

# LESSON PLAN

Program Name	DIPLOMA IN Eltx & Comm. Engg.
Course/Subject Name	Mathematics-II
Course/Subject Code	BS 102
Course/Subject Coordinator Name	Dr. Reena Kumari

## Evaluation scheme

S.No.	Subject Name	Study scheme (Hrs/Week)	Marks in evaluation scheme			
			Internal Assessment		External Assessment	
			Theory	Practical	Theory	Practical
1.	Mathematics-II	4(Th)+1(DCS)	40	-	60	-
Reference books:			(1) B.S. Grewal, Higher Engineering Mathematics, Khanna Publishers, New Delhi, 40th Edition, 2007.			
			(2) G. B. Thomas, R.L. Finney, Calculus and Analytic Geometry, Addison Wesley, 9th Edition, 1995.			
			(3) S.S. Sabharwal, Sunita Jain, Eagle Parkashan, Applied Mathematics, Vol. I & II, Jalandhar.			
			(4) Comprehensive Mathematics, Vol. I & II by Laxmi Publications, Delhi.			
			(5) Reena Garg & Chandrika Prasad Advanced Engineering Mathematics, Khanna Publishing House, New Delhi.			

**Course Outcomes:** After the completion of the course, the students will be able to learn:

CO1	The students are expected to acquire necessary background in Determinants and Matrices so as to appreciate the importance of the Determinants are the factors that scale different parameterizations so that they all produce same overall integrals, i.e. they are capable of encoding the inherent geometry of the original shape.
CO2	The cumulative effect of the original quantity or equation is the Integration
CO3	The coordinate geometry provides a connection between algebra and geometry through graphs of lines and curves.
CO4	Tell the difference between a resultant and a concurrent force to model simple physical problems in the form of a differential equation, analyze and interpret the solutions.

## Teaching Plan:

Lecture No.	Name of topic	Proposed date	Actual date	Remarks
1	<b>Determinants and Matrices:</b> Algebra of matrices	29/01/24		
2	Algebra of matrices	30/01/24		
3	Elementary properties of determinants up to 3rd order	31/01/23		

AD



4	Elementary properties of determinants up to 3rd order	02/02/24		
5	DCS	03/02/24		
6	Inverse of a matrix	05/02/24		
7	Inverse of a matrix	06/02/24		
8	consistency of equations	07/02/24		
9	consistency of equations	09/02/24		
10	Cramer's rule	12/02/24		
11	Cramer's rule	13/02/24		
12	matrix inverse method to solve a system of linear equations in 3 variables.	14/02/24		
13	matrix inverse method to solve a system of linear equations in 3 variables.	16/02/24		
14	DCS	17/02/24		
15	<b>Integral Calculus:</b> Integration as inverse operation of differentiation	19/02/24		
16	Integration as inverse operation of differentiation	20/02/24		
17	Integration as inverse operation of differentiation	21/02/24		
18	Integration as inverse operation of differentiation	23/02/24		
19	Simple integration by substitution	26/02/24		
20	Simple integration by substitution	27/02/24		
21	Simple integration by substitution	28/02/24		
22	Integration by parts	01/03/24		
23	DCS	02/03/24		
24	Integration by parts	04/03/24		
25	Integration by parts	05/03/24		
26	Integration by partial fractions	06/03/24		
27	Integration by partial fractions	11/03/24		
28	Integration by partial fractions	12/03/24		
29	Use of formulae	13/03/24		
30	Use of formulae	15/03/24		
31	DCS	16/03/24		
32	Class Test -I	18/03/24		
33	Applications of integration: Simple problem on evaluation of area bounded by a curve and axes.	19/03/24		
34	Simple problem on evaluation of area bounded by a curve and axes.	20/03/24		
35	Simple problem on evaluation of area bounded by a curve and axes.	21/03/24		
36	DCS	23/03/24		
37	Calculation of Volume of a solid formed by revolution	26/03/24		



	of an area about axes.			
38	Calculation of Volume of a solid formed by revolution of an area about axes.	27/03/24		
39	DCS	30/03/24		
40	<b>Co-Ordinate Geometry:</b> Equation of straight line in various standard forms	01/04/24		
41	Equation of straight line in various standard forms	02/04/24		
42	Equation of straight line in various standard forms	03/04/24		
43	Equation of straight line in various standard forms	05/04/24		
44	DCS	06/04/24		
45	Inter section of two straight lines	08/04/24		
46	Angle between two lines	09/04/24		
47	Parallel and perpendicular lines	10/04/24		
48	Perpendicular distance formula	12/04/24		
49	General equation of a circle and its characteristics	16/04/24		
50	To find the equation of a circle when Centre and radius, are given	19/04/24		
51	Class Test-II	20/04/24		
52	To find the equation of a circle given three points lying on it	22/04/24		
53	To find the equation of a circle when coordinates of end points of a diameter are given	23/04/24		
54	Definition of conics (Parabola, Ellipse, Hyperbola)	24/04/24		
55	Parabola	26/04/24		
56	DCS	27/04/24		
57	Ellipse	29/04/24		
58	Hyperbola	30/04/24		
59	Problems on conics when their foci, directrices or vertices are given.	01/05/24		
60	Problems on conics when their foci, directrices or vertices are given.	03/05/24		
61	DCS	04/05/24		
62	<b>Differential Equations:</b> Order and degree of differential equation	06/05/24		
63	Order and degree of differential equation	07/05/24		
64	Solution of first order and first degree differential equation by variable separable method	08/05/24		
65	Solution of first order and first degree differential equation by variable separable method	20/05/24		
66	Solution of first order and first degree differential equation by variable separable method	21/05/24		
67	Solution of first order and first degree differential equation by variable separable method	22/05/24		
68	DCS	24/05/24		
69	DCS	25/05/24		




