Dr.J.J.Magdum Trust's

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

Department of Electronics& TelecommunicationEngineering

Student Information Manual (SIM)

Academic Year 2022-23 (T.Y.B.Tech.Sem.-I)

INDEX

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, 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 help them to develop versatile personality. For each department having its own student organization committees. Under these students organizes national level event every year in technical as well as non technical field. 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 specious 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.

2. VISION OF INSTITUTE

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

MISSION OF INSTITUTE

- To promote learn ability 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.

3. 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.

Program Educational Objectives (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.

Program Outcomes (POs)

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

1. Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization for the solution of complex engineering problems.
2. Identify, formulate, research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. Design solutions for complex engineering problems and design System components or processes that meet the specified needs with appropriate consideration for public health and safety, and cultural, societal, and environmental considerations.
4. 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. Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling to complex engineering activities, with an understanding of the limitations.

6. 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. Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. Communicate effectively on complex engineering activities with the engineering community and with the 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. 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. 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 Outcomes (PSO)

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.

4. Students role and Responsibilities Code of Conduct

- Every student must carry his/her identity card while being present on 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.

5. Computer Lab Instructions

- Students must present a valid ID card before entering the computer lab.
- Remove your shoes/chapels/sandals outside the lab.
- Playing of games on computer in the lab is strictly prohibited.
- Before leaving the lab, students must close all programs positively and keep the desktop blank.
- Students are strictly prohibited from modifying or deleting any important files and install any software or settings in the computer without permission
- Based on the prime priority, users may be requested by the lab in-charge, to leave the workstation any time and the compliance is a must.
- Eating and/or drinking inside the computer lab is strictly prohibited.
- Internet facility is only for educational/ study purpose.
- Silence must be maintained in the lab at all times.
- The lab must be kept clean and tidy at all times.
- If any problem arises, please bring the same to the notice of lab in-charge.
- No bags/ hand bags/ rain coats/ casual wears will be allowed inside the computer lab, however note book may be allowed.
- Lab timing will be as per the academic time table of different classes.
- Every user must make an entry in the Computer Lab Register properly.

- Each student or visitor must take mobile phones in “Switched Off” mode while entering and or working in Computer Lab.
- Conversation, discussion, loud talking & sleeping are strictly prohibited.
- Users must turn-off the computer before leaving the computer lab.
- Maintain silence in lab.
- Computer Lab Assistants are available to assist with BASIC computer and software problems.
- Food and drink are not permitted in the computer lab.
- The use of cell phones is prohibited in the computer lab.
- Please take your calls outside. We also ask that you put your cell phone on vibrate mode.
- Unauthorized copying and/or installing of unauthorized software is not permitted.
- Tampering with the hardware or software settings will not be tolerated.
- Students found Internet surfing or chatting for personal reasons may be asked to leave. Preference is given to students doing course work over those engaged in personal computer use.
- Personal files are not to be stored on the local drive C. Students are responsible for providing their own means of digital storage. All lab computers are set up to remove any data stored or any programs installed by users.

Classroom Instructions

- Students should know and obey rules and regulations of department as well as college.
- 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.

6. DepartmentAcademic Planner Sem-I(2022-23)

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			

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*	

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 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*

Departmental TY B.Tech.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: TY**

Class Room No.:

Class Coordinator: Prof.D.U.Chavan **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) E3- SM(AAS) E4-SS(DUC)/OE-I (SRM)TUT	E1- VLSI(VTK) E2- SM(AAS) E3- SS(DUC)/OE-I (SRM)TUT E4- OCN(PPB)	OCN(PPB)	E1- SM(SSK) E2-SS(DUC)/OE-I (RVK)TUT E3- OCN(PPB) E4-VLSI(VTK)	E1- SS(DUC)/OE-I (SRM)TUT E2- OCN(PPB) E3- VLSI(VTK) E4- SM(AAS)	
12.40 pm – 01.40 pm			OE-I(SRM)			
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	

