

Program Name	Mechanical ENGG
Course/Subject Name	Applied Physics-II
Course/Subject Code	BS-104 & BS-106
Course/Subject Coordinator Name	Gopal Dass

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			

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:

Lecture No.	Topic Covered	Actual Date	Remarks
1	UNIT - 1: Wave motion and its applications- Wave motion, transverse and longitudinal waves with examples.		
2	Definitions of wave velocity, frequency and wavelength and their relationship		
3	Sound and light waves and their properties		
4	Wave equation ($y = r \sin \omega t$) amplitude, phase, phase difference, Principle of superposition of waves and beat formation		
5	Simple Harmonic Motion (SHM): definition, expression for displacement, velocity		
6	Acceleration, time period, frequency of SHM, Free, forced and		

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	resonant vibrations and their examples.		
7	Acoustics of buildings – reverberation, reverberation time, echo, noise, coefficient of absorption of sound		
8	Methods to control reverberation time and their applications.		
9	Ultrasonic waves – Introduction and properties, engineering and medical applications of ultrasonic.		
10	UNIT - 2: Optics -Basic optical laws- reflection and refraction		
11	Refractive index, Images and image formation by mirrors,		
12	Lens and thin lenses, lens formula, power of lens, magnification		
13	Total internal reflection, Critical angle and conditions for total internal reflection, applications of total internal reflection in optical fiber.		
14	Optical Instruments- simple and compound microscope		
15	Astronomical telescope in normal adjustment and their magnifying power		
16	UNIT - 3: Electrostatics - Coulomb's law, unit of charge.		
17	Electric field, Electric lines of force and their properties.		
18	Electric flux, Electric potential and potential difference		
19	Gauss's law		
20	Capacitor and its working, Capacitance and its units. Capacitance of a parallel plate capacitor		
21	Series and parallel combination of capacitors (related numerical)		
22	Dielectric and its effect on capacitance, dielectric break down		
23	UNIT - 4: Current Electricity - Electric Current and its units, Direct and alternating current.		
24	Resistance and its units, Specific resistance, Conductance, Specific conductance,		
25	Series and parallel combination of resistances.		
26	Factors affecting resistance of a wire, carbon resistances and color coding.		
27	Ohm's law and its verification		
28	Kirchhoff's laws, Concept of terminal potential difference and Electromotive force (EMF)		
29	Heating effect of current, Electric power, Electric energy and its units (related numerical problems)		
30	Advantages of Electric Energy over other forms of energy.		
31	UNIT - 5: Electromagnetism - Types of magnetic materials: dia, para and ferromagnetic with their properties.		
32	Magnetic field and its units, magnetic intensity, magnetic lines of force, magnetic flux and units, magnetization		
33	Lorentz force (force on moving charge in magnetic field), Force on current carrying conductor.		
34	Moving coil galvanometer; principle, construction and working		
35	Conversion of a galvanometer into ammeter and voltmeter.		
36	UNIT - 6: Semiconductor Physics -Energy bands in solids, Types of materials (insulator, semiconductor, conductor)		
37	Intrinsic and Extrinsic semiconductors. p-n junction		
38	Junction diode and V-I characteristics		
39	Diode as rectifier – half wave and full wave rectifier (center taped).		
40	Photocells, Solar cells; working principle and engineering applications.		
41	UNIT - 7: Modern Physics - Lasers: Energy levels, ionization and		

Sub

	excitation potentials; spontaneous and stimulated emission		
42	Population inversion, pumping methods, optical feedback.		
43	Types of lasers; Ruby, He-Ne Laser		
44	Semiconductor laser and engineering and medical applications of lasers. laser characteristics		
45	Fiber Optics: Introduction to optical fibers, light propagation, acceptance angle and numerical aperture		
46	Fiber types, applications in; telecommunication, medical and sensors.		

Assignments:

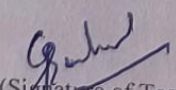
Assignment serial	Contents of syllabus covered	Proposed date	Actual date	Remarks
A-1	Wave motion and its applications & Optics			
A-2	Electrostatics & Current electricity			
A-3	Semiconductor & Modern Physics			

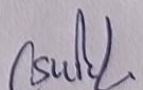
House Test/Class Test:

House/Class Test	Contents of syllabus covered	Proposed date	Actual date	Remarks
CT-I	30% of the syllabus	3rd week of March 2025		
CT-II	Next 30% of the syllabus	3rd week of April 2025		
House Test	80% of the syllabus	2nd week of May 2025		

Lab Plan:

Exp. No.	Name of experiment	Actual date		Remarks
		G-1	G-2	
1	To determine and verify the time period of cantilever			
2	To verify laws of refraction (Snell's law) using a glass slab.			
3	To draw V & I characteristics of semiconductor diode (Ge, Si) and determine its Knee voltage			
4	To verify Ohm's law by plotting 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.			