	of an area about axes.			
38	Calculation of Volume of a solid formed by revolution of an area about axes.	27/03/24		
39	DCS	30/03/24		
40	<b>Co-Ordinate Geometry:</b> Equation of straight line in various standard forms	01/04/24		
41	Equation of straight line in various standard forms	02/04/24		
42	Equation of straight line in various standard forms	03/04/24		
43	Equation of straight line in various standard forms	05/04/24		
44	DCS	06/04/24		
45	Inter section of two straight lines	08/04/24		
46	Angle between two lines	09/04/24		
47	Parallel and perpendicular lines	10/04/24		
48	Perpehdicular distance formula	12/04/24		
49	General equation of a circle and its characteristics	16/04/24		
50	To find the equation of a circle when Centre and radius, are given	19/04/24		
51	Class Test-II	20/04/24		
52	To find the equation of a circle given three points lying on it	22/04/24		
53	To find the equation of a circle when coordinates of end points of a diameter are given	23/04/24		
54	Definition of conics (Parabola, Ellipse, Hyperbola)	24/04/24		
55	Parabola	26/04/24		
56	DCS	27/04/24		
57	Ellipse	29/04/24		
58	Hyperbola	30/04/24		
59	Problems on conics when their foci, directrices or vertices are given.	01/05/24		
60	Problems on conics when their foci, directrices or vertices are given.	03/05/24		
61	DCS	04/05/24		
62	<b>Differential Equations:</b> Order and degree of differential equation	06/05/24		
63	Order and degree of differential equation	07/05/24		
64	Solution of first order and first degree differential equation by variable separable method	08/05/24		
65	Solution of first order and first degree differential equation by variable separable method	20/05/24		
66	Solution of first order and first degree differential equation by variable separable method	21/05/24		
67	Solution of first order and first degree differential equation by variable separable method	22/05/24		
68	DCS	24/05/24		
69	DCS	25/05/24		

### Assignments:

Assignment serial	Contents of syllabus covered	Actual date	Remarks
A-1	Determinants and Matrices, Integral Calculus	16/03/24	
A-2	Integral Calculus & Co-Ordinate Geometry	07/05/24	

### House Test/Class Test:

House/Class Test	Contents of syllabus covered	Proposed Date	Actual date	Remarks
CT-I	30% of the syllabus	3 <sup>rd</sup> week of March 2024		
CT-II	Next 30% of the syllabus	3 <sup>rd</sup> week of April 2024		
House Test	80% of the syllabus	3 <sup>rd</sup> week of May 2024		

  
Signature of Teacher  
Dr. Reena Kumari

  
Signature of HOD



## LESSON PLAN

Program Name	ECE
Course/Subject Name	Applied Physics-II
Course/Subject Code	BS-104 & BS-106
Course/Subject Coordinator Name	Manoj Kumar

### Evaluation scheme

S.No.	Subject Name	Study scheme (Hrs/Week)	Marks in evaluation scheme			
			Internal Assessment		External Assessment	
			Theory	Practical	Theory	Practical
1.	Applied physics-II & Applied Physics-II lab	TH (3+1(DCS) + 2 (Lab)	40	40	60	60
Reference books			(i) Fundamental of Physics By Halliday/Resnick/Walker			
			(ii) New simplified Physics by S.L.Arora			
			(iii) Applied Physics, Vol. I and Vol. II, TTTI Publications, Tata McGraw Hill, Delhi			
			(iv) Engineering Physics by DK Bhattacharya & Poonam Tandan; Oxford University Press, New Delhi			
			(v) Applied Physics-II by Manoj Kumar Saini & Amit Pathak, True Education Publications			

**Course Outcomes:** After the completion of the course the student will be able to

CO1	Describe waves and wave motion, periodic and simple harmonic motions and solve simple problems.
CO2	Explain ultrasonic waves and engineering, medical and industrial applications of Ultrasonic. Apply acoustics principles to various types of buildings for best sound effect.
CO3	Describe the refractive index of a liquid or a solid and will be able to explain conditions for total internal reflection.
CO4	Define capacitance and its unit, explain the function of capacitors in simple circuits, and solve simple problems.
CO5	Differentiate between insulators, conductors and semiconductors, and define the terms: potential, potential difference, electromotive force.
CO6	Express electric current as flow of charge, concept of resistance, measure of the parameters: electric current, potential difference, resistance.
CO7	Explain the operation of appliances like moving coil galvanometer, simple DC motors.
CO8	Illustrate the conditions for light amplification in various LASER and laser based instruments and optical devices.
CO9	Appreciate the potential of optical fiber in fields of medicine and communication.