8.T.Y.B.Tech Structure of Syllabus

Third Year ELECTRONICS & TELECOMMUNICATION ENGINEERING – CBCS PATTERN

Sr. No	Course (Subject) Title	TEAETCING SETCEME									EXAMINATION SETCEME											
		THEORY			TUTORIAL			PRACTICAL			THEORY					PRACTICAL			TERM			
		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	Min
SEMESTER – V																						
1	PCC-ETC501	4	4	4	1	1	1	-	-	-		CIE	30	100	12	As per BOS Guidelines	-	-	2	25	10
												ESE	70		28						
2	PCC-ETC502	3	3	3	1	1	1	-	-	-		CIE	30	100	12		-	-	2	25	10
												ESE	70		28						
3	PCC-ETC503	4	4	4	-	-	-	1	2	2		CIE	30	100	12		50	20	2	25	10
												ESE	70		28						
4	PCC-ETC504	4	4	4	-	-	-	1	2	2		CIE	30	100	12		50	20	2	25	10
												ESE	70		28						
5	OEC-ETC501	3	3	3	1	1	1	-	-	-		CIE	30	100	12		-	-	2	25	10
												ESE	70		28						
6	PCC-ETC505	1	1	1	-	-	-	1	2	2							50	20	2	25	10
	TOTAL	**19**	**19**	**19**	**3**	**3**	**3**	**3**	**6**	**6**				**500**			**150**			**150**	
SEMESTER –VI																						
1	PCC-ETC601	4	4	4	-	-	-	1	2	2		CIE	30	100	12	As per BOS Guidelines	-	-	2	25	10
												ESE	70		28						
2	PCC-ETC602	4	4	4	-	-	-	1	2	2		CIE	30	100	12		50	20	2	25	10
												ESE	70		28						
3	PCC-ETC603	4	4	4	-	-	-	1	2	2		CIE	30	100	12		-	-	2	25	10
												ESE	70		28						
4	PCC-ETC604	4	4	4	-	-	-	1	2	2		CIE	30	100	12		50	20	2	25	10
												ESE	70		28						
5	OEC-ETC601	3	3	3	1	1	1	-	-	-		CIE	30	100	12		-	-	2	25	10
												ESE	70		28						
6	PCC-ETC605	-	-	-	-	-	-	1	2	2							50	20	2	25	10
	TOTAL	**19**	**19**	**19**	**1**	**1**	**1**	**5**	**10**	**10**				**500**			**150**			**150**	
	TOTAL	**38**	**38**	**38**	**4**	**4**	**4**	**8**	**16**	**16**				**1000**			**300**			**300**	

CIE- Continuous Internal Evaluation
ESE – End Semester Examination

Note:

1. **PCC-ETC:** Professional Core course –Electronics & Telecommunication Engineering are compulsory.
2. **OCE-ETC:** Open Elective Course – Electronics & Telecommunication Engineering:
3. **Winter/Summer Internship/Industrial Training of minimum 15 day's compulsory and evaluation of the same will be carried out in Final year Project Phase internal assessment by respective Guide**

• Candidate contact hours per week : 30 Hours (Minimum)	• Total Marks for T.Y. Sem V& VI: **1600**
• Theory and Practical Lectures : 60 Minutes	• Total Credits for T.Y. Sem V & VI : **50**
• There shall be separate passing for theory and practical (term work) courses.	
(A) Non-Credit Self Study Course : Compulsory Civic Courses (CCC) For Sem I: CCC – I : Democracy, Elections and Good Governance **(B) Non-Credit Self Study Course : Skill Development Courses (SDC) For Sem II: SDC – I :** Any one from following (i) to (v) i) Business Communication & Presentation ii) Event management iii) Personality Development, iv) Yoga & Physical Management v) Resume, Report & proposal writing	

9. Subjects

Subject : Signals & Systems

Chapter No.	Lect No.	Details of syllabus planned
Ch.1		**Signals and Classification of Signals**
	01	Introduction to definition and classification of signals

	02	Continuous and Discrete Time signals
	03	Even and Odd signals
	04	Periodic and Non periodic signals
	05	Deterministic and Non deterministic signals
	06	Energy and Power signals
	07	Elementary signals unit step, unit impulse, unit ramp, exponential & sinusoidal
	08	Basic operations on signals, Sampling & reconstruction of signal
Ch 2	**System and Classification of Systems**	
	1	System Representation, properties of systems : continuous time Systems & discrete Systems
	2	System with and without memory
	3	Causal and non-causal system
	4	Linear and nonlinear system, Time invariant and time variant system,
	5	Stability of system, Impulse response representation
	6	Convolution integral
	7	Convolution sum
	8	Properties of convolution
Ch3	**Fourier Transform**	
	1	Fourier Transform introduction
	2	Fourier Transform of CT and DT signals
	3	Properties of Fourier Transform
	4	Fourier transform using properties
	5	Limitations of Fourier Transform
	6	Numerical on Fourier Transform
	7	Numerical on Fourier Transform
	8	Numerical on Fourier Transform

Ch 4	**Discrete Fourier Transform**	
	1	Discrete Time Fourier Transform introduction
	2	Discrete Fourier Transform
	3	Inverse Discrete Fourier Transform(IDFT): Direct method
	4	DFT using Twiddle factor
	5	DFT Properties
	6	DFT and DTFT Numerical
	7	DFT and DTFT Numerical
Ch 5	**Z transform**	
	1	Introduction of Z-transform
	2	ROC, properties of ROC
	3	Unilateral Z-transform
	4	Properties of Z transform
	5	Inverse Z-transform: long division method
	6	PFE method
	7	Residue method
Ch 6	**System Realization**	
	1	Continuous time system representation by differential equation
	2	Discrete time system representation by difference equation
	3	Transfer function in Z-domain
	4	Realization of discrete time systems by Direct from I
	5	Realization of discrete time systems by Direct Form II
	6	Numerical
	7	Numerical

Tutorial List

Tut No.	Name of Tutorial
01	Signals and Classification of Signals
02	System and Classification of Systems
03	Fourier Transform
04	Discrete Fourier Transform
05	Z transform
06	System Realization
07	On section I
08	On section II
09	Plot basic elementary signals in MATLAB
10	Sampling & Reconstruction of signal in MATLAB

