

LESSON PLAN

Program Name	DIPLOMA (Comp. Engg.)
Course/Subject Name	Introduction to IT Systems Lab
Course/Subject Code	ES 108
Course/Subject Coordinator Name	Subhash Chander

Evaluation scheme

S.No.	Subject Name	Study scheme	Marks in evaluation scheme	
		(Hrs/Week)	Internal Assessment	External Assessment
1.	Introduction to IT Systems Lab	4	40	60
Reference books			(i) Online resources, Linux man pages, Wikipedia.	
			(ii) R.S.Salaria, Computer Fundamentals, Khanna Publishing House.	
			(iii) Ramesh Bangia, PC Software Made Easy-The PC Course Kit, Khanna Publishing House/	
			(iv) Mastering Linux Shell Scripting: A practical Guide to Linux command –line, Bash scripting, and shell Programming, by Mokhtar Ebrahim, Andrew Mallett.	
			(v) IT Essentials PC Hardware and Software Companion Guide, Davis Anfinson and Ken Quamme, CISC Press Pearson Education.	
			(vi) PC Hardware and A+ Handbook, Kate J. Chase PHI (Microsoft)	



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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	Rems.
1	To identify the various hardware components of a computer system.	G1: 29,30 /1/26 G2: 27,31 /1/26		
2	To assemble hardware components of Computer Systems.	G1: 5,6/02/26 G2: 3,7/02/26		
3	To install Windows OS on a computer system.	G1: 12,13/02/26 G2: 10,17/02/26		
4	To study the various features offered on the desktop, creating new folders and new files on the desktop.	G1: 19,20/02/26 G2: 21,24/02/26		
5	To work on different web browsers (google chrome, internet explorer), setting up default homepage on browser and study the various settings available.	G1: 26,27/02/26 G2: 28/02/26 3/03/26		
6	To open search engines (google and yahoo) and search different information using the search engines. Creating an e-mail Account.	G1: 5,6/03/26 G2: 7,10/03/26		
7	Visit various e-governance/digital India Portals and understand the services offered.	G1: 12,13/03/26 G2: 17,24/03/26		
8	Opening, creating and saving a document, locating files, copying contents in some 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.	G1: 19,20,27/03/26 G2: 28,31/3/26 & 4/4/26		
9	Formatting a document, Creating and editing tables, mail-merge.	G1: 2,9,10, 16/04/26 G2: 7,18,21, 25/4/26		

10	Working on MS – EXCEL- Creating a worksheet in Excel. Copy, Move and Merge the cells and Use various Formatting features.	G1: 17,23,24, 30/04/26 G2: 28/4 & 2,05, 12 /5/26		
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.	G1: 7,8,14,15,21, 22/05/26 G2: 16,19,23, 26/05/26		



(Signature of Teacher)



(Signature of HOD)

LESSON PLAN

ProgramName	DIPLOMA (Comp. Engg.)
Course/Subject Name	Environmental science
Course/SubjectCode	AU(102)
Course/SubjectCoordinatorName	Mr. Aman Saini

Evaluation scheme

S.No.	Subject Name	Study scheme (Hrs/Week)	Marks in evaluation scheme			
			Internal Assessment		External Assessment	
			Theory	Practical	Theory	Practical
1.	Environmental science	2 hrs (Th)	40	-	60	-
Reference books:			(i) S.C.Sharma M.P.Poonia, Environmental Studies, Khanna Publishing House, New Delhi.			
			(ii) Environmental Science by Dr. Deepak Arora Edited by Shweta Khurana, Eagle Prakashan			
			(iii) O.P.Gupta, Elements of Environmental Pollution Control, Khanna Publishing House, New Delhi			
			(iv) Environmental Science By Mr. Aman Saini and Manoj Kumar, Tru Edu. Publications.			
1.	Environmental science	2 hrs (Th)	40		60	

Course Outcomes: After the completion of the course the students 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 methods 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.

Course Outcomes: After the completion of the course the students 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 methods to solve domestic and industrial problems.