### Teaching Plan:

L. No.	Topic Covered	Proposed Date	Actual Date	Remarks
1	UNIT - 1: Wave motion and its applications- Wave motion, transverse and longitudinal waves with examples.	29/01/2024		
2	Definitions of wave velocity, frequency and wavelength and their relationship	31/01/2024		
3	Sound and light waves and their properties	02/02/2024		
4	DCS	03/02/2024		



5	Wave equation ( $y = r \sin \omega t$ ) amplitude, phase, phase difference, Principle of superposition of waves and beat formation	05/02/2024		
6	Simple Harmonic Motion (SHM): definition, expression for displacement, velocity	07/02/2024		
7	Acceleration, time period, frequency of SHM, Free, forced and resonant vibrations and their examples.	09/02/2024		
8	Acoustics of buildings – reverberation, reverberation time, echo, noise, coefficient of absorption of sound	12/02/2024		
9	Methods to control reverberation time and their applications.	14/02/2024		
10	Ultrasonic waves – Introduction and properties, engineering and medical applications of ultrasonic.	16/02/2024		
11	DCS	17/02/2024		
12	<b>UNIT - 2: Optics</b> -Basic optical laws- reflection and refraction	19/02/2024		
13	Refractive index, Images and image formation by mirrors,	21/02/2024		
14	Lens and thin lenses, lens formula, power of lens, magnification	23/02/2024		
15	Total internal reflection, Critical angle and conditions for total internal reflection, applications of total internal reflection in optical fiber.	26/02/2024		
16	Optical Instruments- simple and compound microscope	28/03/2024		
17	Astronomical telescope in normal adjustment and their magnifying power	01/03/2024		
18	DCS	02/03/2024		
19	<b>UNIT - 3: Electrostatics</b> - Coulomb's law, unit of charge.	04/03/2024		
20	Electric field, Electric lines of force and their properties.	06/03/2024		
21	Electric flux, Electric potential and potential difference	11/03/2024		
22	Gauss's law	13/03/2024		
23	Capacitor and its working, Capacitance and its units. Capacitance of a parallel plate capacitor	15/03/2024		
24	DCS	16/03/2024		
25	Series and parallel combination of capacitors (related numerical) Dielectric and its effect on capacitance, dielectric break down	18/03/2024		
26	<b>UNIT - 4: Current Electricity</b> - Electric Current and its units, Direct and alternating current.	20/03/2024		
27	Resistance and its units, Specific resistance, Conductance, Specific conductance, Series and parallel combination of resistances.	22/03/2024		
28	DCS	23/03/2024		
29	Factors affecting resistance of a wire, carbon resistances and colour coding, Ohm's law and its verification	27/03/2024		
30	Kirchhoff's laws, Concept of terminal potential difference and Electromotive force (EMF)	30/03/2024		
31	Heating effect of current, Electric power, Electric energy and its units (related numerical problems)	01/04/2024		
32	Advantages of Electric Energy over other forms of energy.	03/04/2024		
33	<b>UNIT - 5: Electromagnetism</b> - Types of magnetic materials: dia, para and ferromagnetic with their properties.	05/04/2024		
34	DCS	06/04/2024		
35	Magnetic field and its units, magnetic intensity, magnetic lines of force, magnetic flux and units, magnetization	08/04/2024		
36	Lorentz force (force on moving charge in magnetic field), Force	10/04/2024		



	on current carrying conductor.			
37	Moving coil galvanometer; principle, construction and working	12/04/2024		
38	Conversion of a galvanometer into ammeter and voltmeter.	19/04/2024		
39	DCS	20/04/2024		
40	<b>UNIT - 6: Semiconductor Physics</b> -Energy bands in solids, Types of materials (insulator, semiconductor, conductor)	22/04/2024		
41	Intrinsic and Extrinsic semiconductors. p-n junction, Junction diode and V-I characteristics	24/04/2024		
42	Diode as rectifier – half wave and full wave rectifier (center taped).	26/04/2024		
43	DCS	27/04/2024		
44	Photocells, Solar cells; working principle and engineering applications.	29/04/2024		
45	<b>UNIT - 7: Modern Physics</b> - Lasers: Energy levels, ionization and excitation potentials; spontaneous and stimulated emission	01/05/2024		
46	Population inversion, pumping methods, optical feedback.	03/05/2024		
47	DCS	04/05/2024		
48	Types of lasers; Ruby, He-Ne Laser	06/05/2024		
49	Semiconductor laser and engineering and medical applications of lasers. laser characteristics	08/05/2024		
50	Fiber Optics: Introduction to optical fibers, light propagation, acceptance angle and numerical aperture	10/05/2024		
51	Fiber types, applications in; telecommunication, medical and sensors.	20/05/2024		
52	DCS	25/05/2024		

#### Assignments:

Assignment serial	Contents of syllabus covered	Proposed date	Actual date	Remarks
A-1	Wave motion and its applications & Optics	27/02/2024		
A-2	Electrostatics & Current electricity	05/04/2024		
A-3	Semiconductor & Modern Physics	10/05/2024		

#### House Test/Class Test:

House/Class Test	Contents of syllabus covered	Proposed date	Actual date	Remarks
CT-I	30% of the syllabus	3rd week of March 2024		
CT-II	Next 30% of the syllabus	3rd week of April 2024		
House Test	80% of the syllabus	3rd week of May 2024		

#### Lab Plan:



Exp. No.	Name of experiment	Actual date		Remarks
		G-1	G-2	
1	To verify laws of reflection from a plane mirror/ interface.			
2	To verify laws of refraction (Snell's law) using a glass slab.			
3	To determine focal length and magnifying power of a convex lens.			
4	To verify Ohm's law by plotting a graph between current and potential difference.			
5	To verify laws of resistances in series and parallel combination.			
6	To verify Kirchhoff's laws using electric circuits.			
7	To find resistance of a galvanometer by half deflection method.			
8	To convert a galvanometer into an ammeter.			
9	To convert a galvanometer into a voltmeter.			