Recommended Books:

TEXT BOOKS:

1. S. Palani, " Signals and Systems", Ane Books Pvt. Ltd
2. P. Ramesh Babu, R. Anandanatarajan, " Signals and Systems " 4th Edition, SCITECH publication
3. A.Anand Kumar, "Signals and Systems", PHI publication

REFERENCE BOOKS:

1. Alan Oppenheim, Alan S. Willsky , "Signals and Systems ", 2nd Edition , PHI Publication.
2. Simon Haykin, Barry Van Veen, "Signals and Systems", 2nd Edition, Wiley Publication
3. Michael J. Roberts, "Fundamentals of signals & systems", Tata McGraw Hill Publication Publication, 2007.

Subject: ELECTROMAGNETIC ENGINEERING

Chapter No.	Lect No.	Details of syllabus planned
Ch.1		**Vector Algebra**
	01	Review of vector Analysis and coordinate systems
	02	Basic of vector algebra
	03	Dot product and Cross product
	04	Curl, divergence, Gradient
Ch.2		**Electrostatics**
	05	Coulomb‟s law & electric field (Numerical Expected)
	06	Field due to distributed charges (Numerical Expected)
	07	Flux density (Numerical Expected)
	08	Gauss's law, divergence theorem
	09	Electrostatic potential, potential gradient, electric dipole
	10	Electrostatic energy density.
	11	Boundary conditions for electrostatic field
Ch.3		**Steady magnetic field**
	12	Biot Savarts law (Numerical Expected),
	13	Ampere's circuital law (Numerical Expected)
	14	Stoke‟s Theorem, Magnetic flux density & Vector magnetic potential
	15	,Current carrying conductors in magnetic fields
	16	Torque on loop
	17	Energy stored in magnetic field
	18	Boundary conditions for magneto static field.
Ch.4		**Maxwell's equations**
	19	Inconsistency of Ampere's law, Faraday's law
	20	Maxwell‟s equations for static field, time varying field & harmonically

		varying fields
	21	Comparison of field & circuit theory
Ch.5	**Electromagnetic waves**	
	22	Wave equation for free space and conducting medium
	23	Uniform plane wave equation
	24	General solution of uniform plane wave equation
	25	Intrinsic impedance, wave equation in phasor form
	26	Wave propagation in lossless medium
	27	Propagation characteristics of EM waves in free space
	28	Propagation characteristics of EM waves inconducting medium
	29	Propagation characteristics of EM waves in good dielectrics and good conductors.
Ch.6	**Transmission line**	
	30	Transmission line equations
	31	Transmission line parameters
	32	Infinite line, terminated uniform transmission line
	33	Reflection coefficient,
	34	VSWR
	35	Group velocity, phase velocity
	36	Smith chart
	37	(Numerical expected on Reflection coefficient, VSWR and impedance matching using Smith chart)

Tutorial List

Tut No.	Name of Tutorial
01	Examples on Vector Analysis and Transformation of system
02	Derive an equation for Coulombs law and its examples
03	Derive an equation of Electric field intensity and Charge Distribution
04	Examples on Electric Field intensity and charge distribution
05	Derive an equation of Work done and potential
06	Examples on Electric Dipole and its examples
07	Derive an equation of VSWR, Reflection Coefficient
08	Examples on Smith Chart

Recommended Books:

TEXT BOOKS:

1. John D. Kraus, "Electromagnetics", Tata McGraw Hill
2. William Hayt, Buck, "Engineering Electromagnetics", Tata McGraw Hill.
3. G.S.N. Raju, "Antenna and Wave Propagation", Pearson Education.
4. Sadiku, "Elements of Electromagnetics", 4 th edition, Oxford University Press

REFERENCE BOOKS:

1. Jordan &Balmain, "Electromagnetic Fields & Radiation Systems", 2nd edition, PHI
2. G.S.N. Raju, "Electromagnetic field theory & Transmission lines", 1st edition, Pearson Education.

Subject: DIGITAL &VLSI DESIGN

Chapter No	No. of Lecture	Topics to be covered in each Lecture
	Basics of digital systems	
1	1	Binary codes, Code Conversion.
	2	Generation of Switching Equations from Truth Table
	3	Canonical forms
	4	K-map(Karnaugh map) 2,3,4 and 5 variables
	5	K-map(Karnaugh map) 2,3,4 and 5 variables K map with Don‟t care terms
	6	QuineMc-Cluskey minimization technique,
	7	QuineMc-Cluskey minimization technique, QuineMc-Cluskey using Don‟t Care Terms
	Introduction to VHDL	
2	8	Level of abstraction. Need of HDL
	9	VLSI Design flow, Features and capabilities of VHDL
	10	Elements of VHDL (Entity Architecture, Library, Package, and Configuration)
	11	Elements of VHDL (Entity Architecture, Library, Package, and Configuration)
	12	Modeling styles in VHDL ,Identifiers, operators
	13	Data objects, data types, literals, Delay Models,
	14	Concurrent and sequential statement
	Combinational logic Design	
3	15	Adder, Subtractor
	16	Code converters (binary to gray & gray to binary
	17	BCD to Excess 3 and vice versa, BCD to 7 segment display
	18	Multiplexer and Demultiplexer , Encoder, Priority encoder, Decoder
	19	Priority encoder, Decoder
	20	Comparator , ALU, Barrel shifter. VHDL coding for combinational circuits.
	21	Comparator , ALU, Barrel shifter. VHDL coding for combinational circuits.
	Sequential logic Design	
4	22	1-Bit Memory Cell, Latches (SR, JK, D and T)
	23	1-Bit Memory Cell, Latches (SR, JK, D and T)
	24	Clocked latches (SR, JK, D and T),
	25	flips flop (SR, JK, T and D).
	26	Use of preset and clear, Excitation Table for flip flops, and Conversion of flip flops

