JITS/AcaCal/B-Tech/2023-24/01 **Date: 14-08-2023**

ACADEMIC CALENDAR (2023-24)

(J-23 Curriculum)

B-Tech I Year - I Semester

Sl- No-	EVENT / Description	DATE	Duration
1	Orientation & Induction Programme	21-08-2023 to 22-08-2023	2 days
2	First Spell of Instructions	23-08-2023 to 18-10-2023	8 weeks
3	Dussera Vacation	19-10-2023 to 25-10-2023	1 week
4	First Mid Term Examinations	26-10-2023 to 28-10-2023	3 Days
5	Submission of First Mid Term Exam marks to Exam branch	04-11-2023	--
6	Second Spell of Instructions	30-10-2023 to 23-12-2023	8 weeks
7	Second Mid Term Examinations	27-12-2023 to 29-12-2023	3 Days
8	Preparation Holidays and Practical Examinations	30-12-2023 to 06-01-2024	1 week
9	Submission of Second Mid Term Exam marks to Exam branch	06-01-2024	--
10	End Semester Examinations	08-01-2024 to 18-01-2024	2-weeks
	Note: I-B-Tech-II-Sem Class work Commence from 19-01-2024		

B-Tech I Year - II Semester

Sl- No-	EVENT / Description	DATE	Duration
1	First Spell of Instructions	19-01-2024 to 13-03-2024	8 weeks
2	First Mid Term Examinations	14-03-2024 to 16-03-2024	3 Days
3	Submission of First Mid Term Exam marks to Exam branch	23-03-2024	--
4	Second Spell of Instructions	18-03-2024 to 11-05-2024	8 weeks
5	Proposed Summer Vacation	13-05-2024 to 25-05-2024	2 weeks
6	Second Mid Term Examinations	27-05-2024 to 29-05-2024	3 Days
7	Preparation Holidays and Practical Examinations	30-05-2024 to 05-06-2024	1 week
8	Submission of Second Mid Term Exam marks to Exam branch	05-06-2024	--
9	End Semester Examinations	06-06-2024 to 19-06-2024	2 weeks
	Note: II-B-Tech-I-Sem Class work Commence from 20-06-2024		

DEAN (Academics)

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JITS/AcaCal/B-Tech/2023-24/01 Date: 13-06-2023

ACADEMIC CALENDAR (2023-24)

(J-22 Curriculum)

B-Tech II Year - I Semester

Sl. No.	EVENT / Description	DATE	Duration
1	Commencement of Class work I-Sem-	11-09-2023	--
2	First Spell of Instructions	11-09-2023 to 18-10-2023	6 weeks
3	Dussera Vacation	19-10-2023 to 25-10-2023	1 week
4	Continuation of Second Spell Instructions	26-10-2023 to 10-11-2023	2 weeks
5	First Mid Term Examinations	13-11-2023 to 15-11-2023	3 Days
6	Submission of first Mid Term Exam marks to Exam branch	22-11-2023	--
7	Second Spell of Instructions	16-11-2023 to 12-01-2024	8 weeks
8	Second Mid Term Examinations	16-01-2024 to 18-01-2024	3 Days
9	Preparation Holidays and Practical Examinations	19-01-2024 to 27-01-2024	9-Days
10	Submission of Second Mid Term Exam marks to Exam branch	27-01-2024	--
11	End Semester Examinations	29-01-2024 to 10-02-2024	2-weeks
	Note: II-B-Tech-II-Sem Class work Commence from 12-02-2024		

B-Tech II Year - II Semester

Sl. No.	EVENT / Description	DATE	Duration
1	First Spell of Instructions	12-02-2024 to 06-04-2024	8 weeks
2	First Mid Term Examinations	08-04-2024 to 10-04-2024	3 Days
3	Submission of first Mid Term Exam marks to Exam branch	17-04-2024	--
4	Second Spell of Instructions	15-04-2024 to 18-05-2024	5 weeks
5	Summer Vacation	20-05-2024 to 25-05-2024	1 week
6	Continuation of Second Spell Insturctions	27-05-2024 to 15-06-2024	3 weeks
7	Second Mid Term Examinations	17-06-2024 to 19-06-2024	3 Days
8	Preparation Holidays and Practical Examinations	20-06-2024 to 27-06-2024	1 week
9	Submission of Second Mid Term Exam marks to Exam branch	27-06-2024	--
10	End Semester Examinations	28-06-2024 to 13-07-2024	2 weeks
	Note: III-B-Tech-I-Sem Class work Commence from 15-07-2024		