(Signature of Teacher)

(Signature of HOD)



## LESSON PLAN

Program Name	CIVIL ENGG / ELTX ENGG
Course/Subject Name	FUNDAMENTALS OF ELECTRICAL AND ELECTRONICS ENGG.
Course/Subject Code	ES 104
Course/Subject Coordinator Name	ASHOK KUMAR

### Evaluation scheme

S.No.	Subject Name	Study scheme (Hrs/Week)	Marks in evaluation scheme			
			Internal Assessment		External Assessment	
			Theory	Practical	Theory	Practical
1.	FEEE & FEEE LAB	TH [3+1(DCS) + 2 (Lab)]	40	40	60	60
Reference books			<ol style="list-style-type: none"> <li>1. Ritu Sahdev, Basic Electrical Engineering, Khanna Publishing House, 2018.</li> <li>2. Mittle and Mittal, Basic Electrical Engineering, McGraw Education, New Delhi, 2015, ISBN : 978-0-07-0088572-5.</li> <li>3. Saxena, S. B. Lal, Fundamentals of Electrical Engineering, Cambridge University Press, latest edition ISBN : 9781107464353.</li> <li>4. Theraja, B. L., Electrical Technology Vol – I, S. Chand publications, New Delhi, 2015, ISBN: 9788121924405.</li> <li>5. Theraja, B. L., Electrical Technology Vol – II, S. Chand publications, New Delhi, 2015, ISBN: 9788121924375.</li> <li>6. Jegathesan, V., Basic Electrical and Electronics Engineering, Wiley India, New Delhi, 2015, ISBN : 97881236529513.</li> <li>7. Sedha, R.S., A text book of Applied Electronics, S.Chand ,New Delhi, 2008, ISBN-13: 978-8121927833.</li> <li>8. Malvino, Albert Paul, David, Electronics Principles, McGraw Hill Education, New Delhi, 2015, ISBN-13: 0070634244-978.</li> <li>9. Mehta, V.K., Mehta, Rohit, Principles of Electronics, S. Chand and Company, New Delhi, 2014, ISBN-13- 9788121924504.</li> <li>10. Bell Devid, Fundamental of Electronic Devices and Circuits, Oxford University Press, New Delhi 2015 ISBN : 9780195425239.</li> </ol>			

Course Outcomes: After the completion of the course the student will be able:

- To express different elements and concepts of electrical engineering field
- To understand basic concepts of various active and passive electronic components, Signals, Op-Amp
- To use Digital Electronics and their applications



Lecture No.	Topic Covered	Proposed date	Actual Date	Remarks
1	Passive Active Components	29-01-2024		
2	Passive Active Components	30-01-2024		
3	Resistances, Capacitors, Inductors, Diodes, Transistors, FET, MOS and CMOS and their Applications	31-01-2024		
4	Resistances, Capacitors, Inductors, Diodes, Transistors, FET, MOS and CMOS and their Applications	03-02-2024		
5	Signals: DC/AC, voltage/current, periodic/non-periodic signals, average, rms, peak values, different types of signal waveforms	05-02-2024		
6	Signals: DC/AC, voltage/current, periodic/non-periodic signals, average, rms, peak values, different types of signal waveforms	06-02-2024		
7	Signals: DC/AC, voltage/current, periodic/non-periodic signals, average, rms, peak values, different types of signal waveforms	07-02-2024		
8	Ideal/non-ideal voltage/current sources, independent/dependent voltage current sources.	12-02-2024		
9	Ideal/non-ideal voltage/current sources, independent/dependent voltage current sources.	13-02-2024		
10	Operational Amplifiers-Ideal Op-Amp,	17-02-2024		
11	Operational Amplifiers-Ideal Op-Amp	19-02-2024		
12	Practical op amp, Open loop and closed loop configurations	20-02-2024		
13	Practical op amp, Open loop and closed loop configurations	21-02-2024		
14	Application of Op-Amp as amplifier, adder, differentiator and integrator.	26-02-2024		
15	Application of Op-Amp as amplifier, adder, differentiator and integrator	27-02-2024		
16	Introduction to Boolean Algebra	28-02-2024		
17	Introduction to Boolean Algebra	02-03-2024		
18	Electronic Implementation Gates-Functional Block Approach, Storage elements-Flip Flops, Boolean Operations	04-03-2024		
19	Electronic Implementation ,Gates-Functional Block Approach, Storage elements-Flip Flops Boolean Operations	05-03-2024		
20	Functional block approach, Counters: Ripple, Up/down and decade, Introduction to digital IC Gates (of TTL Type	11-03-2024		
21	EMF, Current, Potential Difference	12-03-2024		
22	EMF, Current, Potential Difference	13-03-2024		
23	Power and Energy; M.M.F, magnetic force, permeability, hysteresis loop	16-03-2024		
24	Power and Energy; M.M.F, magnetic force, permeability, hysteresis loop	18-03-2024		
25	reluctance, leakage factor and BH curve; Electromagnetic induction	19-03-2024		
26	reluctance, leakage factor and BH curve; Electromagnetic induction	20-03-2024		
27	Faraday's laws of electromagnetic induction, Lenz's law; Dynamically induced emf	23-03-2024		
28	Faraday's laws of electromagnetic induction, Lenz's law; Dynamically induced emf	26-03-2024		