Teaching Plan:

Lecture No.	Name of topic	Proposed Date	Actual Date	Remarks
1	Unit-1 Ecosystem Structure of ecosystem, Biotic & Abiotic components Food chain and food web	27.01.2026		
2	Aquatic (Lentic and Lotic) and terrestrial ecosystem Carbon, Nitrogen, cycle	28.01.2026		
3	Sulphur, Phosphorus cycle	03.02.2026		
4	Global warming -Causes, effects, process Green House Effect, Ozone depletion.	04.02.2026		
5	Unit- 2 Air and, Noise Pollution Definition of pollution and pollutant, Natural and manmade sources of air pollution (Refrigerants, I.C., Boiler)	10.02.2026		
6	Air Pollutants: Types, Particulate Pollutants: Effects	11.02.2026		
7	Control of air pollution(Bag filter, Cyclone separator, Electrostatic Precipitator)	17.02.2026		
8	Gaseous Pollution: Control: Absorber, Catalytic Converter, Effects of air pollution due to Refrigerants, I.C., Boiler	18.02.2026		
9	Noise pollution: sources of pollution, measurement of pollution level, Effects of Noise pollution, Noise pollution (Regulation and Control) Rules, 2000	24.02.2026		
10	Unit-3 Water and Soil Pollution Sources of water pollution, Types of water pollutants, Characteristics of water pollutants: Turbidity, pH, total suspended solids, total solids, BOD and COD: Definition, calculation.	25.02.2026		
11	Noise pollution: sources of pollution, measurement of pollution level, Effects of Noise pollution, Noise pollution (Regulation and Control) Rules, 2000	24.02.2026		
12	Unit-3 Water and Soil Pollution Sources of water pollution, Types of water pollutants, Characteristics of water	25.02.2026		

11	WasteWater Treatment: Primary methods: sedimentation, froth floatation	03.03.2026		
12	Secondary methods: Activated sludge treatment, Trickling filter, Bioreactor,	10.03.2026		
13	Class Test -I	11.03.2026		
14	Tertiary Method: Membrane separation technology, RO (reverse osmosis).	17.03.2026		
15	Causes, Effects and Preventive measures of Soil Pollution: Causes-Excessive use of Fertilizers, Pesticides and Insecticides, Irrigation, E-Waste	18.03.2026		
16	Unit- 4 Renewable sources of Energy Solar Energy: Basics of Solar energy; Flat plate collector (Liquid & Air). Theory of flat plate collector. Importance of coating. Advanced collector	24.03.2026		
17	Solar pond. Solar water heater, solar dryer. Solar stills:	25.03.2026		
18	Biomass: Overview of biomass as energy source. Thermal characteristics of biomass as fuel. Anaerobic digestion. Biogas production mechanism. Utilization and storage of biogas.	31.03.2026		
19	Wind energy: Current status and future prospects of wind energy. Wind energy in India. Environmental benefits and the problem of wind energy.	01.04.2026		
20	Class Test-II	07.04.2026		
21	New Energy Sources: Need of new sources. Different types of new energy sources. Applications of (Hydrogen energy, Ocean energy resources, Tidal energy conversion.)	08.04.2026		
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Assignments:

Assignments	Contents of syllabus covered	Proposed date	Actual date	Remarks
A-1	Ecosystem, Air and, Noise Pollution, Water and Soil Pollution.	13.03.2026 /26.03.2026		
A-2	Renewable sources of Energy Solid Waste Management, ISO 14000 & Environmental Management.	24.04.2026 /21.05.2026		

House Test/Class Test:

House/Class Test	Contents of syllabus covered	Proposed Date	Actual date	Remarks
CT-I	30% of the syllabus	11.03.2026		
CT-II	Next 30% of the syllabus	07.04.2026		
House Test	80% of the syllabus	2 nd week of May, 2026		

(Signature of HOD)

(Signature of Teacher)

House/Class Test	Contents of syllabus covered	Proposed Date	Actual date	Remarks
CT-I	30% of the syllabus	11.03.2026		
CT-II	Next 30% of the syllabus	07.04.2026		
House Test	80% of the syllabus	2 nd week of May, 2026		

(Signature of Teacher)

LESSON PLAN

Program Name	COMPUTER ENGG
Course/Subject Name	Applied Physics-II
Course/Subject Code	BS-104 & BS-106
Course/Subject Coordinator Name	Pritam Singh Dogra