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

ACADEMIC CALENDAR 2023-24

B. Tech./B. Pharm. III YEAR I & II SEMESTERS

I SEM

S. No	Description	Duration	
		From	To
1	Commencement of I Semester classwork	**11.10.2023**	
2	1st Spell of Instructions (including Dussehra Recess)	11.10.2023	12.12.2023 (9 Weeks)
3	**Dussehra Recess**	23.10.2023	28.10.2023 (1 Week)
4	First Mid Term Examinations	13.12.2023	19.12.2023 (1 Week)
5	Submission of First Mid Term Exam Marks to the University on or before	23.12.2023	
6	2nd Spell of Instructions	20.12.2023	19.02.2024 (8 Weeks)
7	Second Mid Term Examinations	20.02.2024	24.02.2024 (1 Week)
8	Preparation Holidays and Practical Examinations	26.02.2024	02.03.2024 (1 Week)
9	Submission of Second Mid Term Exam Marks to the University on or before	28.02.2024	
10	End Semester Examinations	04.03.2024	16.03.2024 (2 Weeks)

Note: No. of Working/ instructional days: 90

II SEM

S. No	Description	Duration	
		From	To
1	Commencement of II Semester classwork	**18.03.2024**	
2	1st Spell of Instructions	18.03.2024	10.05.2024 (8 Weeks)
3	**Summer Vacation**	13.05.2024	25.05.2024 (2 Weeks)
4	First Mid Term Examinations	27.05.2024	01.06.2024 (1 Week)
5	Submission of First Mid Term Exam Marks to the University on or before	06.06.2024	
6	2nd Spell of Instructions (including Summer Vacation)	03.06.2024	03.08.2024 (9 Weeks)
7	Second Mid Term Examinations	05.08.2024	09.08.2024 (1 Week)
8	Preparation Holidays and Practical Examinations	12.08.2024	17.08.2024 (1 Week)
9	Submission of Second Mid Term Exam Marks to the University on or before	14.08.2024	
10	End Semester Examinations	19.08.2024	31.08.2024 (2 Weeks)

Note: No. of Working/ instructional days: 90

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REGISTRAR I/c.

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

ACADEMIC CALENDAR 2023-24

B. Tech./B. Pharm. IV YEAR I & II SEMESTERS

I SEM

S. No	Description	Duration	
		From	To
1	Commencement of I Semester classwork	25.07.2023	
2	1st Spell of Instructions	25.07.2023	20.09.2023 (8 Weeks)
4	First Mid Term Examinations	21.09.2023	27.09.2023 (1 Week)
5	Submission of First Mid Term Exam Marks to the University on or before	03.10.2023	
6	2nd Spell of Instructions (including Dussehra Recess)	29.09.2023	02.12.2023 (9 Weeks)
7	Dussehra Recess	23.10.2023	28.10.2023 (1 Week)
8	Second Mid Term Examinations	04.12.2023	09.12.2023 (1 Week)
9	Preparation Holidays and Practical Examinations	11.12.2023	16.12.2023 (1 Week)
10	Submission of Second Mid Term Exam Marks to the University on or before	16.12.2023	
11	End Semester Examinations	18.12.2023	03.01.2024 (2 Weeks)

Note: No. of Working/instructional days: 90

II SEM

S.	Description	Duration	
		From	To
1	Commencement of II Semester classwork	04.01.2024	
2	1st Spell of Instructions	04.01.2024	29.02.2024 (8 Weeks)
3	First Mid Term Examinations	01.03.2024	07.03.2024 (1 Week)
4	Submission of First Mid Term Exam Marks to the University on or before	13.03.2024	
5	2nd Spell of Instructions	11.03.2024	09.05.2024 (8 Weeks)
6	Second Mid Term Examinations	10.05.2024	16.05.2024 (1 Week)
7	Preparation Holidays and Practical Examinations	17.05.2024	22.05.2024(1 Week)
8	Submission of Second Mid Term Exam Marks to the University on or before	22.05.2024	
9	End Semester Examinations	23.05.2024	04.06.2024 (2 Weeks)

Note: No. of Working/ instructional days: 90

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JITS/AcaCal/M.Tech/2023-24/ Date: 29-09-2023

ACADEMIC CALENDAR (2023-24)

(J-23 Curriculum)