29	Statically induced emf; Equations of self and mutual inductance; Analogy between electric and magnetic circuits.	27-03-2024		
30	Statically induced emf; Equations of self and mutual inductance; Analogy between electric and magnetic circuits.	30-03-2024		
31	Cycle, Frequency, Periodic time, Amplitude, Angular velocity	01-04-2024		
32	Cycle, Frequency, Periodic time, Amplitude, Angular velocity	02-04-2024		
33	RMS value, Average value, Form Factor Peak Factor, impedance	03-04-2024		
34	RMS value, Average value, Form Factor Peak Factor, impedance	06-04-2024		
35	phase angle, and power factor	08-04-2024		
36	Mathematical and phasor representation of alternating EMF and current	09-04-2024		
37	Mathematical and phasor representation of alternating EMF and current	10-04-2024		
38	Voltage and Current relationship in Star and Delta connection	16-04-2024		
39	A.C in resistors, inductors and capacitors; A.C in R-L series	20-04-2024		
40	A.C in resistors, inductors and capacitors; A.C in R-L series	22-04-2024		
41	R-C series, R-L-C series and parallel circuits; Power in A. C. Circuits, power triangle.	23-04-2024		
42	R-C series, R-L-C series and parallel circuits; Power in A. C. Circuits, power triangle.	24-04-2024		
43	R-C series, R-L-C series and parallel circuits; Power in A. C. Circuits, power triangle.	27-04-2024		
44	phase angle, and power factor	29-04-2024		
45	Statically induced emf; Equations of self and mutual inductance; Analogy between electric and magnetic circuits.	30-04-2024		
46	Statically induced emf; Equations of self and mutual inductance; Analogy between electric and magnetic circuits.	01-05-2024		
47	General construction and principle of core and shell type of transformers	04-05-2024		
48	General construction and principle of core and shell type of transformers	06-05-2024		
49	EMF equation and transformation ratio of transformers General construction and principle of core and shell type of transformers	07-05-2024		
50	Mathematical and phasor representation of alternating EMF and current	11-05-2024		
51	Voltage and Current relationship in Star and Delta connection	13-05-2024		
52	EMF equation and transformation ratio of transformers	14-05-2024		
53	EMF equation and transformation ratio of transformers	15-05-2024		
54	EMF equation and transformation ratio of transformers	18-05-2024		
55	Auto transformers; Basic principle of Electromechanical energy conversion	20-05-2024		
56	Auto transformers; Basic principle of Electromechanical energy conversion	21-05-2024		
57	Auto transformers; Basic principle of Electromechanical energy conversion	22-05-2024		
58	Doubt clearing session/Revision Classes	25-05-2024		



# Lab Plan:

Exp. No.	Name of experiment	Actual date		Remarks
		G-1	G-2	
1	Determine the permeability of magnetic material by plotting its B-H curve.			
2	Measure voltage, current and power in 1-phase circuit with resistive load.			
3	Measure voltage, current and power in R-L series circuit.			
4	Determine the transformation ratio (K) of 1-phase transformer.			
5	Connect single phase transformer and measure input and output quantities.			
6	Make Star and Delta connection in induction motor starters and measure the line and phase values.			
7	Identify various passive electronic components in the given circuit.			
8	Connect resistors in series and parallel combination on bread board and measure its value using digital multimeter.			
9	Connect capacitors in series and parallel combination on bread board and measure its value using multimeter.			
10	Identify various active electronic components in the given circuit.			
11	Use multimeter to measure the value of given resistor.			
12	Use LCR-Q tester to measure the value of given capacitor and inductor.			
13	Determine the value of given resistor using digital multimeter to confirm with colour code.			
14	Test the PN-junction diodes using digital multimeter.			
15	Test the performance of PN-junction diode.			
16	Test the performance of Zener diode.			
17	Test the performance of LED.			



18	Identify three terminals of a transistor using digital multimeter.			
19	Test the performance of NPN transistor.			
20	Determine the current gain of CE transistor			
21	Test the performance of transistor switch circuit.			
22	Test the performance of transistor amplifier circuit.			
23	Test Op-Amp as amplifier and Integrator			

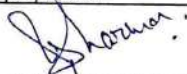
  
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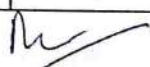
  
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### Lesson plan

	Trade : ECE	Session : Jan-June 2024				
	Sem : 2nd	Name of subject : FEEE				
Exp. No.	Name of Experiment	Proposed Date		Actual date		Remarks
		G-I	G-II	G-I	G-II	
1	Determine the Permeability of magnetic material by plotting its B-H Curve.	3/02/24	02/02/24			
2	Measure voltage, current and power in 1-phase circuit With resistive load	17/2/24	09/02/24			
3	Measure voltage, Current and Power in R-L Series circuit	17/02/24	09/02/24			
4	Determine the transformation ratio (k) of 1-phase transformer	2/03/24	16/02/24			
5	Connect single phase transformer and measure input and output quantities	2/03/24	23/02/24			
6	Make star and delta connection in induction motor starters and measure the line and phase values	16/03/24	23/02/24			
7	Identify various passive electronic components in the given circuit.	16/03/24	01/03/24			
8	Connect resistors in series and parallel combination on bread board and measure its value using digital multimeter.	23/03/24	01/03/24			
9	Connect capacitors in series and parallel combination on bread board and measure its value using digital multimeter.	23/03/24	15/03/24			
10	Identify various active electronic components in the given circuit.	30/03/24	15/03/24			
11	Use multimeter to measure the value of given resistor	30/03/24	22/03/24			
12	Use LCR-Q Tester to measure the value of given capacitor	06/04/24	05/04/24			