	27	Timing parameters of FF, Shift registers (SISO, SIPO, PIPO, and PISO). VHDL coding for Sequential circuits.
	28	Timing parameters of FF, Shift registers (SISO, SIPO, PIPO, and PISO). VHDL coding for Sequential circuits.
	Counters and Finite State Machines	
5	29	Counter – ripple counters
	30	synchronous counters , Up/down counters
	31	Ring counters, Johnson Counter MOD-N counter
	32	FSM, Moore/Mealy machines
	33	Network Addressing – Physical, Logical, and Port.
	34	state diagram, state table, state assignment
	35	state reduction, Sequence detector. VHDL coding for Counters and FSM.
	Semiconductor Memories and Programmable Logic Devices	
6	36	Memory devices: ROM, PROM, EPROM
	37	EEPROM, RAM, SRAM DRAM, NVRAM
	38	EEPROM, RAM, SRAM DRAM, NVRAM
	39	Programmable logic devices: PAL ,PLA
	40	CPLD and FPGA
	41	Logic implementation using Programmable Devices (ROM, PLA)
	42	Logic implementation using Programmable Devices (ROM, PLA)

Experiment List

Expt.No.	Name of Experiment
01	Implementation of Boolean function using IC
02	Design and simulate half adder and full adder using VHDL.
03	Design and simulate half subtractor and full subtractor using VHDL.
04	Design and simulate BCD to seven segment display using VHDL.
05	Design and simulate 3to8 decoder using VHDL.
06	Design and simulate 8to3 encoder using VHDL.
07	Design and simulate Multiplexer and Demultiplexer using VHDL.
08	Design and simulate Comparator using VHDL

09	Design and simulate counter using VHDL.
10	Mini project based on above syllabus.

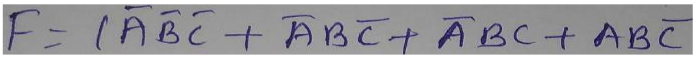
Assignments

Assignment No.1

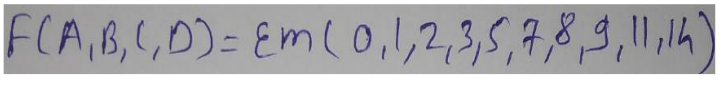
1) **Explain in details Boolean laws?**
2) **Explain in details Boolean algebra rules?**
3) **Explain in detail different logic gate with logic dig. & truth table?**

Assignment No.2

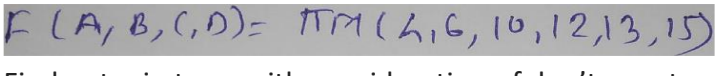
1) **Find 1's compliment& 2's compliment for binary addition, subtraction, multiplication, division of following group.**
   1) 26 &12 2) 48 & 16 3) 64 & 28 4) 84 & 24 5) 96 & 28
2) **Minimize the given logical expression**



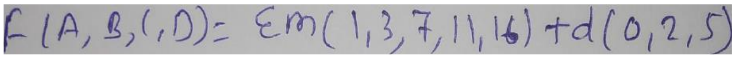
3) **Minimize the 4 variable using K-Map**



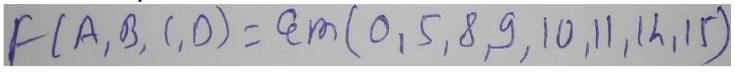
4) Find out the expression in POS form as



5) Find out min term with consideration of don't care term



6) Find out By Tabular method for



Assignment No.3

1) **Explain in details levels of abstraction**
2) **Explain Features & Capabilities of VHDL.**
3) **Explain VLSI Design Flow.**
4) **Explain in details elements of VHDL**

Assignment No.4

1) Write a program in VHDL for Half & Full Adder & explain in detail.
2) Write a program in VHDL for BCD to Seven Segment Display& explain in detail.
3) Write a program in VHDL for Encoder & Decoder & explain in detail.
4) Write a program in VHDL for Comparator & Barrel shifter& explain in detail.

Assignment No.5

1) Write a program in VHDL for JK Flip Flop,D Flip flop,SR Flip flop,T Flip Flop& explain in detail.
2) Explain in detail 1)SISO 2)SIPO 3)PIPO 4)PISO
3) Write a program in VHDL for counter& explain in detail.
4)explain in detail FSM.