M.Tech I Year - I Semester

Sl. No.	EVENT / Description	DATE	Duration
1	First Spell of Instructions including Induction Programme	09-10-2023 to 18-10-2023	1 week 3 Days
2	Dussera Vacation	19-10-2023 to 25-10-2023	1 week
3	Continuation of First Spell Instructions	26-10-2023 to 16-12-2023	6 weeks 3 Days
4	First Mid Term Examinations	18-12-2023 to 23-12-2023	1 week
5	Submission of first Mid Term Exam marks to	30-12-2023	--
6	Second Spell of Instructions	25-12-2023 to 17-02-2024	8 weeks
7	Second Mid Term Examinations	19-02-2024 to 24-02-2024	1 week
8	Preparation Holidays and Practical Examinations	26-02-2024 to 02-03-2024	1 week
9	Submission of Second Mid Term Exam marks	02-03-2024	--
10	End Semester Examinations	04-03-2024 to 16-03-2024	2 weeks
	Note: I-M.Tech -II-Sem Class work Commence from 18-03-2024		

M.Tech I Year - II Semester

Sl. No.	EVENT / Description	DATE	Duration
1	First Spell of Instructions	18-03-2024 to 11-05-2024	8 weeks
2	First Mid Term Examinations	13-05-2024 to 18-05-2024	1 week
3	Submission of First Mid Term Exam marks to Exam branch	25-05-2024	--
4	Summer Vacation	19-05-2024 to 25-05-2024	1 week
5	Second Spell Instructions	27-05-2024 to 20-07-2024	8 weeks
6	Second Mid Term Examinations	22-07-2024 to 27-07-2024	1 week
7	Preparation Holidays and Practical Examinations	29-07-2024 to 03-08-2024	1 week
8	Submission of Second Mid Term Exam marks to Exam branch	03-08-2024	--
9	End Semester Examinations	05-08-2024 to 17-08-2024	2 weeks
	Note: II-M.Tech-I-Sem Class work Commence from 19-08-2024		

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JITS/AcaCal/M.Tech/2023-24/01 Date: 13-06-2023

ACADEMIC CALENDAR (2023-24)

(J-22 Curriculum)

M.TECH-II YEAR-I-SEM-J22

Sl. No.	EVENT / Description	DATE	Duration
1	Commencement of Class work I-Sem.	28-08-2023	--
2	First Spell of Instructions	28-08-2023 to 18-10-2023	7 weeks
3	Dussera Vacation	19-10-2023 to 25-10-2023	1 week
4	Continuation of First Spell Instructions	26-10-2023 to 28-10-2023	1 week
5	Preparatin of Project Work Proposal	28-08-2023 to 23-09-2023	4 weeks
6	Project Review-I	25-09-2023 to 30-09-2023	1 week
7	Last date for submission of List of Approved PRC-I students	03-10-2023	
8	First Mid Term Examinations	30-10-2023 to 04-11-2023	1 week
9	Submission of first Mid Term Exam marks to Exam branch	11-11-2023	--
10	Second Spell of Instructions	06-11-2023 to 30-12-2024	8 weeks
11	Second Mid Term Examinations	02-01-2024 to 06-01-2024	1 week
12	Preparation Holidays and Practical Examinations	08-01-2024 to 13-01-2024	1 week
13	Submission of Second Mid Term Exam marks to Exam branch	13-01-2024	--
14	End Semester Examinations	15-01-2024 to 27-01-2024	2-weeks
	Note: Commencement of II-Sem Class work-29-01-2024		

M.TECH-II YEAR-II-SEM

Sl. No.	EVENT / Description	DATE	Duration
1	Commencement of Class work II-Sem. Project Continuation (03-10-2023 to 27-01-2024 - 17 weeks)	29-01-2024	--
2	Project Work Review-II (Phase-I)	29-01-2024 to 03-02-2024	6 days
3	Project Work Review-II (Phase-II)	26-02-2024 to 28-02-2024	3 days
4	Submission of PRC-II Marks	06-03-2024	
5	Project Work Review-III Marks (Phase-I) (05-02-2024 to 06-07-2024 - 22 weeks)	08-07-2024 to 13-07-2024	1 week
6	Submission of Project Work Review-III Marks (Phase-I)	20-07-2024	-
7	*Date of Eligibility of Thesis Submission	20-07-2024	-
8	Submission of Thesis & Project Viva-Voce Examination (PRC-III)	27-07-2024	-

* After completion of 40 weeks from the date of approval of Project Work proposal and subject to approval of Project Work Review-III

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JITS/AcaCal/B.Tech/2023-24/01

Date: 13-06-2023

ACADEMIC CALENDAR (2023-24)

(J-22 Curriculum)