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). Concepts of Physics By H.C. Verma			
			(ii) Fundamental of Physics By Halliday/Resnick/Walker			
			(iii) Text Book of Physics for Class XII			

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.	27/01/2026		
2	Definitions of wave velocity, frequency and wavelength and their relationship	30/01/2026		
3	DCS	31/01/2026		
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4	Sound and light waves and their properties	02/02/2026		
5	Wave equation ($y = r \sin \omega t$) amplitude, phase, phase difference, Principle of superposition of waves and beat formation	03/02/2026		
6	Simple Harmonic Motion (SHM): definition, expression for displacement, velocity	06/02/2026		
7	DCS	07/02/2026		
8	Acceleration, time period, frequency of SHM, Free, forced and resonant vibrations and their examples	09/02/2026		
9	Acoustics of buildings – reverberation, reverberation time, echo, noise, coefficient of absorption of sound	10/02/2026		
10	Methods to control reverberation time and their applications.	13/02/2026		
11	DCS	14/02/2026		
12	Ultrasonic waves, – Introduction and properties, engineering and medical applications	16/02/2026		
13	UNIT - 2: Optics Basic optical laws- reflection and refraction	17/02/2026		
14	Refractive index, Images and image formation by mirrors,	20/02/2026		
15	DCS	21/02/2026		
16	Lens and thin lenses, lens formula, power of lens, magnification	23/02/2026		
17	Total internal reflection, Critical angle and conditions for total internal reflection, applications of total internal reflection in optical fiber.	24/02/2026		
18	Optical Instruments- simple and compound microscope	27/02/2026		
19	DCS	28/02/2026		
20	Astronomical telescope in normal adjustment and their magnifying power	02/03/2026		
21	UNIT - 3: Electrostatics - Coulomb's law, unit of charge.	03/03/2026		
22	Electric field, Electric lines of force and their properties.	06/03/2026		
23	DCS	07/03/2026		
24	Electric flux, Electric potential and potential difference	09/03/2026		
25	Gauss's law	10/03/2026		
26	Capacitor and its working, Capacitance and its units. Capacitance of a parallel plate capacitor	13/03/2026		

House Test/Class Test:

House/Class Test	Contents of syllabus covered	Proposed date	Actual date	Remarks
CT-I	30% of the syllabus	1 st week of March 2026		
CT-II	Next 30% of the syllabus	1 st week of April 2026		
House Test	80% of the syllabus	1 st week of May 2026		

House Test/Class Test:

House/Class Test	Contents of syllabus covered	Proposed date	Actual date	Remarks
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Lab Plan:

Exp. No.	Name of experiment	Contents of the syllabus	Proposed date	Actual Date	
				G-1	G-2
1	To verify laws of reflection from a plane mirror/ interface.	1 st week of March	27/01/2026	31/01/2026	
2	To verify laws of refraction (Snell's law) using a glass slab.	2 nd week of March	20/02/2026	07/02/2026	
3	To determine focal length and magnifying power of a convex lens.	3 rd week of March	10/02/2026	14/02/2026	
4	To verify Ohm's law by plotting a graph between current and potential difference.	4 th week of March	17/02/2026	21/02/2026	
5	To verify laws of resistances in series and parallel combination.	5 th week of March	10/03/2026	07/03/2026	
6	To verify Kirchhoff's laws using electric circuits.	6 th week of March	17/03/2026	14/03/2026	
7	To find resistance of a galvanometer by half deflection method.	7 th week of March	24/03/2026	28/03/2026	
8	To convert a galvanometer into an ammeter.	8 th week of March	07/04/2026	04/04/2026	
9	To convert a galvanometer into a voltmeter.	9 th week of March	21/04/2026	11/04/2026	

Lab Plan:

Exp. No.	Name of experiment (Signature of Teacher)	Proposed date		Date	
		G-1	G-2 (Signature of HOD)	G-1	G-2
1	To verify laws of reflection from a plane mirror/ interface.			31/01/2026	
2	To verify laws of refraction (Snell's law) using a glass slab.			07/02/2026	
3	To determine focal length and magnifying power of a convex lens.			14/02/2026	
4	To verify Ohm's law by plotting a graph between current and potential difference.			21/02/2026	
5	To verify laws of resistances in series and parallel combination.			07/03/2026	
6	To verify Kirchhoff's laws using electric circuits.			14/03/2026	
7	To find resistance of a galvanometer by half deflection method.			28/03/2026	
8	To convert a galvanometer into an ammeter.			04/04/2026	
9	To convert a galvanometer into a voltmeter.			11/04/2025	

(Signature of Teacher)		Date	
		(Signature of HOD)	

LESSON PLAN

Name of Branch	Computer Engg.
Course/Subject Name	Engineering Mechanics
Course/Subject Code	ES106 & ES 112
Course/Subject Coordinator Name	Er. Harnem Singh

Evaluation scheme

S.No.	Subject Name	Study scheme (Hrs/Week)	Marks in evaluation scheme			
			Internal Assessment		External Assessment	
			Theory	Practical	Theory	Practical
1.	Engineering Mechanics Theory & Engineering Mechanics lab	TH [3+1(DCS) + 2 (Lab)	40	40	60	60
Reference books			(i) D.S. Bedi, Engineering Mechanics, Khanna Publications, New Delhi (2008)			
			(ii) Khurmi, R.S., Applied Mechanics, S. Chand & Co. New Delhi.			
			(iii) Bansal R K, A text book of Engineering Mechanics, Laxmi Publications.			
			(iv) Ramamrutham, Engineering Mechanics, S. Chand & Co. New Delhi.			
			(v) Ram, H. D.; Chauhan, A. K., Foundations and Applications of Applied Mechanics, Cam-bridge University Press.			

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

CO1	Identify the force systems for given conditions by applying the basics of mechanics.
CO2	Determine unknown force(s) of different engineering systems.
CO3	Apply the principles of friction in various conditions for useful purposes
CO4	Find the centroid and centre of gravity of various components in engineering systems.



Teaching Plan:

L. No.	Topic Covered	Proposed Date	Actual Date	Remarks
1	Unit – I Basics of mechanics and force system Significance and relevance of Mechanics, Applied mechanics, Statics, Dynamics.	26/1, 29/1/2026		
2	Space, time, mass, particle, flexible body and rigid body. Scalar and vector quantity, Units of measurement (SI units)	31/1/2026, 2/2		
3	Force – unit, representation as a vector and by Bow's notation, characteristics and effects of a force, Principle of transmissibility of force.	4/2, 5/2/26		
4	Force system and its classification	6/2/26		
5	Resolution of a force - Orthogonal components of a force, moment of a force, Varignon's Theorem.	9/2, 11/2		
6	Composition of forces – Resultant, analytical method for determination of resultant for concurrent, non-concurrent and parallel co-planar force systems	12/2, 13/2		
7	Law of triangle, parallelogram and polygon of forces.	16/2/26		
8	Unit- II Equilibrium: Equilibrium and Equilibrant, Free body and Free body diagram, Analytical and graphical meth	17/2, 18/2		
9	Lami's Theorem – statement and explanation, Application for various engineering	19/2/26		
10	Types of beam, supports (simple, hinged, roller and fixed) and loads acting on beam (vertical point load, uniformly distributed load),	20/2, 23/2		
11	Beam reaction for cantilever, simply supported beam with or without overhang – subjected to combination of Point load and uniformly distributed load	25/2, 26/2		
12	Beam reaction graphically for simply supported beam subjected to vertical point loads	27/2, 2/3/26		
13	Beam reaction for cantilever, simply supported beam with or without overhang – subjected to combination of Point load and uniformly distributed load	5/3, 6/3/26		
14	Unit- III Friction: Friction and its relevance in engineering.	9/3/26		
15	Types and laws of friction, limiting equilibrium, limiting friction, co-efficient of friction,	11/3/26		

