

Govt. Millennium Polytechnic Chamba (H.P)**Deptt.: Applied Sciences & Humanities****Subject: Communication Skills in English (HS101)**

Course Code : HS101

Course Title : English & Communication Skills

Number of Credits (Teaching Load) : 3 (L:3, T:0, P:0)

Lect. I	Month /Week	Unit & Topic
		Unit 1: Fundamentals of Communication Skills..... 30 Marks
1	Aug /2nd	Concept, Significance and Process of Communication,
2		Levels and Types of Communication:
3		Verbal and Non-verbal;
4	Aug /3rd	Formal and Informal
5		Barriers to Effective Communication
6		How to Overcome these, 7C's for Effective Communication,
7	Aud/ 4th	Listening Skills : Significance
8		Essentials of Active Listening Skills,
9		Speaking Skills: Significance and Essentials of Effective Spoken Communication,
10	Sep/ 1st	Concept and Significance of Soft skills
11		Role of Communication Skills in Developing Life Skills.
		Unit 2: Reading Skills 20 Marks
12		Definition, Meaning and Significance of Reading Skills, Techniques of Reading: SQ3R
13	Sep /2nd	method of Reading – Survey, Question, Read, Recite, Review, Skimming and Scanning,
14		Extensive and Intensive Reading, Literature
15		Textual Study for honing Reading Skills: Poetry: Daffodils by William Wordsworth.
16	Sep 3rd	Prose: Life Sketch of Dr. A.P.J. Abdul Kalam
17		Prose: Life Sketch of Dr. A.P.J. Abdul Kalam
18		Short Story: With the Photographer by Stephen Leacock
		Unit 3: Functional Grammar and Vocabulary 30 Marks
19	Sep/ 4th	Tenses,
20		Change of Voice,
21		Change of Narration,
22	Oct/ 1st	Article,
23		Parts of Speech: Noun, Pronoun,

24		Adjective, Verb, Adverb,
25	Oct 2nd	Conjunction, Preposition,
26		Glossary of Administration terms
27		Pair of Words,
28	Oct /3rd	Synonyms,
29		Antonyms.
		Unit 4: Writing Skills 20 Marks
30		Significance and Essential Components of Writing Skills;
31	Ocr/ 4th	Drafting Skills:
32		Significance of Notice
33		Circular,
34	Nov /1st	HT
35		HT
36		HT
37	Nov /2nd	Official letters
38		Email etiquette,
39		Writing Paragraphs through Outlines,
40	Nov/ 3rd	Resume Writing
41		Forwarding Letter.
42		Revision
43	Nov /4th	Revision
44		Revision
45		Revision


 Kanan Upadhyay
 Lecturer English


 HOD/ OIC

Govt. Polytechnic Chamba (H.P.)

Lesson Planning (Theory)

Branch : Civil/Computer Engg./Mechatronics

Subject : Applied Physics-I

Teacher: Subhash chand

Semester : First

Session : August 2026- November 2026

Class Room: 2/3

Sr. No.	Chapter/ Unit Description	Detail of Contents	Reference Resources	Remarks
1	2nd, 3rd and 4th week of August Units and Dimensions	Physical quantities: fundamental and derived systems of units (FPS, CGS, MKS and SI units) Dimensional formulae of physical quantities Principle of homogeneity of dimensions, Dimensional equations and their applications Checking of dimensional equations Errors in measurements, Types of Errors ,Instrumental, systematic and random and gross error. Revision of whole Chapter	R1, R2, R3 and R4	
2	1st ,2nd and 3rd week of Sepetember Force and Motion	Scalar and Vector quantities – examples, representation of vector, types of vectors. Linear momentum, Statement and derivation of conservation of linear momentum Definition of angular displacement, angular velocity, angular acceleration. Relation between linear and angular velocity, torque, 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	4th, 5th week of sept. and 1st ,2nd week of October Work, Power and Energy	Work: Concept and units, examples of zero work, positive work and negative work Energy - definition and its SI unit, examples of transformation of energy, Kinetic energy - definition, examples, formula and its derivation, Potential energy - definition, examples, formula and its derivation conservation of mechanical energy for freely falling bodies, transformation of energy (examples). Power and its units calculation of power (numerical problems). Revision of whole Chapter	R1, R2, R3 and R4	