MBA-II YEAR-I-SEM-J22

Sl. No.	EVENT / Description	DATE	Duration
1	Commencement of Class work I-Sem.	04-09-2023	--
2	First Spell of Instructions	04-09-2023 to 18-10-2023	6 weeks
3	Dussera Vacation	19-10-2023 to 25-10-2023	1 week
4	Continuation of First Spell Instructions	26-10-2023 to 04-11-2023	2 weeks
5	Dussera Vacation	19-10-2023 to 25-10-2023	1 week
6	First Mid Term Examinations	06-11-2023 to 11-11-2023	1 week
7	Submission of first Mid Term Exam marks to Exam branch	18-11-2023	--
8	Second Spell of Instructions	12-11-2023 to 06-01-2024	8 weeks
9	Second Mid Term Examinations	08-01-2024 to 13-01-2024	1 week
10	Preparation Holidays and Practical Examinations	15-01-2024 to 20-01-2024	1 week
11	Submission of Second Mid Term Exam marks to Exam branch	20-01-2024	--
12	End Semester Examinations	22-01-2024 to 03-02-2024	2-weeks
	Note: Commencement of II-Sem Class work-05-02-2024		

MBA-II YEAR-II-SEM-J22

Sl. No.	EVENT / Description	DATE	Duration
1	First Spell of Instructions	05-02-2024 to 30-03-2024	8 weeks
2	First Mid Term Examinations	01-04-2024 to 06-04-2024	1 week
3	Submission of first Mid Term Exam marks to Exam branch	13-04-2024	--
4	Second Spell of Instructions	08-04-2024 to 19-05-2024	6 weeks
5	Summer Vacation	20.05.2024 to 25.05.2024	1 week
6	Continuation of Second Spell Instructions	26-05-2024 to 08-06-2024	2 weeks
7	Second Mid Term Examinations	10-06-2024 to 15-06-2024	1 week
8	Submission of Second Mid Term Exam marks to Exam branch	16-06-2024	
9	Preparation Holidays and Practical Examinations	17-06-2024 to 22-06-2024	1 week
10	End Semester Examinations	24-06-2024 to 06-07-2024	2 weeks

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

II BTECH II SEM(J22) TIME TABLE

Academic Year 2023-24 **W.e.f: 12-02-2024**

DAY	YEAR-SEM	CLASS	LH NO	9.30AM	10.30AM	11.30AM	12.30PM	LH NO	01.15PM	02.15PM	03.15PM
				10.30AM	11.30AM	12.30PM	01.15PM		02.15PM	03.15PM	04.15PM
				1	2	3			4	5	6
MON DAY	II-II	ECE	006	EMF(SS)	FB PROJECT(TS,TR)-(EDC LAB,ADC LAB)		LUNCH	006	LDICA(MRK)	ADC(TS)	ECA(Dr.NU)
TUE DAY	II-II	ECE		ECA LAB(DMK)/ LDICA LAB(MRK)				006	ADC(TS)	FB PROJECT(TS,TR)-(EDC LAB,ADC LAB)	
WED DAY	II-II	ECE	006	LDICA(MRK)	EMF(SS)	ADC(TS)		006	PTSP(DMK)	GS LAB(RJ)	
THU DAY	II-II	ECE	006	ECA(Dr.NU)	PTSP(DMK)	EMF(SS)			LDICA LAB(MRK)/ADC LAB(TS)		
FRI DAY	II-II	ECE	006	ADC(TS)	EMF(SS)	LDICA(MRK)		006	PTSP(DMK)	ECA(Dr.NU)	EMF(SS)
SAT DAY	II-II	ECE	006	LDICA(MRK)	ECA(Dr.NU)	PTSP(DMK)			ADC LAB(TS)/ECA LAB(BR)		

S.No	COURSE CODE	SUBJECT	FACULTY	No of periods/Week
1	22EC401	PROBABILITY THEORY AND STOCHASTIC PROCESS	D.MAHESH KUMAR	4
2	22EC402	ELECTRONIC CIRCUIT ANALYSIS	Dr.N.UMAPATHI	4
3	22EC403	LINEAR & DIGITAL INTEGRATED CIRCUITS APPLICATIONS	M.RAMAKRISHNA	4
4	22EC404	ELECTROMAGNETIC FIELDS & TRANSMISSION LINES	S.SUBRAMANYAM	5
5	22EC405	ANALOG AND DIGITAL COMMUNICATIONS	T.SAMMAIAH	4
6	22EC406	ELECTRONIC CIRCUITS ANALYSIS LAB	D.MAHESH KUMAR, B.RAJU	3
7	22EC407	LINEAR & DIGITAL IC APPLICATIONS LAB	M.RAMAKRISHNA	3
8	22EC408	ANALOG & DIGITAL COMMUNICATIONS LAB	T.SAMMAIAH	3
9	22EC409	GENDER SENSITIZATION LAB	Rajitha	2
10	*22MC409	REAL TIME PROJECT/FIELD BASED PROJECT	T.SAMMAIAH, T.RAMESH, PRANITHA	4