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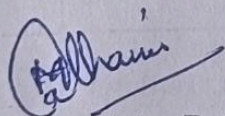
GOVT POLYTECHNIC Sundernagar, Distt. Mandi(HP)
LESSON PLAN (Environmental Science)

Name of the Teacher -Manisha Pathania

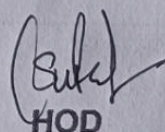
Branch: Mech. Engg. (Jan 2025 -May2025) Sem:-2nd

Month	Week	Date	Name of the Chapter	Contents to be taught	HOD Signature	Remarks
Jan	1st	27th Jan	Ecosystem	Structure of ecosystem, Biotic & Abiotic components		
		30th Jan	Ecosystem	Food chain and food web Aquatic (Lentic and Lotic) and terrestrial ecosystem		
Feb	2nd	3rd Feb	Ecosystem	Carbon, Nitrogen, Sulphur, Phosphorus cycle		
		6th Feb	Ecosystem	Global warming -Causes, effects, process, Green House Effect, Ozone depletion		
	3rd	10th Feb	Air, Noise Pollution	Definition of pollution and pollutant, Natural and manmade sources of air pollution		
		13th Feb	Air, Noise Pollution	Air Pollutants: Types, Particulate Pollutants: Effects and control		
	4th	17th Feb	Air, Noise Pollution	Gaseous Pollution Control: Absorber, Catalytic Converter, Effects of air pollution due to Refrigerants, I.C. Boiler.		
		20th Feb	Air, Noise Pollution	Noise pollution: sources of pollution, measurement of pollution level, Effects of Noise pollution, Noise pollution (Regulation and Control) Rules, 2000.		
	5th	24th Feb	Water and soil Pollution	Sources of water pollution, Types of water pollutants, Characteristics of water pollutants, Turbidity, pH, total suspended solids, total solids		
		27th Feb	Water and soil Pollution	BOD and COD: Definition, calculation. 62 Waste Water Treatment: Primary methods: sedimentation, froth floatation.		
Mar	6th	3rd Mar	Water and soil Pollution	Secondary methods: Activated sludge treatment, Trickling filter, Bioreactor, Tertiary Method: Membrane separation technology, RO (reverse osmosis)		
		6th Mar	Water and soil Pollution	Causes, Effects and Preventive measures of Soil Pollution: Causes-Excessive use of Fertilizers, Pesticides and Insecticides, Irrigation, E-Waste		
	7th	10th Mar	Renewable sources of energy	Solar Energy: Basics of Solar energy. Flat plate collector (Liquid & Air). Theory of flat plate collector		
		13th Mar	-do-	Importance of coating. Advanced collector. Solar pond. Solar water heater, solar dryer. solar stills		
	8th	17th Mar	-do-	Class test-1		
		20th Mar	-do-	Biomass: Overview of biomass as energy source. Thermal characteristics of biomass as fuel. Anaerobic digestion.		
	9th	24th Mar	-do-	Biogas production mechanism. Utilization and storage of biogas.		
		27th Mar	-do-	Wind energy: Current status and future prospects of wind energy.		
April	10th	3rd April	-do-	Wind energy in India. Environmental benefits and problem of wind energy		

May	11th	7th April	-do-	New Energy Sources: Need of new sources. Different types new energy sources.
		10th April	-do-	Applications of (Hydrogen energy, Ocean energy resources, Tidal energy conversion.) Concept, origin and power plants of geothermal energy.
	12th	17th April	-do-	Class Test – 2
	13th	21st April	Solid waste management, ISO 14000 & Environmental Management	Solid waste generation- Sources and characteristics of Municipal solid waste, E-waste, bio-medical waste.
		24th April	-do-	Collection and disposal: MSW (3R, principles, energy recovery, sanitary landfill), Hazardous
	14th	28th April	-do-	Metallic wastes and Non-Metallic wastes (lubricants, plastics, rubber) from industries
		1st May	-do-	Waste Air quality act 2004, air pollution control act 1981.
	15th	5th May	-do-	water pollution and control act 1996
		8th May	-do-	Structure and role of Central and state pollution control board.
	16th	15th May	-do-	House Test
		19th May	-do-	
	17th	22nd May	-do-	Concept of Carbon Credit, Carbon Footprint.
		26th May	-do-	Environmental management in fabrication industry. ISO14000: Implementation in industries. Benefits.