4	3rd, 4th and 5th week of October	Properties of Matter	Elasticity and plasticity - definition	R1, R2, R3 and R4
			Definition of stress and strain, Types of stress and strain and Hooke's Law	
			significance of stress-strain curve.	
			Modulus of elasticity and its types	
			Pressure: definition, units, atmospheric pressure, gauge pressure, absolute pressure	
5	1st, 3rd, 4th week of November	Heat and Temperature	Revision of whole Chapter	R1, R2, R3 and R4
			Concept of heat and temperature.	
			Difference between heat and temperature	
			Modes of heat transfer (conduction, convection and radiation with examples)	
			scales of temperature and their relationship	
			Numerical problems based on conversion of temperature 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}
- Text Book of Physics for Class XI (Part-I, Part-II) - N. C. E. R. T., Delhi {R3}
- Fundamentals of Physics, David Halliday et al. - Wiley Publication {R4}
- Wikipedia, edX, ed-tech, flipgurd, Ted etc.

Signature of Teacher with Date

Signature of H.O.D./OIC with Date

REFERENCE RESOURCES

- Applied -Physics-I by R.A. Banwat {R1}
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Signature of Teacher with Date

Applied Science 1st Semester
Applied Chemistry plan for the Session August-December 2026

Lecture NO	Topic NO
	Unit-1 : Atomic Structure and Chemical Bonding (09 hrs) 20 marks
1	Fundamental particles of atoms : Electron, proton, neutron (Definitions Only), Bohr's Model of an atom (Postulates, Success and Limitation)
2	atomic number, atomic mass number, isotopes, isobars and isotones,
3	Concept of orbitals, difference between orbit and orbitals,
4	shapes of s and p orbitals,
5	quantum Numbers (Significance only),
6	Aufbau's principle, Pauli's exclusion principles, Hund's rule of maximum multiplicity
7	electronic configuration of elements with atomic number (Z) 1 to 30 only
8	Chemical Bonding - cause of chemical bonding, Types of Bond: Ionic bond (NaCl)
9	covalent bond (O ₂ , N ₂ , H ₂), difference between sigma and pi (π) bond
	Unit 2: Solutions and Water (09 hrs) 20 marks
10	Definition of Solution, Solute and Solvent with examples,
11	Methods to express the concentration of solutions - Molarity, Molality and Normality (Numerical excluded),
12	pH of solution, industrial application of pH solution,
13	Definition of buffer solution and industrial application of buffer solution.
14	Units of hardness (mg/ltr and ppm), and simple numerical based on hardness cont...
15	simple numerical based on hardness.
16	Disadvantages caused by use of hard water in domestic and industrial use
17	removal of hardness - permitt process
18	Characteristics of drinking water.
	Unit:-3 Electrochemistry and Corrosion (09 hrs) 20 marks
19	Electronic concept of oxidation, reduction
20	Redox reaction
21	Definition of Electrolyte and non-electrolyte with suitable examples
22	Faradays law of Electrolysis
23	industrial application of electrolysis (Electrometallurgy, Electroplating, Electro - refining)
24	Introduction to corrosion of metals - definition, Internal corrosion preventive measure purification,
25	Internal corrosion preventive measure alloying and heat treatment
26	Introduction to Corrosion of metals – definition, types of corrosion (electrochemical),
27	External corrosion preventive measure: Metal coating (anodic and cathodic).