Assignment No.6

1) Explain in detail different memory devices.
2) Explain in detail 1)SISO 2)SIPO 3)PIPO 4)PISO
3) Explain in detail PAL & PLA
4) explain in detail FPGA & CPLD.

Recommended Books:

Text Books:

1. A. Anand Kumar, "Fundamentals of digital circuits", 4th edition, PHI publication, 2016

2. Stephen Brown and ZvonkoVranesic,"Fundamentals of Digital Logic with VHDL design" Tata Mc-graw Hill.

Reference Books:

1.Wakerly, "Digital Design Principles and Application", Pearson Education
2. M. Morris Mano, " Digital Design", 3rd Edition , Pearson Education
3. Roth John, "Principals of Digital System Design using VHDL", Cengage Learning
4.R. P. Jain, "Modern digital electronics", 3rd edition, 12th reprint TATA Tata McGraw Hill Publication, 2007

SUBJECT NAME: OPTICAL COMMUNICATION

Course Details

Class	**T. Y. B. Tech. Sem - V**
Course Code and Course Title	**PCC-ETC504:Optical Communication**
Prerequisites	**Physics, Optoelectronics**
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	Describe the basics optical communication along with optical fiber structure and light propagating mechanisms in detail.
2	Analyze the signal degradation mechanisms
3	Explain the construction and working of optical sources and detectors.

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.

Course Contents		
Unit No: 1	**Overview of Optical Fiber Communication** Motivation for light wave communication, Basic Network Information Rates, The evolution of Optic System, Elements of Optical Fiber Transmission Link, optical spectral band, The nature of Light, Basic Optical Laws and Definitions, Single Mode Fibers, Graded Index fiber structures.	**6 Hrs.**
Unit No: 2	**Optical Fibers: Structures and Wave guiding** Optical Fiber Modes and Configurations, Mode theory for waveguides, Fiber Materials, Fiber Optic cables.	**6 Hrs.**
Unit No: 3	**Transmission characteristics of optical fibers.** Attenuation, material absorption losses, Scattering losses, bending	**8 Hrs.**

	losses, dispersion, polarization, nonlinear effects.	
Unit No: 4	**Optical Sources** Semiconductor Physics, Light-Emitting Diodes (LEDs), LED structures SLED, ELED.Quantum efficiency and LED Power .Laser Diodes, Laser diode structures and radiation patterns, Light Source Linearity.	**7 Hrs.**
Unit No: 5	**Optical Receiver** Physical Principal of Photodiodes, Photodetector Noise, Detectors Response Time, Structure for InGaAsAPDs, Temperature effect of Avalanche Gain, Comparison of Photodetectors , Fundamental Receiver Operation, Digital Receiver Performance	**7 Hrs.**
Unit No: 6	**Advances in Optical Fiber System** Operational Principles of WDM, Passive Components, Tunable Sources, Tunable Filters, optical switching, SONET/SDH, Performance of WDM+EDFA Systems, optical CDMA	**8 Hrs.**

Text Books:

1	Gerd Keiser, "Optical Fiber Communication", 5th Edition, TMH.

Reference Books:

1	Senior, "Optical Communication", 3rd Edition, Pearson.
2	Agarwal, "Optical Fiber Communication", 3rd edition Wiley.
3	Ramaswamy, "Optical Networks" , ELSEVIER INDIA
4	R. P. Khare, "Fiber optics and optoelectronics", Oxford university
5	Anuradha, "Optical fiber and laser principles and applications", New Age Publications.
6	Dr .R .K .Singh "Fiber optic communication systems", Willey India.

TEACHING PLAN

Sr.No.	**Chapter No: - 1. Overview of Optical Fiber Communication**
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.
Sr.No.	**Chapter No: - 2. Optical Fibers: Structures and Wave guiding:**
6.	Optical Fiber Modes,
7.	Optical Fiber Configurations
8.	Mode theory for waveguides.
9.	Fiber Materials
10.	Fiber Optic cables.
Sr.No.	**Chapter No: - 3. Transmission characteristics of optical fibers:**
11.	Attenuation
12.	Material absorption losses
13.	Scattering losses, Bending losses
14.	Dispersion
15.	Polarization
16.	Nonlinear effects
Sr.No.	**Chapter No: - 4. Optical Sources:**
17.	Semiconductor Physics,
18.	Light-Emitting Diodes (LEDs), LED structures
19.	SLED, ELED.Quantum efficiency and LED Power .
20.	Laser Diodes, Laser diode structures and radiation patterns
21.	Light Source Linearity
Sr.No.	**Chapter No: - 5. Optical Receiver:**
22.	Physical Principle of Photodiodes,
23.	Photo detector Noise, Detectors Response Time
24.	Structure for InGaAsAPDs, Temperature effect of Avalanche Gain