Subject-Teacher:- Manisha Pathania



HOD

Applied Sciences & Humanities

Sub: FEEE

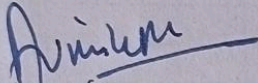
2nd Semester

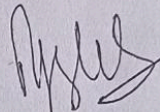
Branch:

MECHANICAL ENGG.

Unit	Lecture	Topic	Remarks
1	1	Passive Active Components	
	2	Resistances	
	3	Capacitors	
	4	Inductors	
	5	Diodes, Transistors	
	6	FET, MOS and CMOS and their Applications	
	7	Signals: DC/AC, voltage/current, periodic/non- periodic signals	
	8	average, rms, peak values	
	9	different types of signal waveforms	
	10	Ideal/non-ideal voltage/current sources	
	11	independent/dependent voltage sources	
	12	independent/dependent current sources	
2	13	Operational Amplifiers-Ideal Op-Amp	
	14	Practical op amp	
	15	Open loop and closed loop configurations	
	16	Open loop and closed loop configurations	
	17	Application of Op-Amp as amplifier	
	18	Application of Op-Amp as adder	
	19	Application of Op-Amp as differentiator	
	20	Application of Op-Amp as integrator.	
3	21	Introduction to Boolean Algebra	
	22	Electronic Implementation of Boolean Operations	
	23	Gates-Functional Block Approach	
	24	Gates-Functional Block Approach	
	25	Storage elements-Flip Flops-A Functional block approach	
	26	Storage elements-Flip Flops-A Functional block approach	
	27	Counters	
	28	Counters	
	29	Introduction to digital IC Gates (of TTL Type)	
	30	Introduction to digital IC Gates (of TTL Type)	
4	31	EMF, Current	
	32	Potential Difference, Power and Energy	
	33	M.M.F, magnetic force	
	34	permeability, hysteresis loop	
	35	reluctance, leakage factor	
	36	BH curve	
	37	Electromagnetic induction, Faraday's laws ofelectromagnetic induction	
	38	Lenz's law	
	39	Dynamically induced emf	
	40	Statically induced emf	
5	41	Equations of self and mutual inductance	
	42	Analogy between electric and magnetic circuits	
	43	Cycle, Frequency, Periodic time	
	44	Amplitude, Angular velocity, RMS value	
	45	Average value, Form Factor Peak Factor, impedance	
	46	phase angle, and power factor	
	47	Mathematical and phasor representation of alternating emf and current	
	48	Mathematical and phasor representation of alternating emf and current	
	49	Voltage and Current relationship in Star and Delta connections	
	50	Voltage and Current relationship in Star and Delta connections	

	51	A.C in resistors, inductors and capacitors	
	52	A.C in resistors, inductors and capacitors	
	53	A.C in R-L series, R-C series, R-L-C series and parallel circuits	
	54	A.C in R-L series, R-C series, R-L-C series and parallel circuits	
	55	A.C in R-L series, R-C series, R-L-C series and parallel circuits	
	56	Power in A. C. Circuits, power triangle.	
6	57	General construction and principle of core type of transformers	
	58	General construction and principle of shell type of transformers	
	59	Emf equation	
	60	transformation ratio of transformer	
	61	Auto transformers	
	62	Basic principle of Electromechanical energy conversion.	
	63	Revision	
	64	Revision	

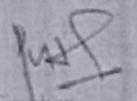

 Signature of
 Teacher
 Avnish Paul
 Lecturer (EE)

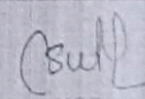
 HOD
 Ev Rajesh Chaudhary
 H.O.D (EE)

Lesson Plan
Session Jan - June 2016
Subject : Mathematics - II Class: Civil Engg., Mech. Engg. & Elect. Engg. 2nd Sem.
Name of the teacher: Parma Nand Sharma