	Unit-4 Engineering Materials and Polymers (09 hrs) 20 marks
28	Natural occurrence of metals- minerals, ores; ores of iron, aluminum and copper
29	Definition of Gangue, Flux, Metallurgy, Pyrometallurgy, Electrometallurgy & Hydrometallurgy
30	a brief account of general principles of metallurgy- Crushing, Grinding; Concentration of ore (Froth flotation process)
31	Extraction of metal (Roasting, Calcination & Smelting)
32	Refining (Electrorefining)
33	Extraction of iron from their Haematite ore by using blast furnace in brief along with diagram
34	Alloys - definition, Ferrous and non- ferrous alloy, purpose of making alloy.
35	Definition of Polymer, Monomer, Degree of Polymerization
36	name of monomer and simple reaction involved in preparation of Polythene, PVC, PTFE, PS and Nylon-6,6 only
	Unit-5 Chemistry of Fuels and Lubricants (09 hrs) 20 marks
37	Definition of fuel, Classification of fuels,
38	Characteristics of a good fuel, Calculation of HCV and LCV by using Dulong's formulas cont.....
39	Calculation of HCV and LCV by using Dulong's formulas
40	Fuel rating (octane and cetane numbers)
41	Chemical composition, Calorific value application and diagram of water gas, producer gas and biogas
42	Definition of Lubricants, Function of good lubricant
43	Physical properties (Viscosity, viscosity index, flash and fire point)
44	Chemical properties (TAN, Saponification value) of lubricants cont...
45	Chemical properties (TAN, Saponification value) of lubricants

Signature of Teacher
(Abhishek Vohra)

Signature of H.O.D/O.I.C
(Kanan Upadhyay)

GOVERNMENT MILLENNIUM POLYTECHNIC

CHAMBA, DISTT. CHAMBA (HP) - 176310

DEPARTMENT OF APPLIED SCIENCES**LESSON PLAN**

Academic Year	2026
Semester	Ist
Subject Code	BS101
Subject Title	Mathematics-I
Name of Faculty	Amandeep
Semester Start & End Dates	01.08.2026 – 28 .11. 2026

Subject Details:

Day	Unit & Topic of Discussion	Topic Details
	Unit-1 : Basic Trigonometry	
Day 1	Measurement of Angles	Concept of angles, measurement of angles in degrees, grades and radians and their conversion
Day 2	Measurement of Angles	Problems on Concept of angles, measurement of angles in degrees, grades and radians and their conversion
Day 3	Radian measure formula	Radian measure formula (Arc Length Formula in radians) and simple related problems
Day 4	Measurement of Angles & Radian measure formula	Tutorial
Day 5	Trigonometric Ratios	T-Ratios of Allied angles (without proof)
Day 6	Trigonometric Ratios	Problems on T-Ratios of Allied angles (without proof)
Day 7	Trigonometric formulae	Sum, difference formulae.
Day 8	Trigonometric Ratios & Trigonometric formulae	Tutorial
Day 9	Trigonometric formulae	Application of Sum, difference formulae.
Day 10	Trigonometric formulae	Miscellaneous Problems on sum & difference formulae
Day 11	Trigonometric formulae	Product formulae (Transformation of product to sum, difference and vice versa)
Day 12	Trigonometric formulae	Tutorial
Day 13	Trigonometric formulae	Problem on Product formulae (Transformation of product to sum, difference and vice versa)
Day 14	Trigonometric formulae	Miscellaneous problems on Product formulae (Transformation of product to sum, difference and vice versa)

Day 15	Trigonometric Graphs	Graphs of $\sin x$, $\cos x$.
Day 16	Trigonometric formulae & Graphs	Tutorial
Day 17	Basic Trigonometry	Revision for class test - I
Day 18	1st Class Test	30% syllabus
Unit-II : Functions and Limits		
Day 19	Function	Definition of function , Value of the Function ,even and Odd function
Day 20	Function	Function of a function , Limits of a function
Day 21	Function	Problems on Functions and Limit
Day 22	Function	Tutorial
Day 23	Limit	Standard limit $\lim_{x \rightarrow a} \frac{x^n - a^n}{x - a}$ and related problems.
Day 24	Limits	Standard Limit $\lim_{x \rightarrow 0} \left(\frac{a^x - 1}{x} \right)$ and related problems
Day 25	Limits	Problems related to find the limit of an algebraic function by using factorization method
Day 26	Limits	Tutorial
Day 27	Limits	Problems related to find the limit of an algebraic function by using substitution method
Day 28	Limits	Problems related to find the limit of an algebraic function by using rationalization method
Unit-III : Differentiation		
Day 29	Differentiation	Meaning of Differentiation Differentiation of X^n by first principle
Day 30	Limits & Differentiation	Tutorial
Day 31	Differentiation	Differentiation by first principle $\sin x$ & $\cos x$
Day 32	Differentiation	Rules of differentiation (sum, product & quotient rules)
Day 33	Differentiation	Chain rule for differentiation of functions
Day 34	Differentiation	Tutorial
Day 35	Functions ,Limits and differentiation	Revision for class test - II
Day 36	2nd Class Test	30% syllabus (next)
Day 37	Differentiation	Differentiation of trigonometric functions , inverse trigonometric functions
Day 38	Differentiation	Logarithmic differentiation
Day 39	Differentiation	Miscellaneous problems on differentiation
Day 40	Differentiation	Tutorial

