentice Hall of India
2.	Annapurna Das & Sisir K Das, "Microwave Engineering", Tata Mc-Graw Hill.
3.	G.S.N. Raju, "Antennas and wave propagation", Pearson Education

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2.	Shrushut Das, "Microwave Engineering", Oxford Press.
3.	M. Kulkarni, "Microwave and Radar Engineering", Umesh Publications.

Plan for teaching beyond syllabus: Nil



Unit No: - 4. Microwave Solid State Devices

No. of lectures in syllabus: 8

No. of lectures in Planned: 7

Topics to be covered in each Lecture: -

Sr.No.	Topics to be covered
1.	Microwave bipolar transistor, microwave FETs, Microwave tunnel diodes
2.	Gunn effect diodes, RWH Theory
3.	LSA diodes, InP diodes
4.	CdTe diodes
5.	IMPATT diodes, PIN diodes
6.	MESFETs
7.	HEMT

Content delivery method:-

The above topics will be delivered by -----

Topic Number	Content delivery method
1	Chalk and talk method and LCD
2	Chalk and talk method and LCD
3	Chalk and talk method and LCD
4	Chalk and talk method and LCD
5	Chalk and talk method and LCD
6	Chalk and talk method and LCD
7	Chalk and talk method and LCD

Outcomes of the Chapter:

1. To learn characteristics of microwave solid state devices.
2. To understand operating principles microwave solid state devices.

Mapping with Course Outcomes with Chapter Outcomes: -)

Course Outcomes Chapter Outcomes	1	2	3	4	5	6
1	2	2	1	2	2	1
2	2	3	2	2	3	1

Date of Assignment: -

6th April 2023

Date of Submission: -

13th April 2023

Date of returning back the corrected assignment: -

18th April 2023



Books Referred For This Topic:-

Text Books:

- | | |
|----|--|
| 1. | Samuel Liao, "Microwave Devices and Circuit", Prentice Hall of India |
| 2. | Annapurna Das & Sisir K Das, "Microwave Engineering", Tata Mc-Graw Hill. |
| 3. | G.S.N. Raju, "Antennas and wave propagation", Pearson Education |

Reference Books:

- | | |
|----|---|
| 1. | K. T. Matthew, "Microwave Engineering", Wiley India, 2011 |
| 2. | Shrushut Das, "Microwave Engineering", Oxford Press. |
| 3. | M. Kulkarni, "Microwave and Radar Engineering", Umesh Publications. |

Plan for teaching beyond syllabus: Nil



Unit No: - 5 Microwave Measurements and Microwave Applications

No. of lectures in syllabus: 8

No. of lectures in Planned: 7

Topics to be covered in each Lecture: -

Sr.No.	Topics to be covered
1.	Detection of microwave power: measurement of microwave Power bridge circuit
2.	Thermistor parameters, waveguide Thermister mounts, barreters
3.	Theory of operation of barreters, Direct reading barreters bridges
4.	Measurement of wavelengths: single line cavity coupling System
5.	Transmission cavity wavemeter & reaction Wavemeter,
6.	Measurement of VSWR,
7.	Measurements of attenuation, Free space attenuation

Content delivery method:-

The above topics will be delivered by -----

Topic Number	Content delivery method
1	Chalk and talk method and LCD
2	Chalk and talk method and LCD
3	Chalk and talk method and LCD
4	Chalk and talk method and LCD
5	Chalk and talk method and LCD
6	Chalk and talk method and LCD
7	Chalk and talk method and LCD

Outcomes of the Chapter:

1. To summarize different microwave measurement techniques.
2. To learn operating principle of microwave measurement techniques.

Mapping with Course Outcomes with Chapter Outcomes: -

Course Outcomes →	1	2	3	4	5	6
Chapter Outcomes ↓						
1	1	1	2	2		1
2	1	2	2	3	3	1



Date of Assignment: -

24th April 2023

Date of Submission: -

29th April 2023

Books Referred For This Topic:-

Text Books:	
1.	Samuel Liao, "Microwave Devices and Circuit", Prentice Hall of India
2.	Annapurna Das & Sisir K Das, "Microwave Engineering", Tata Mc-Graw Hill.
3.	G.S.N. Raju, "Antennas and wave propagation", Pearson Education
Reference Books:	
1.	K. T. Matthew, "Microwave Engineering", Wiley India, 2011
2.	Shrushut Das, "Microwave Engineering", Oxford Press.
3.	M. Kulkarni, "Microwave and Radar Engineering", Umesh Publications.

Plan for teaching beyond syllabus: Nil



Unit No: - 6 Microwave Antennas

No. of lectures in syllabus: 6

No. of lectures in Planned: 5

Topics to be covered in each Lecture: -

Sr.No.	Topics to be covered
1.	Antenna parameters: antenna gain, directivity and beam width,
2.	Horn antenna, parabolic reflector with all types of feeding methods
3.	Slotted antenna, Lens antenna,
4.	Microstrip antennas, Corner reflector. Equations for antenna gain
5.	Directivity and beam width of all above antenna types. (Numerical Expected)

Content delivery method:-

The above topics will be delivered by -----

Topic Number	Content delivery method
1	Chalk and talk method and LCD
2	Chalk and talk method and LCD
3	Chalk and talk method and LCD
4	Chalk and talk method and LCD
5	Chalk and talk method and LCD

Outcomes of the Chapter:

1. To list different Antenna Parameters
2. To analyze different Antenna Parameters.

Mapping with Course Outcomes with Chapter Outcomes: -

Course Outcomes →	1	2	3	4	5	6
Chapter Outcomes ↓						
1	1	3	2	2	3	3
2	1	2	2	3	3	3

Date of Assignment: -

4th May 2023

Date of Submission: -

10th May 2023

Date of returning back the corrected assignment:

12th May 2023



Books Referred For This Topic:-

Text Books:

1.	Samuel Liao, "Microwave Devices and Circuit", Prentice Hall of India
2.	Annapurna Das & Sisir K Das, "Microwave Engineering", Tata Mc-Graw Hill.
3.	G.S.N. Raju, "Antennas and wave propagation", Pearson Education

Reference Books:

1.	K. T. Matthew, "Microwave Engineering", Wiley India, 2011
2.	Shrushut Das, "Microwave Engineering", Oxford Press.
3.	M. Kulkarni, "Microwave and Radar Engineering", Umesh Publications.

Plan for teaching beyond syllabus: Nil

No. of Lectures specified in syllabus: - 44

No. of Lectures Planned: -37

M. Kelkar
31/Jan/23

Signature of the Faculty: -

R. Koradi

Checked by Academic Co-ordinator:-

[Signature]
21/2/2023

Verified by HOD: -

[Signature]

Approved by Dean (Academics):-

[Signature]

Approved by VP/P:-