Sr. No.	Week	Name of the Chapter	Contents to be taught	Actual Date when content was taught	Remarks (if any)
1	1 st	Determinants	Introduction, Definition of Determinant, Value of determinant of order 2x2 and concept of minors and cofactors. Problems of 2x2 determinants regarding finding the value, minors and cofactors.		
2		Determinants	Value of determinant of order 3x3. Problems of 3x3 determinants regarding finding the value, minors and cofactors. Sarrus method to find the value of 3x3 determinant. Properties of Determinants.		
3		Determinants	Problems to evaluate the value of determinants without expanding, i.e., by using properties of determinants. Application of Determinants in solving a system of non-homogeneous & Non-homogeneous linear equations in two and three variables, i.e., Cramer's Rule.		
4		Determinants	Application of Determinants in solving a system of homogeneous linear equations in two and three variables, i.e., Cramer's rule. And problems of solving a system of homogeneous linear equations.		
5	2 nd	Matrices	Introduction, Definition of Matrices, Order of a Matrix, Types of Matrices, i.e., Square Matrix, Row matrix, Column Matrix, Zero Matrix, Diagonal Matrix, Scalar Matrix and Unit Matrix, Equal Matrices and operation on Matrices, i.e., Addition and Subtraction of two Matrices. Problems related to Equal Matrices and operation on Matrices, i.e., Addition and Subtraction of two Matrices.		
6		Matrices	Construction of a Matrix whose i th element is given and problems related to commutativity, Associativity, existence of identity and existence of inverse over the operation addition.		
7		Matrices	Matrix Multiplication and problems of matrices related to matrix multiplication, Matrix Polynomial and also problems related to matrix polynomial.		
8		Matrices	Transpose of a matrix, Symmetric and Skew-Symmetric Matrices. Problems related to express a square matrix as sum of symmetric and skew-symmetric matrix.		
9	3 rd	Matrices	Adjoint and Inverse of a Matrix. Problems related to find adjoint and inverse of a Matrix.		
10		Matrices	Matrix Method to solve a system of non-homogeneous linear equations and problems related to matrix method.		
11		Matrices	Matrix Method to solve a system of homogeneous linear equations and problems related to matrix method.		
12		Matrices and Determinants	Miscellaneous Problems related to Matrices and Determinants.		
13	4 th	Matrices and Determinants	Revision of the unit.		
14		Integral Calculus	Introduction, Definition and basic formulae of integrations and simple problems.		
15		Integral Calculus	Integration by the method substitution and problems based on this method.		
16		Integral Calculus	Integration by the method partial fraction (for linear factors only) and problems based on this method.		
17	5 th	Integral Calculus	Integration by the method by parts and problems based on this method.		
18		Integral Calculus	Revision to prepare the students for class test.		
19		Integral Calculus	Problems of integration to be solved by the method integrating by parts.		
20		Integral Calculus	Integration of Trigonometric functions by using trigonometric formulae.		
21	6 th	Integral Calculus	Various Problems of integration.		
22		Integral Calculus	Some special methods of integrating trigonometric functions.		
23		Integral Calculus	Definite integral, Definite integral as limit of a sum and simple problems related to definite integrals.		
24		Integral Calculus	Properties of Definite Integrals and problems based on properties of definite integrals.		
25	7 th	Integral Calculus	Problems to evaluate definite integrals.		
26		Integral Calculus	Standard formulae to evaluate special type of trigonometric integrals.		
27		Integral Calculus	Various Problems of integration.		
28		Integral Calculus	Various Problems of integration.		
29	8 th	Integral Calculus	Application of integration to find the area under the curve and problems.		
30		Integral Calculus	Simple problems on evaluation of area bounded by a curve and axis.		
31		Integral Calculus	Application of integration to calculate volume of a solid formed by revolution of an area about axis.		
32		Integral Calculus	Mixed problems of application of integration.		
33	9 th	Integral Calculus	Revision of the chapter Application of integration.		
34		Integral Calculus	Revision of the chapter Application of integration.		
35		Integral Calculus	Revision of the chapter Application of integration.		
36		Integral Calculus	Revision of the chapter Application of integration.		
37	10 th	Straight Line	Introduction, Slope of a Straight line, Condition for Parallel and Perpendicular lines and equation of a straight line in different forms, i.e., point slope form, slope intercept form, intercept form and two points form, normal form. Simple problems related to write the equation of straight lines.		
38		Straight Line	Reduction of the general equation of a straight line to various standard lines and various related problems.		
39		Straight Line	Angle between two lines, condition of concurrency of three lines and related problems.		
40		Straight Line	Problems related to find the equation of a line which is parallel/perpendicular to the given line, problems related to find the point of intersection of two straight lines.		
41	11 th	Straight Line	Revision of the chapter.		
42		Straight Line	Revision of the chapter.		
43		Circle	Definition, equation of a circle in different forms, i.e., standard form, central form, general form, diameter form and related problems.		
44		Circle	Miscellaneous Problems related to Straight lines and circles. Revision of Straight lines and circles.		