25.	Comparison of Photo detectors , Fundamental Receiver Operation,

Sr.No	Name of Experiment	Performing /Study type	CO

26.	Digital Receiver Performance
Sr.No.	**Chapter No: - 6 Advances in Optical Fiber System**
27.	Operational Principles of WDM,
28.	Passive Components,
29.	Tunable Sources, Tunable Filters,
30.	optical switching, SONET/SDH,
31.	Performance of WDM+EDFA Systems, optical CDMA
32.	Overall revision

LIST OF EXPERIMENT

1.	Study of optic fiber communication system.	Study	CO1
2.	Transmission and reception of analog signal using optical fiber.	Performing	CO1
3.	Transmission and reception of digital signal using optical fiber.	Performing	CO1
4.	Frequency modulation using optic fiber link.	Performing	CO1
5.	Calculation of bending loss in the optic fiber link.	Performing	CO2
6.	Study of Pulse width modulation using optic fiber	Performing	CO1
7.	Study of characteristics of LED.	Performing	CO3
8.	Experiment based on simulation. Calculation of Numerical Aperture	Performing	CO1
9.	Experiment based on simulation. Calculation of losses	Performing	CO2

ASSIGNMENTS

Chapter No: - 1. Overview of Optical Fiber Communication

1.	With the help of block diagram explain the optical communication system. List the advantages of optical fiber communication	
2.	Briefly explain the names and designation of spectral bands used for optical communication.	
3.	Explain with neat diagram the phenomenon of light propagation through optical fiber by total internal reflection? Write down the definition of critical and acceptance angle.	
4.	Define numerical aperture? Show that the NA = $n_1\sqrt{2\Delta}$	

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

1.	Classify optical fibers on the basis of modes	

2.	With the help of neat diagram explain step index and graded index glass fiber? Give their comparison.	
3.	Explain in detail glass fiber, active glass fiber and plastic optical fiber. Give comparison of glass and plastic fiber	
4.	Explain in detail optical fiber cable structures	
5.	Explain different indoor and outdoor fiber optic cables	
6.	Explain Mode field Diameter(MFD) and propagation modes in single mode fibers	

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

1.	Explain in detail scattering and bending losses in optical fiber	
2.	What do you mean by signal dispersion in optical fibers? What are the factors responsible for dispersion? Briefly explain each of them?	
3.	Explain the effect of pulse Broadening in graded index waveguide.	
4.	Explain different material absorption losses.	
5.	Explain the following terms in detail: 1. Fiber Birefringence 2. Polarization mode dispersion 3. Non linear effects in optical fiber	

Chapter No: - 4. Optical Sources

1.	Explain structure of dome LED with neat diagram.	
2.	Explain concept of population inversion and write a note on laser diodes.	
3.	Explain laser rate equations	
4.	With the help of neat diagram explain modal, partition and reflection noise wrt LASER diode	
5.	Compare LED and LASER	

Chapter No: - 5. Optical Detector

1.	Explain the structure of InGaAs APD	

2.	Write note on PIN photodiode	
3.	Draw Digital optical Receiver and explain performance parameters?	
4.	Compare various Photo Detectors?	

Chapter No: - 6. Advances in Optical Fiber System

1.	Explain operating principles of WDM, Write different WDM standards?	
2.	Explain in detail WDM+EDFA performance?	
3.	Explain in detail transmission formats and speeds in SONET?	
4.	Write note on Tunable filters	
5.	Write note on Optical CDMA	

Subject: Industrial Automation (OE 1)

Chapter No.	Lect No.	Details of syllabus planned
Ch.1		**Introduction to PLC**
	01	Automation: fundamentals of industrial automation, need and role of automation, evolution of automation.
	02	PLC introduction :types of processes, comparison, evolution of PLC, definition, functions, advantages, Architecture
	03	DI-DO-AI-AO examples and ratings, I/O module
	04	working of PLC, scan time
	05	Installation of PLC, Rack installation
	06	Grounding and shielding, physical, electrical, maintenance requirements, planning, verifying. Troubleshooting, Fault diagnosis techniques.
	07	Choosing PLC for application
	08	Types and Specifications of PLC
Ch 2		**PLC Programming and Interfacing**
	1	PLC programming: Development of Relay Logic Ladder Diagram

	2	Introduction to PLC Programming, Programming devices and languages as per IEC 61131-3 like IL, ST, FBD, CFC, SFC, PLC Timers and Counters
	3	Installation and Troubleshooting. PLC Interfacing: PID Control using PLC, PIDinstruction.
	4	PLC Interface to Hydraulic/Pneumatic circuits
	5	Solid-state devices
	6	Need of interfacing
	7	PLC Selection, PLC interface to temperature control loop
Ch3	**SCADA System**	
	1	SCADA Concept of SCADA systems
	2	Programming techniques for : Creation of pages, Sequencing of pages, Creating graphics & animation
	3	Dynamos programming with variables, Trending, Historical data storage & Reporting
	4	Alarm management
	5	Reporting of events and parameters.
	6	Comparison of different SCADA packages.
	7	Comparison of different SCADA packages
Ch 4	**Introduction to DCS**	
	1	DCS Introduction, Location of DCS in Plant
	2	Functions, advantages and limitations, Comparison of DCS with PLC.
	3	DCS components/ block diagram
	4	DCS Architecture
	5	Functional requirements at each level
	6	Database management
	7	Latest trends and developments of DCS and its specifications
Ch 5	**DCS Hardware**	
	1	Layout of DCS, Controller Details
	2	Redundancy, I/O Card Details, Junction Box and Marshalling Cabinets, Operator Interface