CO-ORDINATOR HOD-ECE DEAN ACADEMICS PRINCIPAL

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Date:- 01-04-2024

II-B.Tech-II-Sem (J-22) Students [2023-24]
First Mid Examination April-2024

DATE	CSE	ECE	EEE	CIVIL	CSE-AIML	MECH	Timings
08-04-2024 Monday	Discrete Mathematics	Probability Theory and Stochastic Processes	Solid Mechanics & Hydraulic Machines	Basic Electrical and Electronics Engineering	Discrete Mathematics	Basic Electrical and Electronics Engineering	10-00 AM To 12-00 Noon
	Business Economics & Financial Analysis	Electromagnetic Fields and Transmission Lines	Measurements and Instrumentation	Concrete Technology	Automata Theory and Compiler Design	Kinematics of Machinery	02-00 PM To 04-00 PM
10-04-2024 Wednesday	Operating Systems	Analog and Digital Communications	Electrical Machines–II	Strength of Materials – II	Database Management Systems	Fluid Mechanics & Hydraulic Machines	10-00 AM To 12-00 Noon
	Database Management Systems	Linear and Digital IC Applications	Digital Electronics	Hydraulics and Hydraulics Machinery	Introduction to Artificial Intelligence	IC Engines & Gas Turbines	02-00 PM To 04-00 PM
15-04-2024 Monday	Software Engineering	Electronic Circuit Analysis	Power System-II	Structural Analysis - I	Object Oriented Programming through Java	Instrumentation and Control Systems	10-00 AM To 12-00 Noon

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Date:-10-06-2024

II-B.Tech-II-Sem (J-22) Students [2023-24]
Second Mid Examination June-2024

DATE	CSE	ECE	EEE	CIVIL	CSE-AIML	MECH	Timings
18-06-2024 Tuesday	Discrete Mathematics	Probability Theory and Stochastic Processes	Solid Mechanics & Hydraulic Machines	Basic Electrical and Electronics Engineering	Discrete Mathematics	Basic Electrical and Electronics Engineering	10-00 AM To 12-00 Noon
19-06-2024 Wednesday	Business Economics & Financial Analysis	Electromagnetic Fields and Transmission Lines	Measurements and Instrumentation	Concrete Technology	Automata Theory and Compiler Design	Kinematics of Machinery	10-00 AM To 12-00 Noon
	Operating Systems	Analog and Digital Communications	Electrical Machines-II	Strength of Materials – II	Database Management Systems	Fluid Mechanics & Hydraulic Machines	02-00 PM To 04-00 PM
20-06-2024 Thursday	Database Management Systems	Linear and Digital IC Applications	Digital Electronics	Hydraulics and Hydraulics Machinery	Introduction to Artificial Intelligence	IC Engines & Gas Turbines	10-00 AM To 12-00 Noon
	Software Engineering	Electronic Circuit Analysis	Power System-II	Structural Analysis - I	Object Oriented Programming through Java	Instrumentation and Control Systems	02-00 PM To 04-00 PM

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Date:- 21-06-2024

II-B.Tech-II-Sem (J-22) (Regular) Examinations-June-2024
End Examination Time Table

Date & Day		CSE	CSM	ECE	EEE	CIVIL	MECH	TIMINGS
28-06-2024	Friday	Discrete Mathematics 22MA401	Discrete Mathematics 22MA401	Probability Theory and Stochastic Processes 22EC401	Solid Mechanics & Hydraulic Machines 22ME401	Basic Electrical and Electronics Engineering 22EE401	Basic Electrical and Electronics Engineering 22EE401	10-00 AM To 01-00 PM
01-07-2024	Monday	Business Economics & Financial Analysis 22SM402	Automata Theory and Compiler Design 22CM402	Electromagnetic Fields and Transmission Lines 22EC402	Measurements and Instrumentation 22EE402	Concrete Technology 22CE402	Kinematics of Machinery 22ME402	
04-07-2024	Thursday	Database Management Systems 22CS404	Database Management Systems 22CS404	Analog and Digital Communications 22EC403	Electrical Machines–II 22EE403	Strength of Materials – II 22CE403	Fluid Mechanics & Hydraulic Machines 22ME403	
08-07-2024	Monday	Operating Systems 22CS403	Introduction to Artificial Intelligence 22CM404	Linear and Digital IC Applications 22EC404	Digital Electronics 22EC410	Hydraulics and Hydraulics Machinery 22CE404	IC Engines & Gas Turbines 22ME404	
11-07-2024	Thursday	Software Engineering 22CS405	Object Oriented Programming through Java 22CS401	Electronic Circuit Analysis 22EC405	Power System-II 22EE405	Structural Analysis - I 22CE405	Instrumentation and Control Systems 22ME405	