Circle	Definition, equation of a circle in different forms, i.e., standard form, central form, general form diameter form and related problems.		
Circle	Miscellaneous Problems related to Straight lines and circles .Revision of Straight lines and circles		
Circle	Miscellaneous Problems related to Straight lines and circles .Revision of Straight lines and circles		
Circle	Revision of the chapter		
Circle	Revision of the chapter		
Circle	Revision of the chapter		
Conics	Definition, Standard form and problems related to Parabola		
Conics	Definition, Standard form and problems related to Ellipse		
Conics	Definition, Standard form and problems related to Hyperbola.		
Conics	Miscellaneous Problems related to Parabola, Ellipse and Hyperbola .		
Conics	Revision of the unit(Parabola, Ellipse and Hyperbola).		
Conics	Revision of the chapter		
Conics	Revision of the chapter		
Conics	Revision of the chapter		
Differential Equations	Introduction , Definition and Type of differential equations, Order and Degree of a Differential Equation		
Differential Equations	Linear and Non-linear Differential Equations and related problems.		
Differential Equations	Formation of Differential equation and related problems.		
Differential Equations	Solution of first order and first degree differential equation by variable separable method.		
Differential Equations	Homogeneous equations and solution of homogenous equations		
	Revision to prepare the students for Final Examination		
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	Revision to prepare the students for Final Examination		


Teacher


HOD
Applied Sci & Hum

MECHANICAL ENGINEERING (SEMESTER - 2ND)

S.NO.	MONTH	WEEK	DATE	CONTENT (THEORY)	REMARKS
1	JAN.	5TH	27,29,31	Unit – I Basics of mechanics and force system Significance and relevance of Mechanics, Applied mechanics, Statics, Dynamics.	
2	FEB.	1st	1	Space, time, mass, particle, flexible body and rigid body.	
		2nd	3,5,7,8	Scalar and vector quantity, Units of measurement (SI units) - Fundamental units and derived units. Force – unit, representation as a vector and by Bow's notation, characteristics and effects of a force, Principle of transmissibility of force, Force system and its classification.	8(HOLIDAY)
		3rd	10,12,14,15	Resolution of a force - Orthogonal components of a force, moment of a force, Varignon's Theorem.	
		4th	17,19,21,22	Composition of forces – Resultant, analytical method for determination of resultant for concurrent, non-concurrent and parallel co-planar force systems – Law of triangle, parallelogram and polygon of forces.	
		5th	24,26,28	Unit- II Equilibrium Equilibrium and Equilibrant, Free body and Free body diagram, Analytical and graphical methods of analyzing equilibrium.	
3	MARCH	1st	1	Lami's Theorem – statement and explanation, Application for various engineering problems. Types of beam, supports (simple, hinged, roller and fixed) and loads acting on beam (vertical point load, uniformly distributed load), Beam reaction for cantilever, simply supported beam with or without overhang – subjected to combination of Point load and uniformly distributed load.	8(HOLIDAY)
		2nd	3,5,7,8	Beam reaction graphically for simply supported beam subjected to vertical point loads only.	
		3rd	10,12,14,15		CLASS TEST-I
		4th	17,19,21,22		
		5th	24,26,28,29,31	Unit- III Friction Friction and its relevance in engineering, types and laws of friction, limiting equilibrium, limiting friction, co-efficient of friction, angle of friction, angle of repose, relation between co-efficient of friction and angle of friction.	
4	APRIL	1st	2,4,5	Equilibrium of bodies on level surface subjected to force parallel and inclined to plane. Equilibrium of bodies on inclined plane subjected to force parallel to the plane only.	
		2nd	7,9,11,12		12(HOLIDAY)
		3rd	14,16,18,19		
		4th	21,23,25,27	Unit- IV Centroid and centre of gravity Centroid of geometrical plane figures (square, rectangle, triangle, circle, semi-circle, quarter circle).	14,15(HOLIDAY)& CLASS TEST-II
		5th	28,30	Centroid of composite figures composed of not more than two geometrical figures. Centre of Gravity of simple solids (Cube, cuboid, cone, cylinder, sphere, hemisphere) Centre of Gravity of composite solids composed of not more than two simple solids.	29(HOLIDAY)
5	MAY	1st	2,3		
		2nd	5,7,9,10		10(HOLIDAY) & HOUSE TEST
		3rd	12,14,16,17	Unit – V Simple lifting machine Simple lifting machine, load, effort, mechanical advantage, applications and advantages. Velocity ratio, efficiency of machines, law of machine.	12(HOLIDAY)
		4th	19,21,23,24	Ideal machine, friction in machine, maximum Mechanical advantage and efficiency, reversible and non-reversible machines, conditions for reversibility.	
		5th	26,28	Velocity ratios of Simple axle and wheel, Differential axle and wheel, Worm and worm wheel, Simple screw jack.	29(HOLIDAY)