  
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(Signature of HOD)



### Lesson plan

	Trade : ECE	Session : Jan-June 2024				
	Sem : 2nd	Neme of subject : FEEE				
Exp. No.	Name of Experiment	Proposed Date		Actual date		Remarks
		G-I	G-II	G-I	G-II	
13	Determine the valure of given resistor using digital multimete to confirm with colour code.	06/04/24	05/04/24			
14	Test the PN- junction diodes using digital multimeter	20/04/24	12/04/24			
15	Test the performance of PN-junction diode	20/04/24	19/04/24			
16	Test the performance of Zener diode	27/04/24	19/04/24			
17	Test the performance of LED	27/04/24	26/04/24			
18	Identify three terminals of a transistor using digital multimeter	04/05/24	26/04/24			
19	Test the performance of NPN transistor	04/05/24	03/05/24			
20	Determine the current gain of CE Transistor configuration	18/05/24	3/05/24			
21	Test the performance of transistor switch circuit	18/05/24	17/05/24			
22	Test the performance of transistor amplifier circuit	25/05/24	17/05/24			
23	Test Op-Amp and ampliier and integrator	25/05/24	24/05/24			



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## LESSON PLAN

ProgramName	DIPLOMA (ECE)
Course/Subject Name	Environmental science
Course/SubjectCode	AU(102)
Course/SubjectCoordinatorName	Ms.Swati Bhardwaj

### Evaluation scheme

S.No.	SubjectName	Studyscheme (Hrs/Week)	Marks in evaluation scheme	
			Internal Assessment	External Assessment
			Theory	Theory
1.	Environmental Science	2hr (Th)	40	60
Reference books			(i) S.C.Sharma&M.P.Poonia, Environmental Studies, KhannaPublishingHouse, New Delhi.	
			(ii)C.N. R. Rao, Understanding Chemistry, Universities Press (India) Pvt.Ltd., 2011	
			(iii)O.P.Gupta, ElementsofEnvironmentl Pollution Control, Khanna Publishing House, New Delhi .	
			(iv)Keshav Kant, Air Pollution & Control, Khanna Publishing House, New Delhi (Edition 2018).	

**Course Outcomes:** After the completion of the course the student will be able to

CO1	To solve various engineering problems applying ecosystem to produce eco – friendly products
CO2	To use relevant air and noise control method to solve domestic and industrial problems.
CO3	To use relevant water and soil control method to solve domestic and industrial problems
CO4	To recognize relevant energy sources required for domestic and industrial applications
CO5	To Solve local solid and e-waste problems

*(Signature)*

## LESSON PLAN

ProgramName	DIPLOMA (ECE)
Course/Subject Name	Environmental science
Course/SubjectCode	AU(102)
Course/SubjectCoordinatorName	Ms.Swati Bhardwaj

### Evaluation scheme

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			Internal Assessment	External Assessment
			Theory	Theory
1.	Environmental Science	2hr (Th)	40	60
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CO4	To recognize relevant energy sources required for domestic and industrial applications
CO5	To Solve local solid and e-waste problems



## Teaching Plan:

Lecture No.	Name of topic	Proposed Date	Actual Date	Remarks
1	<b>Unit-1 Ecosystem</b> Structure of ecosystem, Biotic & Abiotic components Food chain and food web	29/01/2024		
2	Aquatic (Lentic and Lotic) and terrestrial ecosystem Carbon, Nitrogen, cycle	30/01/2024		
3	Sulphur, Phosphorus cycle	05/02/2024		
4	Global warming -Causes, effects, process Green House Effect, Ozone depletion.	05/02/2024 06/02/2024		
5	<b>Unit- 2 Air and, Noise Pollution</b> Definition of pollution and pollutant, Natural and manmade sources of air pollution (Refriger- ants, I.C., Boiler)	12/02/2024		
6	Air Pollutants: Types, Particulate Pollutants: Effects	13/02/2024		
7	Control of air pollution(Bag filter, Cyclone separator, Electrostatic Precipitator).	19/02/2024		
8	Gaseous Pollution Control: Absorber, Catalytic Converter, Effects of air pollution due to Refrigerants, I.C., Boiler	20/02/2024		
9	Noise pollution: sources of pollution, measurement of pollution level, Effects of Noise pollution, Noise pollution (Regulation and Control) Rules, 2000	26/02/2024		
10	<b>Unit- 3 Water and Soil Pollution</b> Sources of water pollution, Types of water pollutants,.	27/02/2024		
11	Characteristics of water pollutants Turbidity, pH, total suspended solids, total solids BOD and COD: Definition, calculation	04/03/2024		
12	Waste Water Treatment: Primary methods: sedimentation, froth floatation	05/03/2024		
13	Secondary methods: Activated sludge treatment, Trickling filter, Bioreactor,	11/03/2024		