Complex Number and Partial Fraction

Day 41	Complex Number	Complex Numbers: Definition, real and imaginary parts, conjugate of a complex number
Day 42	Complex Number	Algebra of complex numbers (Addition, Subtraction, Multiplication and Division)
Day 43	Complex Number	Additive and multiplicative inverse,
Day 44	Complex Number	Tutorial
Day 45	Complex Number	solution of a quadratic equation having Discriminant < 0
Day 46	Complex Number	Geometrical Representation of a Complex Number - Argand Diagram, modulus & amplitude of a complex number,
Day 47	Complex Number	Polar form of a complex number.
Day 48	Complex Number	Tutorial
Day 49	Partial fractions	Definition of polynomial fraction (proper, improper fractions) and definition of partial fractions
Day 50	Partial fractions	Problems related to resolve a fraction (proper & improper fractions) into partial fraction with denominator containing non-repeated linear factors.
Day 51	Partial fractions	Miscellaneous problem on partial fraction
Day 52	Partial fractions	Tutorial

Unit- V : Permutations, Combinations and Binomial Theorem

Day 53	Factorial Notation	Definition of $n!$, Special case: $0! = 1$, Simplification of factorial expressions
Day 54	Permutation	Permutation: Meaning, formula $P(n,r)$ and simple numerical problems
Day 55	Combination	Combination: Meaning, formula nCr and simple numerical problems.
Day 56	Permutations & Combinations	Tutorial
Day 57	Binomial theorem	Binomial theorem: Binomial theorem (without proof) for positive integral index (expansion and general form
Day 58	Binomial theorem	binomial theorem for any index (expansion without proof) first and second binomial approximation with applications to engineering problems.
Day 59	Binomial theorem	Miscellaneous problems on Binomial theorem
Day 60	Binomial theorem	Tutorial

Amandeep

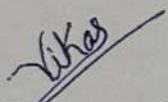
Faculty
(Amandeep)

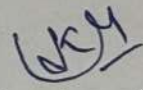
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OIC
(Applied Sciences and Humanities)
(Mrs. Kanan Upadhayay)

Lecture No.	Topic
	UNIT 1: Introduction to Computers and Information Technology (9 Hrs.)
1	Definition and characteristics of computers, Components of a computer system.
2	Input devices - keyboard, mouse, scanner, microphone, touch screen.
3	Output devices – display monitor, printer, plotter, speaker, 3D printer;
4	Computer memory – Units of memory, primary memory and secondary memory.
5	Advantages, disadvantages of computers.
6	Limitations of Computers
7	Applications of computers.
8	Data and Information.
9	Role of Information Technology (IT) in society.
	UNIT 2: Introduction to Computer Software and Operating System (9 Hrs.)
10	Concept of computer software and its need.
11	Types of software - System software and Application software.
12	Free and Open-Source Software (FOSS).
13	Computer languages
14	Language translators.
15	Operating System
16	Functions of Operating System
17	Define Booting Process
18	Cold Booting and Warm Booting.
	UNIT 3: Introduction to Computer Networks & Internet Services (9 Hrs.)
19	Computer Network and its functions.
20	Characteristics of PAN, LAN, MAN, WAN.
21	Internet verses WWW.
22	Websites verses Portals.
23	Internet and its services.
24	Digital India portals (SWAYAM, Digi-Locker, UMANG, UIDAI etc).
25	Google Services (introduction only) - Gmail, Drive, Docs, Slides, Sheets, Classroom.
26	YouTube, Photos, Calendar
27	Form, Meet, Gemini AI.
	UNIT 4: Office Productivity Software (9 Hrs.)
28	Word Processing – Introduction to word processing software.
29	Editing tools, Formatting and paragraph tools.
30	Page layout tools, Print tools, Basics of Mail Merge.
31	Spreadsheet Software – Introduction to spreadsheet software.
32	Creating and managing worksheets.
33	Use of basic formulas and functions (SUM, AVERAGE, COUNT, MAX, MIN etc.).
34	Presentation Software – Introduction to presentation software.
35	Creating and managing slides.
36	Inserting text and images, adding animations.