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SYLLABUS

UNIT - I

Antenna Basics: Basic Antenna Parameters – Patterns, Beam Area, Radiation Intensity, Beam Efficiency, Directivity-Gain-Resolution, Antenna Apertures, Effective Height. Fields from Oscillating Dipole, Field Zones, Front - to-back Ratio, Antenna Theorems, Radiation, Retarded Potentials – Helmholtz Theorem

Thin Linear Wire Antennas – Radiation from Small Electric Dipole, Quarter Wave Monopole and Half Wave Dipole – Current Distributions, Field Components, Radiated Power, Radiation Resistance, Beam Width, Directivity, Effective Area and Effective Height, Natural Current Distributions, Far Fields and Patterns of Thin Linear Centre-fed Antennas of Different Lengths. Loop Antennas - Small Loop, Comparison of Far Fields of Small Loop and Short Dipole, Radiation Resistances and Directivities of Small Loops (Qualitative Treatment).

UNIT - II

Antenna Arrays: Point Sources – Definition, Patterns**,** arrays of 2 Isotropic Sources - Different Cases, Principle of Pattern Multiplication, Uniform Linear Arrays – Broadside Arrays, End fire Arrays, EFA with Increased Directivity, Derivation of their Characteristics and Comparison, BSAs with Non-uniform Amplitude Distributions – General Considerations and Binomial Arrays.

Antenna Measurements: Introduction, Concepts - Reciprocity, Near and Far Fields, Coordinate System, Sources of Errors. Patterns to be Measured, Directivity Measurement, Gain Measurements (by Comparison, Absolute and 3-Antenna Methods)

UNIT - III:

VHF, UHF and Microwave Antennas - I: Arrays with Parasitic Elements, Yagi-Uda Array, Folded Dipoles and their Characteristics, Helical Antennas – Helical Geometry, Helix Modes, Practical Design Considerations for Monofilar Helical Antenna in Axial and Normal Modes, Horn Antennas – Types, Fermat's Principle, Optimum Horns, Design Considerations of Pyramidal Horns.

UNIT - IV

VHF, UHF and Microwave Antennas - II: Microstrip Antennas – Introduction, Features, Advantages and Limitations, Rectangular Patch Antennas – Geometry and Parameters, Characteristics of Microstrip Antennas. Reflector Antennas – Introduction, Flat Sheet and Corner Reflectors, Paraboloidal Reflectors – Geometry, Pattern Characteristics, Feed Methods, Reflector Types – Related Features.

UNIT - V:

Wave Propagation - Definitions, Categorizations and General Classifications, Different Modes of Wave Propagation, Ray/Mode Concepts,

Ground Wave Propagation –Plane Earth Reflections, Space and Surface Waves, Wave Tilt, Curved Earth Reflections.

Space Wave Propagation –Field Strength Variation with Distance and Height, Effect of Earth's Curvature, Absorption, Super Refraction, M-Curves and Duct Propagation, Scattering Phenomena, Troposphere Propagation.

Sky Wave Propagation –Structure of Ionosphere, Refraction and Reflection of Sky Waves by Ionosphere, Ray Path, Critical Frequency, MUF, LUF, OF, Virtual Height and Skip Distance, Relation between MUF and Skip Distance, Multi-hop Propagation.

TEXT BOOKS:

1. Antennas and Wave Propagation – J.D. Kraus, R.J. Marhefka and Ahmad S. Khan, TMH, New Delhi, 4th ed., (Special Indian Edition), 2010.
2. Electromagnetic Waves and Radiating Systems – E.C. Jordan and K.G. Balmain, PHI, 2nd ed., 2000.

REFERENCE BOOKS:

1. Antenna Theory - C.A. Balanis, John Wiley & Sons, 3rd Ed., 2005.
2. Antennas and Wave Propagation – K.D. Prasad, Satya Prakashan, Tech India Publications, New Delhi, 2001.
3. Radio Engineering Handbook- Keith henney, 3rd edition TMH.
4. Antenna Engineering Handbook –John Leonidas Volakis, 3rd edition, 2007