32	Centre of Gravity of composite solids composed of not more than two simple solids.	10/4/26		
33	NUMERICAL PROBLEMS ON CHAPTER 4(REVISION)	13/4/26		
34	NUMERICAL PROBLEMS ON CHAPTER 4(REVISION)	16/4/26		
35	Unit – V Simple lifting machine Simple lifting machine, load, effort, mechanical advantage, , and non	17/4/26		
36	Applications and advantages. Velocity ratio, efficiency of machines	20/4/26		
37	law of machine. Ideal machine, friction in machine,	24/4/26		
38	maximum Mechanical advantage and efficiency,	23/4/26		
39	non-reversible machines, conditions for reversibility.	24/4/26		
40	Velocity ratios of Simple axle and wheel,	27/4/26		
41	Velocity ratios of Differential axle and wheel	29/4/26		
42	Velocity ratios of worm and worm wheel	30/4/26		
43	Velocity ratios of simple screw jack	4/5/26		
44	NUMERICAL PROBLEMS ON CHAPTER 5(REVISION)	5/5, 6/5		
45	NUMERICAL PROBLEMS ON CHAPTER 5(REVISION)	7/5, 8/5		
46	NUMERICAL PROBLEMS ON CHAPTER 6(REVISION)	18/5, 20/5		
47	NUMERICAL PROBLEMS ON CHAPTER 6(REVISION)	21/5, 22/5		
48	NUMERICAL PROBLEMS ON CHAPTER 6(REVISION)	24/5, 26/5		

Assignments:

Assignment serial	Contents of syllabus covered	Proposed date	Actual date	Remarks
A-1	Basics of mechanics and force system & Equilibrium and Equilibrant.	25/2/26.		
A-2	Friction and its relevance in engineering.	30/3/26		
A-3	Centroid and centre of gravity, Simple lifting machine.	29/4/26		

Ref

LESSON PLAN

Program Name	DIPLOMA (Computer Engg.)
Course/Subject Name	Introduction to IT Systems
Course/Subject Code	ES 102
Course/Subject Coordinator Name	Pooja Thakur

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
	Unit-1 Basic of Computer Systems			
1	Computer a brief introduction with the help of Block Diagram of Computer.	27/01/2026 30/01/2026		
2	General understanding of hardware components : Input components.	03/02/2026		
3	General understanding of hardware components : Output components.	06/02/2026		



4	General understanding of hardware components : Memory components.	10/02/2026, 13/02/2026		
5	Revision.	17/02/2026		
Unit-2 Software Concepts				
6	Software and its types.	20/02/2026		
7	Operating System and its types.	24/02/2026, 27/02/2026		
8	Functions of Operating System, Booting the system (Cold and warm).	03/03/2026, 06/03/2026		
9	Revision.	06/03/2026		
Unit-3 Internet Skills				
10	Understanding the terminology of the internet, web browser.	10/03/2026		
11	Search Engine, word wide web.	10/03/2026		
12	Network and its types.	17/03/2026,		
13	Awareness about the government portals i.e. national portals, state portals and institution portals.	20/03/2026		
14	Revision.	20/03/2026		
Unit-4 Working with MS-Word				
15	Introduction to word processors, i.e. MS - Word	24/03/2026		
16	File management, creating a new document, saving a document.	24/03/2026		
17	Printing a document, Editing a document.	27/03/2026		
18	Use of Home, Insert, Design layout ribbons.	31/03/2026		
19	Revision.	31/03/2026		
Unit-5 Working with MS-Excel				
20	Introduction to spreadsheets, i.e. MS- Excel.	07/04/2026		
21	Working with spreadsheets, worksheets.	17/04/2026		
22	Entering data into cells, merging and splitting of cells.	21/04/2026		
23	Usage of simple functions like sum average, min max, percentage.	24/04/2026, 28/04/2026		
24	Round, floor, ceiling, conditional formatting.	05/05/2026		
25	Revision.	08/05/2026		
Unit-6 Information Security				
26	Concept of online frauds.	12/05/2026		
27	Threats of online crime.	15/05/2026		
28	Virus attacks, Use of antivirus.	19/05/2026, 22/05/2026		
29	Revision.	26/05/2026		

Department of Applied Sciences & Humanities
Dr.B.R. Ambedkar Govt. Polytechnic Ambota
Distt. – Una (H.P.)