	UNIT 5: Emerging Trends and Cyber Security Awareness (9 Hrs.)
37	Emerging Trends - Advantages, disadvantages and limitation of AI.
38	Other emerging fields (introduction only) - Machine Learning, Augmented Reality/Virtual Reality, Robotics, Big Data.
39	Internet of Things (IoT), Cloud Computing, Blockchain.
40	Cyber Security Awareness (introduction only) - Digital footprints, Net etiquette, communication etiquette, and social media etiquette.
41	Data protection and Intellectual Property Rights (IPR).
42	Common cyber threats (introduction only) – viruses, malware, phishing attacks, OTP frauds.
43	Identity theft, fake websites, ransomware, and online shopping scams.
44	Basic cyber safety practices including password security and safe browsing.
45	Cyber ethics and responsible use of social media.


Signature of Teacher


Signature of HOD/OIC

Name of the Faculty : Sh. Omkar Singh

Semester : 1st Computer Engg. (N-26 Scheme)

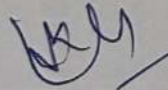
Subject : Engineering Workshop - I (Carpentry)

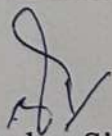
Duration : 15 Weeks

Work load per week 06Hrs Practical

Week	Group of the Discipline	Practical Topic
1st	Group-1	Safety Precautions of concerned shop and use of personal protective equipment (PPE), demonstration of tools, equipment, sample jobs, Best practices in the concerned shop
	Group-2	
	Group-1	
2nd	Group-2	Introduction and industrial applications of carpentry job.
	Group-1	
	Group-2	
3rd	Group-1	1. Name and use of raw materials used in carpentry shop: wood & alternative Materials (board, plywood)
	Group-2	
	Group-1	
4th	Group-2	2. Introduction to wood, timber and their identification, shapes and specifications, their properties, applications & defects. Study of the joints in roofs, doors, windows and furniture, seasoning of wood
	Group-1	
	Group-2	
5th	Group-1	3. Names, uses, and types of hand tools such as Saws, C-Clamp, Chisels, Mallets, Carpenter's vices, Marking gauges, Try-squares, Rulers and other commonly used tools and materials used in carpentry shop by segregating as cutting tools, supporting tools, holding tools, measuring tools etc
	Group-2	
	Group-1	
6th	Group-2	4. Specification of iron jack plane used in carpentry shop.
	Group-1	
	Group-2	
7th	Group-1	Practices for Basic Carpentry Work
	Group-2	
	Group-1	
8th	Group-2	Sawing practice using different types of saws Assembling jack plane — planning practice including sharpening and blade adjustment of jack plane cutter.
	Group-1	
	Group-2	
	Group-1	
	Group-2	