LOVE KISHORE

(Lect. Mech. Engg.)

HOD (ME)

GOVT. POLYTECHNIC SUNDER NAGAR

LESSON PLAN

SUBJECT : ENGINEERING MECHANICS (LAB)

W.E.F. 27 JAN. 2024 - 29 MAY 2025

TRADE: MECHANICAL ENGINEERING

SEMESTER :- 2ND

S. NO	MONTH	WEEK	DATE		CONTENT	REMARKS
			G-II	G-I		
1	JAN	5th	28	30	To study various equipments related to Engineering Mechanics.	
2	FEB	1st	4	6	To study various equipments related to Engineering Mechanics.	
		2nd	11	13	To find the M.A., V.R., Efficiency and law of machine for Differential Axle and Wheel.	
		3rd	18	20	To find the M.A., V.R., Efficiency and law of machine for Differential Axle and Wheel.	
		4th	25	27	To find the M.A., V.R., Efficiency and law of machine for Simple Screw Jack.	
3	MARCH	1st	4	6	Derive Law of machine using Worm and worm wheel.	
		2nd	11	13	Derive Law of machine using Worm and worm wheel.	1st CLASS TEST
		3rd	18	20	Determine resultant of concurrent force system applying Law of Polygon of forces using force table.	
		4th	25	27	Determine resultant of concurrent force system graphically.	
4	APRIL	1st	1	3	Determine resultant of parallel force system graphically.	2nd CLASS TEST
		2nd	8	10	Verify Lami's theorem.	
		3rd	15	17	Study forces in various members of Jib crane.	
		4th	22	24	Study forces in various members of Jib crane.	
5	MAY	5th	29		Determine support reactions for simply supported beam.	HOUSE TEST
		1st	6	1	Obtain support reactions of beam using graphical method.	
		2nd	13	8	Determine coefficient of friction for motion on horizontal and inclined plane.	
		3rd	20	15	Determine centroid of geometrical plane figure.	
		4th	27	22	Determine centroid of geometrical plane figure.	

LOVE KISHORE
Lect. Mech. Engg.

H.O.D
(ME)

LESSON PLAN

Session : Jan. June 2025

Branch: *Mechanical Engg.*

Year/Semester : ~~1st~~ 2nd

Subject : Engineering Workshop Practice (Sheet Metal Shop)

S.No.	Practical	Group I	Group II	Group III	Group IV	Group V	Group VI
1	Demonstration of different sheet metal tools / machines.	14,15/02	18,21/02	22,25/02	28,31/01	01,04/02	07,11/02
2	Demonstration of different sheet metal operations like sheet cutting, bending, edging, end curling, lancing, soldering, brazing, and riveting.	18,21/03	22,25/03	28,29/03	28/02, 01/03	04,07/03	11,15/03
3	One simple job involving sheet metal operations and soldering and riveting.	22,25/04	26/04, 02/05	03,06/05	01,04/04	05,08/04	11,19/04
	REVISION	24,27/05	-	-	04,13/05	04,13/05	20,23/05

(Signature)
W/S Instructor

(Signature)
R K Hans
Foreman Instructor

(Signature)
Tejender Dev Brari
(W/S Supdt. Mech. Engg.)