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14	Tertiary Method: Membrane separation technology, RO (reverse osmosis).	12/03/2024		
15	Causes, Effects and Preventive measures of Soil Pollution: Causes-Excessive use of Fertilizers, Pesticides and Insecticides, Irrigation, E-Waste	18/03/2024		
16	<b>Unit- 4 Renewable sources of Energy</b> Solar Energy: Basics of Solar energy. Flat plate collector (Liquid & Air). Theory of flat plate collector. Importance of coating. Advanced collector	26/03/2024		
17	Solar pond. Solar water heater, solar dryer. Solar stills.	01/04/2024		
18	Biomass: Overview of biomass as energy source. Thermal characteristics of biomass as fuel. Anaerobic digestion. Biogas production mechanism. Utilization and storage of biogas.	02/04/2024		
19	Wind energy: Current status and future prospects of wind energy. Wind energy in India. Environmental benefits and problem of wind energy.	08/04/2024		
20	New Energy Sources: Need of new sources. Different types new energy sources.	09/04/2024		
21	Applications of (Hydrogen energy, Ocean energy resources, Tidal energy conversion.)	16/04/2024		
22	Concept, origin and power plants of geothermal energy.	23/04/2024		
23	<b>Unit-5 Solid Waste Management, ISO 14000 &amp; Environmental Management</b> Solid waste generation- Sources and characteristics of : Municipal solid waste, E- waste, bio- medical waste. Metallic wastes and Non-Metallic wastes (lubricants, plastics, rubber) from industries	29/04/2024		
24	Collection and disposal: MSW (3R, principles, energy recovery, sanitary landfill), Hazardous.	30/04/2024		
25	Waste Air quality act 2004, air pollution control act 1981 and water pollution and control act 1996.	06/05/2024 07/05/2024		



26	Structure and role of Central and state pollution control board.	20/05/2024		
27	Concept of Carbon Credit, Carbon Footprint	20/05/2024		
28	Environmental management in fabrication industry. ISO14000: Implementation in industries, Benefits.	21/05/2024		

#### House Test/Class Test:

House/ Class Test	Contents of syllabus covered	Proposed Date	Actual Date	Remarks
CT-I	30% of the syllabus	3 <sup>rd</sup> week of March, 2024		
CT-II	Next 30% of the syllabus	3 <sup>rd</sup> week of April, 2024		
House Test	80% of the syllabus	3 <sup>rd</sup> week of May, 2024		
Assignments	Contents of syllabus covered	Proposed Date	Actual Date	Remarks
A-1	Ecosystem, Air and, Noise Pollution			
A-2	Water and Soil Pollution, Renewable sources of Energy			
A-3	Solid Waste Management, ISO 14000 & Environmental Management			



Signature of teacher

(Swati Bhardwaj)



HOD( AS & H)

## LESSON PLAN

Program Name	DIPLOMA (Electronics & Communication Engineering)
Course/Subject Name	Introduction to IT Systems
Course/Subject Code	ES 102
Course/Subject Coordinator Name	SUSHIL KUMAR RANA

### Evaluation scheme

S.No.	Subject Name	Study Scheme Hours/week	Marks in evaluation scheme	
			Internal Assessment	External Assessment
1.	Introduction to IT Systems	2	40	60
Reference books			i. R.S. Salaria, Computer Fundamentals, Khanna Publishing House.	
			ii. Fundamentals of Computer by V Rajaraman; Prentice Hall of India Pvt. Ltd.	
			iii. Information Technology for Management by Henery Lucas, Tata McGraw Hills, New Delhi.	
			iv. Computer Fundamentals Architecture and organization by B Ram, revised Edition, New Age International Publishers, New Delhi.	

### Course Outcomes:

After the completion of the course the students will be able to comfortably work on computers, install and configure operating systems, assemble a PC and connect it to various external devices, create documents, create worksheets, protect information and computers from basic abuses and attacks.

### Teaching Plan:

Lecture No.	Name of topic	Proposed Date	Actual date	Remarks
	<b>Unit-1 Basic of Computer Systems</b>			
1	Computer a brief introduction with the help of Block Diagram of Computer.	29/01/2024		
2	General understanding of hardware components :Input components.	30/01/2024		
3	General understanding of hardware components :Output components.	05/02/2024		
4	General understanding of hardware components :	06/02/2024		