9 th	Group-1	Chiseling practice using different types of chisels including sharpening of chisel.
	Group-2	
	Group-1	
	Group-2	
	Group-1	
10 th	Group-2	Making of different types of wooden pin and fixing methods. Marking, measuring and inspection of jobs.
		Housekeeping practices and instructions.
		Introduction to joints, their relative advantages and uses.
		Job Practice on wood T-Half Lap Joint
		Job Practice on wood T-Half Lap Joint
11 th	Group-1	Job 1 : Prepare a rectangular wooden block involving operations like Marking, sawing practice, planning to size, chiseling. (at least two cuts of 70 mm).
	Group-2	
	Group-1	
	Group-2	
	Group-1	
12 th	Group-2	Job 2: To prepare a Half Lap Joint (cross, L or T – any one).
	Group-1	
	Group-2	
	Group-1	
	Group-2	
13 th	Group-1	Job 3: To prepare a Mortise and Tenon joint (T-Joint).
	Group-2	
	Group-1	
	Group-2	
	Group-1	
14 th	Group-2	Job 4: To prepare a Dove tail Joint (Half lap dovetail joint).
	Group-1	
	Group-2	
	Group-1	
	Group-2	
15 th	Group-1	Job 5: To prepare a mitre joint.
	Group-2	
	Group-1	
	Group-2	
	Group-1	
	Group-2	Job 6: To prepare a lengthening joint (scarf, dovetail scarf, tabled scarf - any one).
	Group-1	
	Group-2	
	Group-1	
	Group-2	
	Group-1	Job 7: Painting/ Polishing practice on any one of above job.
	Group-2	
	Group-1	
	Group-2	
	Group-1	


HOD/OIC


Sh. Omkar Singh

W/S Instructor Carpentry

GMP Chamba			Lesson Plan Subject: BEEE	
Dept. of Mechatronics			Mechatronics. 1st Semester Session : Aug to Nov 2026	
S.no/unit	Month /week	Lecture	Total theory periods /week: 3	
1	Aug 2nd	1	Unit-1 Electrical Fundamentals introduction	
		2	Electrical quantities (Definitions & S.I. Units): Charge, Current, Voltage, E.M.F., Power, Energy.	
		3	Electrical quantities (Definitions & S.I. Units): Charge, Current, Voltage, E.M.F., Power, Energy.	
		4	Electrical circuit elements (Definitions & S.I. Units): Resistor, Series and Parallel Combination	
		5	Electrical circuit elements (Definitions & S.I. Units): Inductor, capacitor	
		6	Ohm's Law	
2	Sept/1st	7	Kirchhoff's Voltage Law (KVL) and Kirchhoff's Current Law	
		8	Kirchhoff's Voltage Law (KVL) and Kirchhoff's Current Law	
		9	Unit-II Electromagnetism and Magnetic Circuits introduction	
		10	Basic concepts of magnetism (Definitions & S.I. Units): magnetic flux, flux density,	
		11	Magnetic field strength, permeability, reluctance	
		12	Faraday's laws of electromagnetic induction and Lenz's law.	
3	Sept/3rd	13	Analogy between electric and magnetic circuits.	
		14	Unit -III Electrical Energy: Advantages & Applications introduction	
		15	Difference between AC and DC	
		16	Various domestic, commercial, and industrial applications of electrical energy.	
		17	Advantages of electrical energy over other forms of energy	
		18	Earthing (Definition), Equipment Earthing, purpose of Earthing.	
4	Oct/1st	19	Battery: Construction, working	
		20	care and maintenance of a lead acid battery,	
		21	Grouping of cells in series and parallel	
		22	Unit-IV Introduction to Semiconductors Technology introduction	
		23	Introduction to conductor, insulator and semiconductor	
		24	Doping, Intrinsic and extrinsic semiconductor	
	Oct/2nd	25	P-N junction diode, V-I characteristics & applications	
		26	LEDs and applications of LED	

Oct/3rd	27	UNIT-V Basic of Digital Electronics introduction	
	28	Number systems and their representation	By: Ritu Sahdev
	29	Number systems and their representation	
Oct/4th	30	Basic laws of Boolean algebra	
	31	Basic laws of Boolean algebra	
	32	Introduction to logic gates and truth tables	
	33	Basic logic gates: AND, OR, and NOT	
Nov/1st	34	HT	4. Digital Electronics
	35	HT	By: K S Jammwal
	36	HT	
Nov/2nd	37	Universal logic gates: NAND and NOR	
	38	Exclusive OR (XOR) and Exclusive NOR (XNOR) gates, along with their logic symbols and truth table	
Nov/3rd	39	Revision	
	40	Revision	
	41	Revision	
Nov/4th	42	Revision	5. Fundamental of Electric
	43	Revision	Electronics Engg.
	44	Revision	
	45	Revision	By: R S Barwal and R. Chot