LESSON PLAN

Program Name	Computer Engineering
Subject Name	Applied Mathematics-II
Subject Code	BS102
Semester	2 nd
Subject Teacher Name	Sandeep Kumar

Evaluation Scheme

Sr. No.	Subject Name	Study scheme (Hrs/Week)		Marks in Evaluation Scheme					
				Internal Assessment			External Assessment		
		Th	DCS	Th	Pr	Total	Th	Pr	Total
1.	Applied Mathematics-II	4	1	40	-	40	60	-	60
Reference Books		(iii) B.S. Grewal, Higher Engineering Mathematics, Khanna Publishers, New Delhi, 40th Edition, 2007							
		(iv) S.S. Sabharwal, Sunita Jain, Eagle Parkashan, Applied Mathematics, Vol. I & II, Jalandhar.							

Course Outcomes (COs)

CO – 1	To understand 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.
CO – 2	To understand cumulative effect of the original quantity or equation is the Integration.
CO – 3	The students are able to learn the coordinate geometry provides a connection between algebra and geometry through graphs of lines and curves.
CO – 4	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

	Name of Topic	Proposed Date	Actual Date	Remarks
UNIT-1 Determinants and Matrices	Introduction of Determinants	27/01/2026		
	Elementary properties of determinants up to 3rd order	28/01/2026 29/01/2026 31/01/2026		
	Doubt Clearing Session	02/02/2026		
	Consistency of equations	03/02/2026		
	Cramer's rule	04/02/2026 05/02/2026 07/02/2026		



	Doubt Clearing Session	9/02/2026		
	Algebra of matrices	10/02/2026 11/02/2026		
	Doubt Clearing Session	12/02/2026		
	Inverse of a matrix	16/02/2026		
	Matrix inverse method to solve a system of linear equations in 3 variables.	17/02/2026 18/02/2026 19/02/2026 21/02/2026		
UNIT-II Integral Calculus	Doubt Clearing Session	23/02/2026		
	Integration as inverse operation of differentiation	24/02/2026 25/02/2026		
	Simple integration by substitution	26/02/2026 28/02/2026		
	Doubt Clearing Session	02/03/2026		
	Simple integration by parts	03/03/2026 05/03/2026		
	Simple integration by parts	07/03/2025		
	Doubt Clearing Session	09/03/2026		
	Class Test-1 (As per HPTSB schedule)	10/03/2026		
	Simple integration by partial fractions	11/03/2026 12/03/2026		
	Use of formulae for solving problems where m and n are positive integers	16/03/2026 17/03/2026 18/03/2026 19/03/2026		
	Doubt Clearing Session	23/03/2026		
	Applications of integration for Simple problem on evaluation of area bounded by a curve and axes	24/03/2026 25/03/2026 28/03/2026 30/03/2026		
	Doubt Clearing Session	31/03/2026		
	Calculation of Volume of a solid formed by revolution of an area about axes.	01/04/2026 02/04/2026 04/04/2026		
	Doubt Clearing Session	06/04/2026		
	Equation of straight line in various standard forms (without proof)	07/04/2026		
	Class Test-2 (As per HPTSB schedule)	08/04/2026		

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Assignments

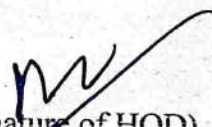
Assignment No	Contents of Syllabus Covered	Proposed Date	Actual Date	Remarks
A-1	Unit-1	12/03/2026		
A-2	Unit-2	09/04/2026		
A-3	Unit-3	07/05/2026		

House Test/Class Test

Name of test	Syllabus for Tests	Proposed Date	Actual Date	Remarks
Class Test -1	Unit-1	As per HPTSB Academic Schedule		
Class Test -2	Unit-2			
House Test - 1	Unit-1, Unit-2 and Unit-3			



(Signature of Teacher)



(Signature of HOD)

LESSON PLAN

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

Evaluation scheme

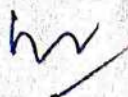
S.No.	Subject Name	Study scheme (Hrs/Week)	Marks in evaluation scheme			
			Internal Assessment		External Assessment	
			Theory	Practical	Theory	Practical
1.	FEEE & FEEE LAB	TH [3+1(DCS) + 2 (Lab)	40	40	60	60