	3	Workstation Layout, different types of control panels
	4	Types of Operating Station,.Programming as per IEC 61131-3
	5	Advantages, Overview of Programming Languages
	6	Device Signal Tags, Configuration, Programming for Live Process
	7	Power supply cards details, various display configurations

Tut No.	Name of Tutorial
01	Chapter no 1
02	Chapter no 2
03	Chapter no 3
04	Chapter no 4
05	Chapter no 5

Recommended Books:

TEXT BOOKS:

1. John Webb, “Programmable Logic Controllers”, Prentice Hall of India.
2. Gary Dunning, “Introduction to Programmable Logic Controllers”, Delmar Thomson Learning.
3. Popovik -Bhatkar, “Distributed Computer Control for Industrial Automation”, Dekkar Publications.
4. S. K. Singh, “Computer Aided Process Control”, Prentice Hall of India.
5. Krishna Kant, “Computer Based Process Control”, Prentice Hall of India.

REFERENCE BOOKS:

1. Richard Cox, “Programmable Controllers”, International Thomson Computer Press
2. B. G. Liptak, “Instrument Engineer’s Handbook – Process Software and Digital Network”, CRC Press

SUBJECT NAME: SIMULATION & MODELING

Course Details

Class	**T.Y.B.Tech. Sem-V**
Course Code and Course Title	**PCC-ETC505: Simulation and Modeling**
Prerequisites	**C,C++ Programming**
Teaching scheme: Lectures + Practical	**1Hr. +2 Hrs.**
Credits	**1 + 1**
Evaluation Scheme ESE + CIE for Theory	**NIL**

Teaching scheme	**Examination scheme**
Lectures: 1Hr. /Week	**Theory: NIL**
Practical:2Hrs./Week	**TW:25Marks** **OE:50Marks**

Course Objectives: The course aims to:	
1	TodevelopproblemsolvingskillsandtheirimplementationthroughbasicPython
2	To understand and implement concepts of decision making statements
3	To implement programs based on looping statements
4	To understand &implement programs based on built in functions
5	To develop simulations using python Simpy package

Course Outcomes: Upon successful completion of this course ,the students will be able to:	
1	Understand the python programming basics
2	Able to solve programs on decision making & looping statements in python
3	Understand python list, tuple, and dictionary collection concepts
4	Understand simulation programs using SimPy Library
5	Design & Apply Simpy library functions to model real time problems.

COURSE CONTENTS		
UnitNo.1	**Introduction to Python** Introduction to Python: Why high level language, Scope of python, interactive mode and script mode. Variables, Operators and Operands in Python. Arithmetic, relational and logical operators, Operator precedence, Taking input using raw input()and input()method and displaying output-print statement, Comments in Python.	**2Hrs.**
UnitNo.2	**Conditional and Looping** if - else statement and nested if – else while, for, use of range function in for, Nested loops, break, continue, pass statement Use of compoundexpressioninconditionalconstructs,Nestedconditionalstatements,NestedLoopingstructures	**2Hrs.**
UnitNo.3	**Functions** Built In Function, Functions from math, random, time &date module. Composition User Define Function: Defining, invoking functions, passing parameters, Intra-package References, Packages in Multiple Directories	**2Hrs.**
Unit No. 4	**List** Lists Concept of mutable lists, creating, initializing and accessing the elements of list operations Concatenation, Membership, list slices, List comprehensions List functions & methods: len, insert, append, extend, sort, remove, reverse, pop functions	**2Hrs.**
Unit No. 5	**Tuples &sets** Immutable concept, creating, initializing and accessing the elements in a tuple;Tuple functions: cmp(), len(), max(), min(), tuple()Sets Concept of Sets , creating, initializing and accessing the elements of Sets operation Membership, union, intersection, difference, and symmetric difference Dictionaries Concept of key-value pair, creating, initializing and accessing the elements in a dictionary, Traversing, appending, updating and deleting elements	**2Hrs.**
Unit No: 6	**Simulations using Simpy** Basic Concepts, understanding of SimPy's capabilities, Process Interaction, Waiting for a Process, Interrupting Another Process, Real-time simulations.	**2Hrs.**

TEXT BOOKS:

1	MartinC.Brown,"Python:TheCompleteReference",McGrawhill2018
2	MarkLutz,"LearningPython",O'ReillyPublicationedition2013
3	MichaelDawson,"PythonProgrammingfor AbsoluteBeginner",CengageLearning edition2010

REFERENCE BOOKS:

1	DavidBeazley,"PythonEssentialReference",Developerslibrary4thedition
2	WebreferenceSimPy:https://simpy.readthedocs.io/

LECTURE PLAN:

Unit No: - 1 . Introduction to Python	
1	Introduction to Python: Why high level language, Scope of python, interactive mode and script mode. Variables, Operators and Operands in Python.Arithmetic, relational and logical operators
2	Operator precedence, Taking input using raw_input() and input() method and displaying output – print statement, Comments in Python.
Unit No: - 2. Conditional and Looping	
3	if - else statement and nested if – else while, for, use of range function in for, Nested loops, break, continue, pass statement
4	Use of compound expression in conditional constructs, Nested conditional statements, Nested Looping structures
Unit No: - 3. Functions	
5	Built-In Function, Functions from math, random, time & date module. Composition
6	User Define Function : Defining , invoking functions, passing parameters, Intra-package References, Packages in Multiple Directories
Unit No: - 4. List	
7	Lists Concept of mutable lists, creating, initializing and accessing the elements of list, List operations Concatenation, Membership, list slices
8	List comprehensions List functions & methods: len, insert, append, extend, sort, remove, reverse, pop functions
Unit No: - 5.Tuples&sets	

9	Immutable concept, creating, initializing and accessing the elements in a tuple; Tuple functions: cmp(), len(), max(), min(), tuple()Sets Concept of Sets , creating, initializing and accessing the elements of Sets operation Membership, union, intersection, difference, and symmetric difference
10	Dictionaries Concept of key-value pair, creating, initializing and accessing the elements in a dictionary, Traversing, appending, updating and deleting elements
Unit No: - 6.SimulationsusingSimpy	
11	Basic Concepts, understanding of SimPy's capabilities, Process Interaction
12	Waiting for a Process, Interrupting another Process, Real-time simulations

List of Experiments (Minimum8experiment):

LIST OF EXPERIMENT

Sr. No	Experiment Name	CO
1.	Write a python program to demonstrate basic data type in python	CO 1
2.	Write python program to study Arithmetic, relational and logical operators and Operands in Python.	CO 1
3.	Write python programs to study if, if else, if else if statements	CO 2
4.	Write python programs to study looping statements while &for	CO 3
5.	Write python programs to study built in functions of string and math packages	CO 4
6.	Write python programs to study list access using membership operators.	CO 4
7.	Write python programs to study tuple using in built functions	CO 4
8.	Write python programs to study set operations and dictionary traversing	CO 5
9.	Write python programs to study Discrete event simulation using SimPy	CO 5

10. B.TECH PROJECT/SEMINAR REVIEW FORMS

Seminar Evaluation Sheet

Name of Student:-
Class: Roll No.:
Name of Seminar Topic:
Name of Guide:
Academic Year: Semester:
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 for Project Work assessment

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**

1. Department Faculty

Sr. No.	Name of Faculty
1	Dr. S. B.Patil
2	Prof.M.M.Kolap
3	Prof.S.R.Mahadik
4	Prof.P.P.Belgali
5	Prof. T.H.Mohite
6	Prof. M.U. Phutane
7	Prof.R.V.Kaulgud
8	Prof.V.T.Kamble
9	Prof.D.U.Chavan
10	Prof. A.A.Sutar
11	Prof.S.S.Karadge

Sr. No.	Name of Faculty	Qualification	Experience in years	Email Id	Mobile No.
1	Dr.(Mrs.)S.B.Patil	Ph.D.	24	principal@jjmcoe.ac.in	9422618670
2	Mr. M. M. Kolap	M.E.	11	mandar.kolap@jjmcoe.ac.in	9273961061
3	Dr.(Mrs.)S. R.Mahadik	Ph.D.	26	shamala.mahadik@jjmcoe.ac.in	9422417847
4	Mrs. P. P. Belagali	Ph.D. (Pursuing)	20	pooja.belagali@jjmcoe.ac.in	9158895225
5	Mrs. T. H. Mohite	Ph.D. (Pursuing)	14	tejashree.mohite@jjmcoe.ac.in	9689228701
6	Mrs. M. U. Phutane	Ph.D. (Pursuing)	27	manisha.phutane@jjmcoe.ac.in	7709904600
7	Mrs. R. V. Kaulgud	Ph.D. (Pursuing)	10	rama.kaulgud@jjmcoe.ac.in	9673568000
8	Mr. V. T. Kamble	M.E.	12	vinay.kamble@jjmcoe.ac.in	8551937575
9	Mrs. D. U. Chavan	M.E.	10	dipti.chavan@jjmcoe.ac.in	8149742118
10	Mr. A. A. Sutar	M-Tech	02	akshaysutar.jjmcoe@gmail.com	8329543445
11	Ms.S.S.Karadge	M.E.	05	Supriya.karadge@gmail.com	8983626193

2. Department Staff

Sr. No.	Name of Staff	Qualification	Experience in years	Email Id	Mobile No.
1	Mr. P. K.Upadhye	DEE	26	pramod.upadhye@jjmcoe.ac.in	9860833636
2	Mr. K. M. Kulkarni	DEE	21	kiran.kulkarni@jjmcoe.ac.in	9689898399
3	Mrs. H. S. Swami	B.E.	22	hemlata.swami@jjmcoe.ac.in	8806899901