Vijay Singh Raghwa
Lecturer Electronics

HOD /OIC

GOVERNMENT MILLENNIUM POLYTECHNIC, CHAMBA
DEPARTMENT OF APPLIED SCIENCES & HUMANITIES
SUBJECT : Engineering Workshop Practice - I (Electrical)

Lesson Plan

Branch : Computer engineering

Duration : 15 Weeks

Semester : 1st

Work Load per week :

6 Hrs

SESSION : Aug-Nov 2026

Week	Group Of The Discipline	Practical Topic
1st	Group-2	Safety precautions of concerned shop and use of personal protective equipment.
	Group-1	
2nd	Group-2	Demonstration of tools, equipment, sample jobs, best practices in the concerned shop.
	Group-1	
3rd	Group-2	Demonstration and identification of common electrical materials with standard ratings and specifications such as-wires, cables, switches, mcb and elcb, fuses, cleats, clamps, tools and accessories.
	Group-1	
4th	Group-2	Identification of phase neutral and earth wires for identification to domestic electrical appliance and their connections to three pin plugs. Difference between series and parallel.
	Group-1	
5th	Group-2	Introduction to single phase and three phase supply and wiring system. Importance of three phase supply and it's sequence and wiring system.
	Group-1	
6th	Group-2	Estimating and costing of power consumption.
	Group-1	
7th	Group-2	use of multimeter, test lamp and line tester to check voltage, continuity, open/short ckt. and polarity in simple lamp and socket circuits.
	Group-1	
8th	Group-2	Read out current, voltage and electrical power at different loads using various measuring devices of different ranges.
	Group-1	
9th	Group-2	Connecting single phase energy meter with supply and load and working out power consumption and cost of energy
	Group-1	
10th	Group-2	Measure total voltage and total current of batteries by connecting two or three batteries in series and parallel. Test the battery with hydrometer and cell tester
	Group-1	
11th	Group-2	Assemble and internally wire a single phase main DB with main switch/MCB, bus bars and at least five outgoing fan/lighting circuits with appropriate protection.
	Group-1	
12th	Group-2	Carrying out house wiring using fuse, switches, sockets, ceiling rose etc in batten or PVC casing capping. Demo of conduit wiring through junctions.
	Group-1	
13th	Group-2	Studying internal wiring diagram, dismantle, diagnose fault, servicing of common domestic electrical appliance like ceiling fan, auto iron, air cooler etc.
	Group-1	
14th	Group-2	Reassembling of common domestic electrical appliance like ceiling fan, auto iron, air cooler etc.
	Group-1	
15th	Group-2	Connections of single phase and three phase motors by using starter. Reversing direction of rotation of single phase motors
	Group-1	

Lesson Plan

Name of the Faculty : Sh. Neel Singh

Semester : 1st Civil Engg./ (N-26 Scheme)
Mechatronics Engg

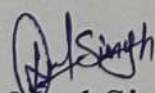
Subject : Engineering Workshop - II (Welding)

Duration : 15 Weeks

Work load per week 06Hrs Practical

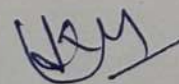
Week	Group of the Discipline	Practical Topic
1 st	Group-1	Demonstration of different welding Tools Safety Precautions of concerned shop and use of personal protective equipment (PPE), demonstration of tools, equipment, sample jobs, Best practices in the concerned shop
	Group-2	
	Group-1	
2 nd	Group-2	Introduction and importance of welding process as compared to other material joining processes. Specifications and type of Arc welding machines, parts identification, classification, selection and coding of electrodes, welding parameters, welding joints and welding positions. Common weldable materials
	Group-1	
	Group-2	
3 rd	Group-1	
	Group-2	
	Group-1	
4 th	Group-2	
	Group-1	
	Group-2	
5 th	Group-1	safety precautions in welding shop, use of Personal Protective Equipment, Use of welding screens, Hazards and remedies during welding, Elementary symbolic representations, demo of tools, equipment, sample jobs prepared, set up of Gas welding apparatus, and welding defects.
	Group-2	
	Group-1	
6 th	Group-2	
	Group-1	
	Group-2	
7 th	Group-1	
	Group-2	
	Group-1	

