

Govt. Polytechnic Jandaur (H.P.)

Lesson Planning (Theory)

Branch : Civil Engg. & Elect. Engg.

Semester : First

Subject : Applied Physics-I

Session : August 2026- November 2026

Teacher: Babita Sharma

Class Room:

Sr. No.	No. of Lectures	Weeks	Chapter/ Unit Description	Detail of Contents	Reference Resources	Remarks
1	9	1st, 2nd and 3rd week of August	Physical world, Units and Measurements	Physical quantities: fundamental and derived units Units and systems of units (FPS, MKS, CGS and SI units) Dimensional formulae and SI UNITS of physical quantities Displacement, area, volume, density, velocity, acceleration, linear momentum, force, work, energy, pressure, stress and strain Principle of homogeneity of dimensions, Application of dimensional analysis. Checking of the correctness of physical equations Errors in measurements and types - Instrumental, systematic and random and gross Revision of whole Chapter	R1, R2, R3 and R4	
2	12	4th week of August and 1st, 2nd, 3rd	Force and Motion	Scalar and Vector quantities – examples, representation of vector, types of vectors. Equal vectors, negative vectors, unit vectors, co-initial vectors, co-planar vectors. linear momentum, law of conservation of linear momentum with derivation angular velocity, angular acceleration, relation between linear and angular velocity. torque, angular momentum, law of conservation of angular momentum law of conservation of angular momentum and its applications moment of inertia and its physical significance Revision of whole Chapter	R1, R2, R3 and R4	
3	9	5th week of September and	Work, Power and Energy	Work and types of work (zero work, positive work and negative work) with examples, Energy and its units, transformation of Energy Kinetic Energy its example and derivation Potential energy its examples and derivation Law of conservation of mechanical energy for freely falling bodies with its derivation Power and its units, (numerical problems on Power). Revision of whole Chapter	R1, R2, R3 and R4	

Signature

4	8	4th and 5th week of october and 1st, 2nd week	Properties of Matter	Elasticity and plasticity - definition, Definition of stress and strain	R1, R2, R3 and R4
				Types of stress and strain,	
				Hooke's law, Modulus of elasticity and its types .	
				Pressure - definition, atmospheric pressure,	
				Gauge pressure, absolute pressure	
6	5	3rd, 4th and 5th	Heat and Temperature	Revision of whole Chapter	R1, R2, R3 and R4
				Definition of heat and temperature (on the basis of kinetic theory), Difference between heat and Temp.	
				Modes of heat transfer (conduction, convection and radiation with examples),	
				scales of temperature and their relationship,	
				Different scales of temperature and their relationship.	
				Numerical problems based on conversion of tem. Into various scales.	
				Revision of whole Chapter	

REFERENCE RESOURCES

- Applied -Physics-I by R.A. Banwat {R1}
- Khanna Publications {Hindi Medium}{A.P.-I} {R2}
- Modern ABC of Physics-I {R3}
- Katson Publications (A.P.-I) {R4}
- Wikipedia, edX, ed-tech, flipgurd, Ted etc.

Signature of Teacher with Date

(Babita Sharma)

Signature of H.O.D. with Date

3/8

Govt. Polytechnic Jandaur (H.P.)
Lesson Planning (Theory)

Branch : Electrical And Civil Engg.
Subject : Applied Mathematics-I
Subject Teacher: Nisha Kumari

Semester : First
Session : August 2026- November 2026
Class Room:

Sr. No.	No. of Lectures	Weeks	Chapter/ Unit Description	Detail of Contents	Reference Reso	Remarks
1	12	2nd, 3rd and 4th week of August	Apply the fundamental concepts of trigonometry to solve mathematical problems	Concept of angles, measurement of angles in degrees, grades and radians and their conversions, radian measure formula (Arc Length Formula in radians) and simple related problems, Ratios of Allied angles (without proof).	R1, R2, R3	
2	27	1st, 2nd, 3rd & 4th week of	Functions and limits and Differtiation	Definition of function, Value of a function, Even and Odd Function, Function of a function. Limit of a function, Standard limits (with proof) lim	R1, R2, R3	
3	35	1st, 2nd week of October	Differtiation	Differentiation by first principle (x^n , $\sin x$ & $\cos x$). Rules of differentiation (sum, product, quotient, chain rule (Differentiation of function of a and inverse trigonometric functions, Logarithmic differentiation.	R1, R2, R3	
4	44	3rd, 4th and 5th week of october	Complex Numbers and Partial Fractions	Complex Numbers: Definition, real and imaginary parts, conjugate of a complex number, algebra of complex numbers (Addition, Subtraction, Multiplication and Division), Additive Partial fractions: Definition of polynomial fraction of partial fractions. Problems related to resolve a partial fraction with denominator containing non-	R1, R2, R3	
6	56	1st, 3rd & 4th week of November	Permutation Combination and Binomial Theorem	Permutations and Combinations: Definition of $n!$, Special case: $0! = 1$, Simplification of factorial expressions, Permutation: Meaning, formula nPr and simple numerical problems. Combination: Meaning, formula nCr and simple numerical problems Binomial theorem: Binomial theorem (without proof) for positive integral index (expansion and general form); binomial theorem for any index (expansion without proof) first and second binomial approximation with applications to	R1, R2, R3	

REFERENCE RESOURCES

1. Mathematics- I by Reena Kumari Published by True Education
- 2 Applied mathematics-I by Satish Published by Eagles Parkashan
- 3 Mathematics -I Gyan Chand Published by True Education

Signature of Teacher with Date

Nisha
3/08/2026

Signature of H.O.D. with Date

OIC / *r/h*
3/8/26

**Department of Civil Engg.
Govt. Polytechnic Jandaur
Distt. – Kangra (H.P.) - 176501**

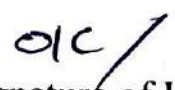
LESSON PLAN

Program Name	Civil/Electrical Engineering
Subject Name	Applied Chemistry
Subject Code	BS106
Semester	First
Subject Teacher Name	

Unit No.	Name of Topic	Proposed Date	Remarks
1	Fundamental particles of atoms : Electron, proton, neutron(Definitions only)	1 st Week of August	
	Bohr's Model of an atom (Postulates, Success and Limitation)		
	atomic number, atomic mass number, isotopes, isobars and isotones	2 nd Week of August	
	Concept of orbitals, difference between orbit and orbitals.		
	shapes of s and p orbitals, quantum Numbers (Significance only)	3 rd Week of August	
	Aufbau's principle, Pauli's exclusion principles, Hund's rule of maximum multiplicity,		
	electronic configuration of elements with atomic number (Z) 1 to 30 only.		
	Concept of chemical bonding – cause of chemical bonding, types of bonds: ionic bonding (NaCl)	4 th Week of August	
	covalent bond (O ₂ , N ₂ , H ₂), difference between sigma and pi (π) bond.		
3	Definition of Solution, Solute and Solvent with examples		
	Class Test-1		
	Methods to express the concentration of solutions - Molarity, Molality and Normality (Numerical excluded)	1 st Week of September	
	pH of solution, industrial application of pH solution		
	Definition of buffer solution and industrial application of buffer solution	2 nd Week of September	
	Definition of Hard and soft water, Types of hardness, Units of hardness (mg/ltr and ppm),		
	simple numerical based on hardness		
	Disadvantages caused by use of hard water in domestic and industrial use	3 rd Week of September	
	removal of hardness - permutit process, Characteristics of drinking water		
	Electronic concept of oxidation, reduction and Redox reaction,		
	Definition of Electrolyte and non-electrolyte with suitable examples,	4 th Week of September	
	Faradays law of Electrolysis and industrial application of electrolysis		
	Class Test-2		
	Electrometallurgy, Electroplating, Electro - refining,	1 st Week of October	
	Introduction to corrosion of metals		
	Internal corrosion preventive measure (purification,		