Reference books

1. Ritu Sahdev, Basic Electrical Engineering, Khanna Publishing House, 2018.
2. Mittal and Mittal, Basic Electrical Engineering, McGraw Education, New Delhi, 2015, ISBN : 978-0-07-0088572-5.
3. Saxena, S. B. Lal, Fundamentals of Electrical Engineering, Cambridge University Press, latest edition ISBN : 9781107464353.
4. Theraja, B. L., Electrical Technology Vol – I, S. Chand publications, New Delhi, 2015, ISBN: 9788121924405.
5. Theraja, B. L., Electrical Technology Vol – II, S. Chand publications, New Delhi, 2015, ISBN: 9788121924375.
6. Jegathesan, V., Basic Electrical and Electronics Engineering, Wiley India, New Delhi, 2015, ISBN : 97881236529513.
7. Sedha, R.S., A text book of Applied Electronics, S.Chand, New Delhi, 2008, ISBN-13: 978-8121927833.
8. Malvino, Albert Paul, David, Electronics Principles, McGraw Hill Education, New Delhi, 2015, ISBN-13: 0070634244-978.
9. Mehta, V.K., Mehta, Rohit, Principles of Electronics, S. Chand and Company, New Delhi, 2014, ISBN-13-9788121924504.
10. Bell Devid, Fundamental of Electronic Devices and Circuits, Oxford University Press, New Delhi 2015 ISBN : 9780195425239.

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



Teaching Plan:

Lecture No.	Topic Covered	Proposed date	Actual Date	Remarks
1	Passive Active Components	28-01-2026		
2	Passive Active Components	29-01-2026		
3	Resistances, Capacitors, Inductors, Diodes, Transistors, FET, MOS and CMOS and their Applications	29-01-2026		
4	Resistances, Capacitors, Inductors, Diodes, Transistors, FET, MOS and CMOS and their Applications	30-01-2026		
5	Signals: DC/AC, voltage/current, periodic/non-periodic signals, average, rms, peak values, different types of signal waveforms	04-02-2026		
6	Signals: DC/AC, voltage/current, periodic/non-periodic signals, average, rms, peak values, different types of signal waveforms	05-02-2026		
7	Signals: DC/AC, voltage/current, periodic/non-periodic signals, average, rms, peak values, different types of signal waveforms	05-02-2026		
8	Ideal/non-ideal voltage/current sources, independent/dependent voltage current sources.	11-02-2026		
9	Ideal/non-ideal voltage/current sources, independent/dependent voltage current sources.	12-02-2026		
10	Operational Amplifiers-Ideal Op-Amp,	12-02-2026		
11	Operational Amplifiers-Ideal Op-Amp	13-02-2026		
12	Practical op amp, Open loop and closed loop configurations	18-02-2026		
13	Practical op amp, Open loop and closed loop configurations	19-02-2026		
14	Application of Op-Amp as amplifier, adder, differentiator and integrator.	19-02-2026		
15	Application of Op-Amp as amplifier, adder, differentiator and integrator	20-02-2026		
16	Introduction to Boolean Algebra	25-02-2026		
17	Introduction to Boolean Algebra	26-02-2026		
18	Electronic Implementation Gates-Functional Block Approach, Storage elements-Flip Flops, Boolean Operations	26-02-2026		
19	Electronic Implementation ,Gates-Functional Block Approach, Storage elements-Flip Flops Boolean Operations	27-02-2026		
20	Functional block approach, Counters: Ripple, Up/down and decade, Introduction to digital IC Gates (of TTL Type	04-03-2026		
21	EMF, Current, Potential Difference	05-03-2026		
22	EMF, Current, Potential Difference	05-03-2026		
23	Power and Energy; M.M.F, magnetic force, permeability, hysteresis loop	06-03-2026		
24	Power and Energy; M.M.F, magnetic force, permeability, hysteresis loop	11-03-2026		
25	reluctance, leakage factor and BH curve; Electromagnetic induction	12-03-2026		
26	reluctance, leakage factor and BH curve; Electromagnetic induction	12-03-2026		
27	Faraday's laws of electromagnetic induction, Lenz's law; Dynamically induced emf	13-03-2026		

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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			

(Signature of Teacher)

(Signature of HOD)