DEPARTMENT OF ECE

TECHING PLAN

SUBJECT: ANTENNAS & PROPAGATION **W.E.F.18-03-2024**

NAME OF THE FACULTY: BURRA RAJU **YEAR / SEMESTER: III-II ECE-A&B**

Session No	Unit No	Topic	Sub Topic	NO OF HOURS	METHODOLOGY
1	1	**ANTENNA SYSTEMS**	Introduction	1	Discussion
2	1	**ANTENNA PARAMETERS**	Radiation Pattern, Beam Area, Radiation Intensity	1	CHALK& TALK
3	1	**ANTENNA PARAMETERS**	Beam Efficiency, Directivity, Gain	1	CHALK& TALK
4	1	**ANTENNA PARAMETERS**	Relation Between Directivity-Gain-Resolution	1	CHALK& TALK
5	1	**ANTENNA PARAMETERS**	Antenna Aperture, Physical and Effective aperture	1	CHALK& TALK
6	1	**ANTENNA PARAMETERS**	Effective Height, Polarization	1	CHALK& TALK
7	1	**ANTENNA PARAMETERS**	Directive Gain, Power Gain, Efficiency	1	NPTEL Lecture
8	1	**Basics of Antenna**	Friis Transmission Formula, Near and Far field Radiation Pattern	1	CHALK& TALK
9	1	**Basics of Antenna**	Distance between Near and Far field radiation pattern	1	CHALK& TALK
10	1	**Basics of Antenna**	Radiation Pattern of Dipole Antenna	1	CHALK& TALK
11	1	**Pre-Requisite**	Maxwell's Equation, Retarded Potentials	1	CHALK& TALK
12	1	**Pre-Requisite**	Field Equations From Electric Dipole	1	CHALK& TALK
13	1	**Thin Linear Wire Antenna**	Quarter Wave Monopole: Current Distribution	1	CHALK& TALK
14	1	**Thin Linear Wire Antenna**	Quarter Wave Monopole: Field Components	1	CHALK& TALK
15	1	**Thin Linear Wire Antenna**	Quarter Wave Monopole: Radiated Power	1	CHALK& TALK
16	1	**Thin Linear Wire Antenna**	Half Wave Dipole: Current Distribution	1	CHALK& TALK
17	1	**Thin Linear Wire Antenna**	Half Wave Dipole: Field Components and Radiated Power	1	NPTEL Lecture

18	1	**Thin Linear Wire Antenna**	Radiation Resistance, Beamwidth, Directivity, Effective Area, Effective Aperture and Effective Height	1	CHALK& TALK
19	1	**Thin Linear Wire Antenna**	Natural Current Distributions	1	PPT
20	1	**Thin Linear Wire Antenna**	Fields and patterns of Thin Linear Center-fed Antennas of Different Lengths	1	CHALK& TALK
21	1	**Loop Antenna**	Introduction and Field Equations	1	CHALK& TALK
22	1	**Loop Antenna**	Comparison of Far Fields of Small Loop and Short Dipole	1	CHALK& TALK
23	1	**Loop Antenna**	Radiation Resistances and Directivities of Small and Large Loops	1	CHALK& TALK
24	1		CLASS TEST-1	1	CHALK& TALK
25	2	**Antenna Arrays**	Point Sources - Definition, Radiation Pattern, arrays of 2 Isotropic Sources - Different Cases	1	CHALK& TALK
26	2	**Antenna Arrays**	Principle of Pattern Multiplication, Uniform Linear Arrays - Broadside Arrays	1	CHALK& TALK
27	2	**Antenna Arrays**	Uniform Linear Arrays - End fire Arrays, EFA with Increased Directivity,	1	PPT
28	2	**Antenna Arrays**	Uniform Linear Arrays - Derivation of their Characteristics and Comparison,	1	CHALK& TALK
29	2	**Antenna Arrays**	BSAs with Non-uniform Amplitude Distributions - General Considerations	1	CHALK& TALK
30	2	**Antenna Arrays**	Binomial Arrays	1	NPTEL Lecture
31	2	**Antenna Measurements**	Introduction, Concepts - Reciprocity, Sources of Errors. Patterns to be Measured	1	CHALK& TALK
32	2	**Antenna Measurements**	Near and Far Fields	1	CHALK& TALK
33	2	**Antenna Measurements**	Co-ordinate System	1	CHALK& TALK
34	2	**Antenna Measurements**	Pattern Measurement Arrangement (by Comparison, Absolute and 3-Antenna Methods)	1	CHALK& TALK
35	2	**Antenna Measurements**	Directivity Measurement (by Comparison, Absolute and 3-Antenna Methods)	1	NPTEL Lecture
36	2	**Antenna Measurements**	Gain Measurements (by Comparison, Absolute and 3-Antenna Methods)	1	SEMINAR BY STUDENT
37			CLASS TEST-2		
38	3	**VHF, UHF AND Microwave Antennas - I**	Folded Dipoles - Introduction and structures	1	CHALK& TALK
39	3	**VHF, UHF AND Microwave Antennas - I**	Folded Dipoles with their characteristics	1	CHALK& TALK
40	3	**VHF, UHF AND Microwave Antennas - I**	Yagi-Uda Arrays	1	Role Play
41	3	**VHF, UHF AND Microwave Antennas - I**	Arrays with Parasitic Elements	1	SEMINAR BY STUDENT
42	3	**VHF, UHF AND Microwave Antennas - I**	Helical Antennas - Helical geometry, Helix Modes	1	CHALK& TALK
43	3	**VHF, UHF AND Microwave Antennas - I**	Practical Design Considerations for Monofilar Helical Antenna in Axial Modes	1	CHALK& TALK