	alloying and heat treatment).		
	External corrosion preventive measure: Metal coating (anodic and cathodic).		
4	Natural occurrence of metals- minerals, ores; ores of iron, aluminum and copper.	2 nd Week of October	
	Definition of Gangue, Flux, Metallurgy, Pyrometallurgy, Electrometallurgy & Hydrometallurgy.		
	a brief account of general principles of metallurgy- Crushing, Grinding;	3 rd Week of October	
	Concentration of ore (Froth flotation process) ; Extraction of metal (Roasting, Calcination & Smelting).		
	Refining (Electrorefining); Extraction of iron from their Haematite ore by using blast furnace in brief along with diagram.	4 th Week of October	
	Alloys - definition, Ferrous and non- ferrous alloy, purpose of making alloy.		
	House Test	1 st Week of November	
	Definition of Polymer, Monomer, Degree of Polymerization.	1 st Week of November	
	name of monomer and simple reaction involved in preparation of Polythene, PVC, PTFE, PS and Nylon-6,6 only		
	Definition of fuel, Classification of fuels.		
	Characteristics of a good fuel,	2 nd Week of November	
	Calculation of HCV and LCV by using Dulong's formulas,		
	Fuel rating (octane and cetane numbers), Chemical composition,		
	Calorific value application and diagram of water gas, producer gas and biogas,	3 rd Week of November	
6	Definition of Lubricants, Function of good lubricant, classification of fuels		
	Physical properties (Viscosity, viscosity index, flash and fire point)	4 th Week of November	
	Chemical properties (TAN, Saponification value) of lubricants		


(Signature of Teacher)

 
(Signature of HOD)

Lab / Workshop Plan (Electronics Workshop)

Branch Electrical Engineering
Semester 1st Semester ENGINEERING WORKSHOP - II
Session Aug - Nov 2026
Duration 1st August, 2026 to 28th November, 2026

S. No.	Name of the Practical / Topic	Month 2026	Proposed Week	Remarks
Job 1	Practice on the use of workshop hand tools and instruments. (Brief Write up)	August 2026	Week - 1	
		August 2026	Week - 2	
		August 2026	Week - 3	
Job 2	Testing & Identification of Resistor, Inductor, Capacitor, Diode & Transistor. (Brief Write up)	August 2026	Week - 4	
		September 2026	Week - 5	
		September 2026	Week - 6	
Job 3	Practice Soldering and De-soldering. (Brief Write up)	September 2026	Week - 7	
		September 2026	Week - 8	
		October 2026	Week - 9	
Job 4	Design and testing of a simple electronic circuit on a general-purpose PCB.	October 2026	Week - 10	
		October 2026	Week - 11	
		October 2026	Week - 12	
Job 5	Practice using text prompts to perform basic tasks such as generating explanations, creating simple designs and searching technical information using any AI tool.	November 2026	Week - 13	
		November 2026	Week - 14	
		November 2026	Week - 15	
		November 2026	Week - 16	


 Naresh Choudhary
 Foreman Instructor


 Smt. Babita Sharma
 OIC AS & H

Lab / Workshop Plan (Computer Workshop)

Branch Electrical Engineering
Semester 1st Semester ENGINEERING WORKSHOP - II
Session Aug - Nov 2026
Duration 1st August, 2026 to 28th November, 2026