LESSON PLAN

Session : Jan.- June 2025

Branch: *Mechanical Engineering*

Year/Semester : ~~1st~~ 2nd

Subject : Engineering Workshop Practice (Welding Shop)

S.No.	Practical	Group I	Group II	Group III	Group IV	Group V	Group VI
1	Demonstration of different welding tools / machines.	18,21/02	22,25/02	28,31/01	01,04/02	07,11/02	14,15/02
2	Demonstration on Arc Welding, Gas Welding, MIG, MAG welding, gas cutting and rebuilding of broken parts with welding.	22,25/03	28,29/03	28/02-01/03	04,07/03	11,15/03	18,21/03
3	One simple job involving butt and lap joint.	26/04, 02/05	03,06/05	01,04/04	05,08/04	11,19/04	22,25/04
	REVISION	-	-	09,13/05	16,17/05	20,23/05	24,27/05

W/S Instructor

R K Hans

Foreman Instructor

Depender Dev Brari

(W/S Supdt. Mech. Engg.)

LESSON PLAN

Session : Jan. June 2025

Branch: *Mechanical Engg.*

Year/Semester : 1st / 2nd

Subject : Engineering Workshop Practice (FittingShop)

S.No.	Practical	Group I	Group II	Group III	Group IV	Group V	Group VI
1	Demonstration of different fitting tools and drilling machines and power tools	22,25/02	28,31/01	01,04/02	07,11/02	14,15/02	18,21/02
2	Demonstration of different operations like chipping, filing, drilling, tapping, sawing, cutting etc.	28,29/03	28/02, 01/03	04,07/03	11,15/03	18,21/03	22,25/03
3	One simple fitting job .	08,06/05	01,04/04	05,08/04	11,19/04	22,25/04	26/04,02/05
	REVISION		09,13/05	16,17/05	20,23/05	24,27/05	

W/S Instructor

R K Hans
Foreman Instructor

Telender Dev Brari
(W/S Supdt. Mech. Engg.)

LESSON PLAN

Session : Jan. June 2025

Branch: *Mechanical Engineering*

Year/Semester : ~~1st~~ 2nd

Subject : Engineering Workshop Practice (Carpentry Shop)

S.No.	Practical	Group I	Group II	Group III	Group IV	Group V	Group VI
1	Demonstration of different wood working tools / machines.	28, 31/01	01, 04/02	07, 11/02	14, 15/02	18, 21/02	22, 25/02
2	Demonstration of different wood working processes, like planing, marking, chiseling, grooving, turning of wood etc. involving any one joint like mortise and tenon dovetail, bridle, half lap etc.	28/02, 01/03	04, 07/03	11, 15/03	18, 21/03	22, 25/03	28, 29/03
3	One simple job	01, 04/04	05, 08/04	11, 19/04	22, 25/04	26/04, 02/05	03, 06/05
	REVISION	09, 13/05	16, 17/05	20, 23/05	24, 27/05	-	-

W/S Instructor

R K Hans
(Foreman Instructor)

Tejender Dev Brati
(W/S Supdt. Mech. Engg.)

LESSON PLAN

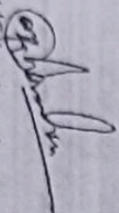
Session : Jan. June 2025

Branch: *Mechanical Engineering*

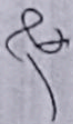
Year/Semester : ~~1st~~ 2nd

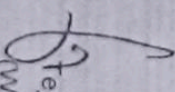
Subject : Engineering Workshop Practice (Smithy Shop)

S.No.	Practical	Group I	Group II	Group III	Group IV	Group V	Group VI
1	Demonstration and explanation of tools & equipment used. Safety measure to be observed in smithy shop.	07,11/02	14,15/02	18,21/02	22,25/02	28,31/01	01,04/02
2	Demonstration of bending operation, up-setting operation.	11/03	18/03	22/03	28/03	28/02	04/03
3	Description and specifications of anvils, swage blocks, hammer etc.	15/03	21/03	26/03	29/03	01/03	07/03
4	Demonstration and description of tongs, fullers.	11/04	22/04	26/04	03/05	01/04	05/04
5	To forge a L-hook	19/04 20/05	25/04 24/05	02/05	06/05	04/04 09/05	08/04 16/05
	REVISION	23/05	27/05	-	-	13/05	17/05


W/S Instructor

Mohinder Kumar


R K Hans
Foreman Instructor


Tejender Dev Brari
(W/S Supdt. Mech. Engg.)