	Memory components.			
5	Revision.	12/02/2024		
	<b>Unit-2 Software Concepts</b>			
6	Software and its types.	13/02/2024		
7	Operating System and its types.	19/02/2024		
8	Functions of Operating System, Booting the system (Cold and warm).	20/02/2024		
9	Revision.	26/02/2024		
	<b>Unit-3 Internet Skills</b>			
10	Understanding the terminology of the internet, web browser.	04/03/2024 05/03/2024		
11	Search Engine, word wide web.	11/03/2024		
12	Network and its types.	12/03/2024		
13	Awareness about the government portals i.e. national portals, state portals and institution portals.	18/03/2024		
14	Revision.	19/03/2024		
	<b>Unit-4 Working with MS-Word</b>			
15	Introduction to word processors, i.e. MS - Word	01/04/2024		
16	File management, creating a new document, saving a document.	02/04/2024		
17	Printing a document, Editing a document.	08/04/2024		
18	Use of Home, Insert, Design layout ribbons.	09/04/2024		
19	Revision.	16/04/2024		
	<b>Unit-5 Working with MS-Excel</b>			
20	Introduction to spreadsheets, i.e. MS- Excel.	22/04/2024		
21	Working with spreadsheets, worksheets.	23/04/2024		
22	Entering data into cells, merging and splitting of cells.	29/04/2024		
23	Usage of simple functions like sum average, min max, percentage.	06/05/2024,		
24	Round, floor, ceiling, conditional formatting.	07/05/2024		
25	Revision.	13/05/2024		
	<b>Unit-6 Information Security</b>			
26	Concept of online frauds.	20/05/2024		
27	Threats of online crime.	21/05/2024		
28	Virus attacks, Use of antivirus.	27/05/2024		
29	Revision.	28/05/2024		

signments:

Assignment serial	Contents of syllabus covered	Proposed date	Actual date	Remarks
A-1	Unit 1 Basic of Computer System	27/02/2024		
A-2	Unit 2 Software concepts and Unit 3 Internet skills	26/03/2024		
A-3	Unit 4 Working with MS-Word and Unit 5 Working with MS-Excel.	14/05/2024		

House Test/Class Test:

House/Class Test	Contents of syllabus covered	Proposed date	Actual date	Remarks
CT-I	30% of the syllabus	3rd week of March 2024		
CT-II	Next 30% of the syllabus	3rd week of April 2024		
House Test	80% of the syllabus	3rd week of May 2024		



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(Signature of HOD)



## LESSON PLAN

Program Name	DIPLOMA (Electronics & Communication Engineering)
Course/Subject Name	Introduction to IT Systems
Course/Subject Code	ES 108
Course/Subject Coordinator Name	SUSHIL KUMAR RANA

### Evaluation scheme

S.No.	Subject Name	Study Scheme Hours/week	Marks in evaluation scheme	
			Internal Assessment	External Assessment
1.	Introduction to IT Systems Lab	4	40	60
Reference books			i. R.S.Salaria, Computer Fundamentals, Khanna Publishing House.	
			ii. Ramesh Bangia, PC Software Made Easy-The PC Course Kit, Khanna Publishing House/	
			iii. IT Essentials PC Hardware and Software Companion Guide, Davis Anfinson and Ken Quamme, CISC Press Pearson Education.	
			iv. PC Hardware and A+ Handbook, Kate J. Chase PHI (Microsoft)	

### Course Outcomes:

After the completion of the course the students will be able to comfortably work on computers, install and configure operating systems, assemble a PC and connect it to various external devices, create documents, create worksheets, prepare presentations, protect information and computers from basic abuses/attacks.

# Lab Plan:

Exp. No.	Name of experiment	Proposed date		Actual date		Remarks
		G-I	G-II	G-I	G-II	
1	To identify the various hardware components of a computer system.	31/01/2024	01/02/2024			
1	Continue	01/02/2024	01/02/2024			
2	To assemble hardware components of Computer System.	07/02/2024	08/02/2024			
	Continue	08/02/2024	08/02/2024			
3	To install Windows OS on a computer system.	14/02/2024	15/02/2024			
	Continue	15/02/2024	15/02/2024			
4	To study the various features offered on the desktop, creating new folders and new files on the desktop.	21/02/2024	22/02/2024			
	Continue	22/02/2024	22/02/2024			
5	To work on different web browsers (google chrome, internet explorer), setting up default homepage on browser and study the various settings available.	28/02/2024	29/02/2024			
5	Continue	29/02/2024	29/02/2024			
6	To open search engines (google and yahoo) and search different information using the search engines. Creating an email Account.	06/03/2024	07/03/2024			
6	Continue	07/03/2024	07/03/2024			
7	Visit various e-governance/digital India Portals and understand the services offered.	13/03/2024	14/03/2024			
7	Continue	14/03/2024	14/03/2024			
8	Opening, creating and saving a document, locating files, copying contents in some	20/03/2024	21/03/2024			



	different file(s), protecting files, giving password protection for a file. Setting margins, tab setting, ruler, indenting, Entering text, cut, copy, paste using tool- bars.					
8	Continue	21/03/2024	21/03/2024			
9	Formatting a document, Creating and editing tables, mail-merge.	27/03/2024	28/03/2024			
	Continue	28/03/2024	28/03/2024			
9	Continue	03/04/2024	04/04/2024			
10	Working on MS – EXCEL- Creating a worksheet in Excel. Copy, Move and Merge the cells and Use various Formatting features.	04/04/2024	04/04/2024			
10	Continue	10/04/2024	18/04/2024			
	Continue	18/04/2024	18/04/2024			
11	Using formula and functions prepare worksheet for storing subject marks of ten students and perform the following: Calculate the student wise total and average. Calculate the subject wise total and average. Calculate the overall percentage and also individual percentage of the student. Create a chart for the above.	24/04/2024 25/04/2024  01/05/2024 02/05/2024  08/05/2024  09/08/2024  15/05/2024 16/05/2024	25/04/2024 25/04/2024  02/05/2024 02/05/2024  09/05/2024  09/05/2024  16/05/2024			
11	Continue	22/05/2024	16/05/2024			

  
(Signature of Teacher)

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