S. No.	Name of the Practical / Topic	Month 2026	Proposed Week	Remarks
Job 1	Identification of Computer Hardware, Tools and Peripheral Devices.	August 2026	Week - 1	
		August 2026	Week - 2	
		August 2026	Week - 3	
Job 2	Assembly and Disassembly of a Desktop Compute - Opening cabinet, installation/removal of CPU, RAM, HDD/SSD, SMPS, expansion cards, internal cable connections, reassembly	August 2026	Week - 4	
		September 2026	Week - 5	
		September 2026	Week - 6	
Job 3	Operating System Installation and Basic Configuration - Creating bootable media (optional), OS installation, partitioning, formatting, user account creation, device configuration.	September 2026	Week - 7	
		September 2026	Week - 8	
		October 2026	Week - 9	
Job 4	Installation of Device Drivers and Application Software - Driver installation, software installation/uninstallation, updating applications, configuring printer and other peripherals.	October 2026	Week - 10	
		October 2026	Week - 11	
		October 2026	Week - 12	
Job 5	LAN Cable Preparation and Network Configuration - RJ-45 connector crimping, cable testing, wired/Wi-Fi connection, IP configuration, network troubleshooting.	November 2026	Week - 13	
		November 2026	Week - 14	
		November 2026	Week - 15	
Job 6	Computer System Inspection and Preventive Maintenance - Cleaning computer components, cable management, checking cooling system, BIOS/date-time settings, basic fault diagnosis, safe shutdown procedures.	November 2026	Week - 16	


 Esha Sharma
 Computer Assistant


 Sh. Naresh Choudhary
 Foreman Instructor


 Smt. Babita Sharma
 OIC AS & H

Lesson Plan / Lab Plan (Welding Workshop)

Trade All Branches (ME, IE, EL, MX, AE, TD, CI, AG, EE, EV)

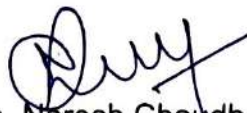
Semester 1st Sem / ENGINEERING WORKSHOP-II

Session Aug – Nov 2026

Duration 01 Aug 2026 to 28 Nov 2026

Sr. No.	Name of Practical / Topic	Month 2026	Proposed Week	Remarks
3.1-3.2	Introduction	August 2026	Week-1	
		August 2026	Week-2	
		August 2026	Week-3	
		August 2026	Week-4	
Jobs	Job I: Arc striking & straight beads (4 current settings)	September 2026	Week-5	
		September 2026	Week-6	
	Job II: Cutting by chop saw & Lap Joint (SMAW)	September 2026	Week-7	
		September 2026	Week-8	
	Job III: Edge preparation & Butt Joint	October 2026	Week-9	
		October 2026	Week-10	
	Job IV: T Joint (SMAW)	October 2026	Week-11	
		October 2026	Week-12	
	Job V: Round Pipe Joint (Gas/Arc)	November 2026	Week-13	
		November 2026	Week-14	
	Job VI: Spot Welding	November 2026	Week-15	
		November 2026	Week-16	


 Sh. Sanjay Thakur
 Workshop Instructor(Welding)


 Sh. Naresh Chaudhary
 Foreman Instructor


 Smt. Babita Sharma
 ASH/HOD /o/c

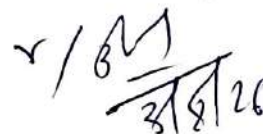
Govt. Polytechnic Jandaur (H.P.)
Practical Planning & Coverage

Branch : Electrical Engg, Civil Engg. Semester : First
Subject : Sports & Yoga Session : 2026
Teacher: Indu Rani Chandel, Esha Sharma Labortary:

Sr. No.	Description of Practical/Activity	Likely Dates
1	Physical Fitness : This module emphasizes the development of physical fitness through activities such as warmup, stretching, flexibility, endurance, strength exercises, cool-down.	Starting with warmup and exercises, followed by yoga, games in every mentioned hours
2	Yoga : The module on yoga may include loosening exercises, Surya Namaskar, Asanas (standing, sitting, prone and supine), Pranayama, Meditation, relaxation techniques.	
3	Sports Activities : Students may participate in games such as Volleyball, Basketball, Badminton, Table Tennis, Athletics, Kabaddi, Kho-Kho.	


Signature of Teacher

OIC AS & H


31/8/26

Govt. Polytechnic Jandaur (H.P.)

Practical Planning & Coverage

Branch : Civil Engg. & EE Engg.