8 th	Group-2	Job 1 : Practice of striking arc and depositing uniform and straight beads on flat at different current levels. (Minimum 4 beads on M.S. flat at four setting of current level using shielded metal arc welding and differentiating their characteristics).
	Group-1	
	Group-2	
9 th	Group-1	
	Group-2	
	Group-1	
10 th	Group-2	Job 2 : Cut a job with abrasive cut off / chop saw machine and make a lap joint using shielded metal arc welding (SMAW) process
	Group-1	
	Group-2	
	Group-1	
11 th	Group-2	
	Group-1	
	Group-2	
	Group-1	
12 th	Group-2	Job 3: Edge Preparation and welding butt joint using shielded metal arc / gas welding process.
	Group-1	
	Group-2	
	Group-1	
13 th	Group-2	Job 4: Edge Preparation and welding T Joint using shielded metal arc welding (50mm x 50mm x 6 mm x 100 mm M.S. Flat).
	Group-1	
	Group-2	
	Group-1	
14 th	Group-2	Job 5 : Cut a round pipe with abrasive cut off / chop saw machine & prepare T-pipe joint using gas/arc welding.
	Group-1	
	Group-2	
	Group-1	
15 th	Group-2	Job 6 : Prepare a job on Spot Welding.
	Group-1	
	Group-2	
	Group-1	



Neel Singh

WSI Welding



HOD/OIC

Lesson Plan

Name of the Faculty: Sh. Ajay Sharma, WSI (Sheet Metal)

Semester: 4th 1st and Scheme: N-26

Subject: Engineering Workshop Practice

Branch: Mechatronics and Civil Engg.

Duration: 16 Weeks

Workload per week : 06+06 Hrs (12 hrs per Week, Practical)

Week	Group of the Discipline	Practical Topic
1st	Group-1	Safety precautions of concern shop and use of personal protective equipments (PPE).
	Group-2	
	Group-3	
2nd	Group-1	Demonstration of tools, equipments, simple job, best practices in the concerned shop.
	Group-2	
	Group-3	
3rd	Group-1	Demonstration of various power tools apparatus, equipments, hand tools used in sheet metal shop.
	Group-2	
	Group-3	
4th	Group-1	Prepare a rectangular job 100 x 70 mm involving different sheet metal operation like measuring, marking, snipping practice (at least 06 cut of 70mm)
	Group-2	
	Group-3	
5th	Group-1	Prepare a rectangular job 100 x 70 mm involving different sheet metal operation like measuring, marking, snipping practice (at least 06 cut of 70mm)
	Group-2	
	Group-3	
6th	Group-1	Prepare a seam joint by using a hand tool on GI sheet.
	Group-2	
	Group-3	
7th	Group-1	Prepare double riveted lap joint (zig-zag type) on GI sheet
	Group-2	
	Group-3	
8th	Group-1	Prepare double riveted lap joint (zig-zag type) on GI sheet
	Group-2	
	Group-3	
9th	Group-1	Prepare a single cover riveted butt joint (Chain type) on GI Sheet.
	Group-2	
	Group-3	
10th	Group-1	Prepare a single cover riveted butt joint (Chain type) on GI Sheet.
	Group-2	
	Group-3	
11th	Group-1	Fabricated a funnel on GI sheet using operation of shearing, flattening and bending.
	Group-2	
	Group-3	

	Group-3	
12th	Group-1	Fabricated a funnel on GI sheet using operation of shearing, flattening and bending.
	Group-2	
	Group-3	
13th	Group-1	Perform any one sheet metal operation on swaging machine on Job V like Beading, swaging, crimping etc.
	Group-2	
	Group-3	
14th	Group-1	Perform any one sheet metal operation on swaging machine on Job V like Beading, swaging, crimping etc.
	Group-2	
	Group-3	
15th	Group-1	One simple job involving sheet metal operations soldering and riveting
	Group-2	
	Group-3	

Signature of HOD/OIC

Signature of teacher

Signature of HOD/OIC

Signature of teacher