44	3	**VHF, UHF AND Microwave Antennas - I**	Practical Design Considerations for Monofilar Helical Antenna in Normal Modes	1	CHALK& TALK
45	3	**VHF, UHF AND Microwave Antennas - I**	Horn Antennas - Types, Fermat's Principle	1	SEMINAR BY STUDENT
46	3	**VHF, UHF AND Microwave Antennas - I**	Optimum Horns, Design Considerations of Pyramidal Horns	1	CHALK& TALK
47	3	**Problems on Antenna Parameters and Dipole Antenna**	Problems on Antenna Parameters and Dipole Antenna	1	CHALK& TALK
48	3		CLASS TEST-3	1	CHALK& TALK
49	4	**VHF, UHF AND Microwave Antennas - II**	Microstrip Antennas - Introduction, Features, Advantages and Limitations	1	NPTEL Lecture
50	4	**VHF, UHF AND Microwave Antennas - II**	Rectangular Patch Antennas - Geometry and Parameters, Characteristics of Microstrip Antennas	1	CHALK& TALK
51	4	**VHF, UHF AND Microwave Antennas - II**	Microstrip Antennas - Impact of Different Parameters on Characteristics, Reflector Antennas - Introdcution,	1	CHALK& TALK
52	4	**VHF, UHF AND Microwave Antennas - II**	Reflector Antennas - Flar Sheet and Corner Reflectors	1	SEMINAR BY STUDENT
53	4	**VHF, UHF AND Microwave Antennas - II**	Paraboloidal Reflectors - Geometry, Pattern Characteristics	1	CHALK& TALK
54	4	**VHF, UHF AND Microwave Antennas - II**	Paraboloidal Reflectors - Directivity, Beamwidth	1	CHALK& TALK
55	4	**VHF, UHF AND Microwave Antennas - II**	Cassegrain Parabolic Reflector, Feed Methods-Introduction	1	NPTEL Lecture
56	4	**VHF, UHF AND Microwave Antennas - II**	Feed Methods: Continued…….	1	CHALK& TALK
57	4	**VHF, UHF AND Microwave Antennas - II**	Advantages and Disadvantages of Parabolic Reflector and Different Feed Methods.	1	CHALK& TALK
58	4	**VHF, UHF AND Microwave Antennas - II**	Problems on Microstrip Antenna and Parabolic Reflector	1	CHALK& TALK
59	4	**REVISION**		1	CHALK& TALK
60			CLASS TEST-4	1	
61	5	**Wave Propagation - I**	Introduction, Definitions	1	CHALK& TALK
62	5	**Wave Propagation - I**	Categorizations and General Classifications, Different Modes of Wave Propagation, Ray/Mode Concepts	1	NPTEL Lecture
63	5	**Wave Propagation - I**	Ground Wave Propagation (Quantitative Treatment) - Introduction, Plane Earth Reflections, M-Curves, Duct Propagation	1	SEMINAR BY STUDENT
64	5	**Wave Propagation - I**	Space and Surface Waves, Wave Tilt, Curved Earth Reflections, Space Wave Propagation - Introduction, Field Strength Variation with Distance	1	CHALK& TALK

65	5	**Wave Propagation - I**	Space Wave Propagation - Field Strength Variation with Height, Effect of Earth's Curvature, Absorption, Super retraction	1	CHALK& TALK
66	5	**Wave Propagation - I**	Scattering Phenomena, Tropospheric Propagation.	1	CHALK& TALK
67	5	**Wave Propagation - II**	Sky Wave Propagation - Introduction, Structure of Ionosphere	1	CHALK& TALK
68	5	**Wave Propagation - II**	Sky Wave Propagation - Refraction and Reflection of Sky Waves by Ionosphere	1	NPTEL Lecture
69	5	**Wave Propagation - II**	Ray Path, Critical Frequency, MUF, LUF, OF, Virtual Height and Skip Distance	1	CHALK& TALK
70	5	**Wave Propagation - II**	Relation between MUF and skip Distance, Multi-hop Propagation.	1	CHALK& TALK

COURSE COORDINATOR

HOD ECE