Semester : First

Subject : SCA

Session : 2026

Teacher: Indu Rani Chandel, Esha Sharma

Laboratory: SCA

S. No.	Description of Practical/Activity	Activities to be Performed	Likely Dates
1	Professional and Academic Development The activities include participation in extension lectures, seminars, workshops, technical paper and poster presentations, technical quizzes, educational and industrial visits, technical exhibitions	Poster Presentation, Extension Lecture, Technical Quizzes, Seminar	2nd, 3rd & 4th week of August
2	Personality Development and Communication The activities include participation in group discussions, debates, declamation, public speaking, leadership development programmes, communication skill activities, literary activities, and other personality development programmes	Declamation, Public Speaking, Communication Skill Activities, Group Discussions	5 weeks of September
3	Cultural, Creative and Literary Activities The activities include participation in cultural programmes, music, dance, drama, fine arts, painting, sketching, photography, creative writing, poetry, storytelling, poster making, rangoli, collage, model making, literary festivals, and cultural festivals. Students may also be encouraged to form and participate in hobby clubs such as Photography Club, Music Club, Literary Club, Fine Arts Club, Nature Club, Craft Club, and Model Making Club	Cultural Activity (Song/ Dance/ Skit), Poster Making, Rangoli, Nature related activities, Model Making	4 weeks of October
4	Social Responsibility, Community Engagement and Innovation The activities include participation in community service programmes, environmental awareness campaigns, health and social awareness programmes, Swachhata and plantation drives, blood donation awareness campaigns, Institution's Innovation Council (IIC) activities, innovation challenges, and other innovation-related activities.	Swachhata and plantation drive, health and social awareness programmes, community service programmes	4 weeks of November


Signature of Teacher



OIC AS & H

21/11/26
3/8/26



Govt Polytechnic Jandaur

DEPARTMENT OF APPLIED SCIENCES & HUMANITIES

LESSON PLAN

SUBJECT: BASICS OF ELECTRICAL & ELECTRONICS ENGINEERING

Class/Program: 1st Year/Electrical Engineering
 Session: Aug- Dec 2026
 Semester: 1st
 Course Category: Engineering Science Courses (ES)
 Course Coordinator: Mr. Anil Kumar, Lecturer ECE

Teaching & Examination Scheme

Teaching Scheme			Credits	Marks			Duration of End Semester Examination
L	T	P		Sessional/Internal Assessment	End Sem. Exam.	Total	
3	0	0	3	50	100	150	3 Hrs.

COURSE OUTCOMES

After completing this course, the students will be able to:

Course Outcome	Bloom's Level
CO 1. Apply voltage divider rules, current divider rules, Kirchhoff's Voltage Law (KVL), and Kirchhoff's Current Law (KCL) to solve fundamental electrical circuits.	L3
CO 2. Explain the basic concepts of magnetism and describe the working principles of electromagnetic induction based on Faraday's and Lenz's laws.	L3
CO 3. Contrast the features of AC and DC supply, and outline the installation purpose of equipment earthing along with lead-acid battery maintenance.	L4
CO 4. Illustrate the V-I characteristics of a PN junction diode under forward/reverse bias conditions and state standard LED applications.	L2
CO 5. Construct truth tables and logic symbols to verify the operations of basic, universal, and exclusive logic gates using Boolean algebra laws.	L3

LESSON PLAN

Sr. No.	Date	Topic to be Covered	Teacher Sign.
1	01.08.2026	Unit 1: Introduction to electrical quantities; Charge and its	



Govt Polytechnic Jandaur

3	06.08.2026	Electrical Power and Energy: definitions and S.I. units	
4	10.08.2026	Electrical circuit elements: Resistor	
5	13.08.2026	Electrical circuit elements: Inductor and Capacitor	
6	17.08.2026	Ohm's Law and its applications	
7	20.08.2026	Combination of resistances in series	
8	22.08.2026	Combination of resistances in parallel	
9	27.08.2026	Factors affecting resistance and concept of resistivity	
10	29.08.2026	Kirchhoff's Voltage Law (KVL) and Kirchhoff's Current Law (KCL); Voltage and Current Divider Rules	
11	31.08.2026	Unit 2: Basic concepts of magnetism; Magnetic flux and flux density	
12	03.09.2026	Magnetic field intensity and permeability	
13	05.09.2026	Reluctance and basic magnetic circuit concepts	
14	10.09.2026	Faraday's laws of electromagnetic induction	
15	12.09.2026	Lenz's Law and direction of induced E.M.F.	
16	14.09.2026	Analogy between electric and magnetic circuits	
17	17.09.2026	Numerical/examples and revision of Unit 2	
18	19.09.2026	Unit 3: Difference between AC and DC supply	
19	24.09.2026	Domestic applications of electrical energy	
20	26.09.2026	Commercial and industrial applications of electrical energy	
21	28.09.2026	Advantages of electrical energy over other forms of energy	
22	01.10.2026	Earthing: definition and basic concepts	
23	03.10.2026	Equipment earthing and purpose of earthing	
24	05.10.2026	Batteries: various types of batteries	
25	10.10.2026	Comparison and applications of batteries	
26	12.10.2026	Grouping of cells in series and parallel; revision of Unit 3	
27	15.10.2026	Unit 4: Introduction to semiconducting materials	
28	17.10.2026	Doping; Intrinsic and extrinsic semiconductors	
29	19.10.2026	PN junction formation and depletion region	
30	24.10.2026	Potential barrier; Forward and reverse biasing of PN junction diode	



Govt Polytechnic Jandaur

33	02.11.2026	Applications of PN junction diode	
34	05.11.2026	LEDs and applications of LEDs; revision of Unit 4	
35	09.11.2026	Unit 5: Introduction to number systems: Binary and Decimal	
36	12.11.2026	Hexadecimal and Octal number systems	
37	14.11.2026	Base conversion: Binary to Decimal and Decimal to Binary	
38	16.11.2026	Basic Laws and Theorems of Boolean Algebra	
39	19.11.2026	Introduction to logic gates; AND, OR and NOT gates with symbols and truth tables	
40	23.11.2026	NAND and NOR gates with symbols and truth tables; Universal logic gates	
41	26.11.2026	Exclusive-OR (XOR) and Exclusive-NOR (XNOR) gates; symbols and truth tables	
42	28.11.2026	Revision of Unit 5 and overall course revision	
End of Semester			

SUGGESTED DISTRIBUTION OF MARKS

Unit	Time (Hours)	Marks Allotted
Unit 1: Electrical Fundamentals	10	25
Unit 2: Electromagnetism and Magnetic Circuits	8	15
Unit 3: Electrical Energy: Advantages & Applications	9	20
Unit 4: Introduction to Semiconductors Technology	9	20
Unit 5: Basic of Digital Electronics	9	20
TOTAL	45	100

REFERENCE BOOKS AND SUGGESTED LEARNING RESOURCES

1. ABC of Electrical Engineering, B.L.Theraja and A.K.Theraja – S. Chand Publishers, New Delhi.
2. Basic Electrical and Electronics Engineering, S.K.Bhattacharya - Pearson Education.
3. Basic Electric Engineering, DP Kothari and Nagrath - Tata McGraw Hill.
4. Basic Electrical Engineering, VN Mittle and Arvind Mittle - McGraw Hill.
5. Basic Electrical Engineering, V.K.Mehta & Rohit Mehta - S. Chand Publishers.
6. Fundamentals of Electrical Engineering, Tarlok Singh - S.K.Kataria & Sons.



Govt Polytechnic Jandaur

ONLINE RESOURCES

7. Swayam Portal: <https://swayam.gov.in>
8. Electrical4U: www.electrical4u.com
9. www.allaboutcircuits.com
10. www.tutorialspoint.com



(Anil Kumar)

Course Coordinator



HOD/OIC
AS&H