LESSON PLAN

Session : Jan. June 2025
Branch: AUTO ENGG.
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.	29, 30/01	21 & 27/02	19 & 20/2	13 & 14/02	06 & 07/02	31/01 & 05/02
2	Demonstration of different wood working processes, like plaining, marking, chiseling, grooving, turning of wood etc.	28/02 & 05/03	27 & 28/03	21 & 26/03	19 & 20/03	12 & 13/03	06 & 07/03
3	One simple job involving any one Joint like Mortise and Tenon, Dovetail, Bridle and half Lap Joint etc.	02 & 03/04	25 & 30/4	23 & 24/04	16 & 17/04	10 & 11/04	04 & 09
	REVISION	01 & 02/05	28/05	22 & 23/05	16 & 21/05	14 & 15/05	08 & 09/05

W/S Instructor

R K Meena
(Foreman Instructor)

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

1:01 PM

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	31/01 & 05/02	29 & 30/01	21 & 27/02	19 & 20/02	13 & 14/02	06 & 07/02
2	Demonstration of different operations like chipping, filing, drilling, tapping, sawing, cutting etc.	06 & 07/03	28/02 & 05/03	27 & 28/03	21 & 26/03	19 & 20/03	12 & 13/03
3	One simple fitting job .	04 & 09/04	02 & 03/04	25 & 30/04	23 & 24/04	16 & 17/04	10 & 11/04
	REVISION	08 & 09/05	01 & 02/05	28/05	22 & 23/05	16 & 21/05	14 & 15/05

LESSON PLAN

Session : Jan.- June 2025
Branch: AUTO ENGG.
Year/Semester : ~~1st~~ / 2nd ✓
Subject : Engineering Workshop Practice (Welding Shop)

S.No.	Practical	Group I	Group II	Group III	Grou
1	Demonstration of different welding tools / machines.	06&07/02	31/01&5/02	29&30/01	21&2
2	Demonstration on Arc Welding, Gas Welding, MIG, MAG welding, gas cutting and rebuilding of broken parts with welding.	12&13/03	06&07/03	28/02&05/03	27&
3	One simple job involving butt and lap joint.	10&11/04	04&09/04	02&03/04	25&
	REVISION	14&15/05	08&09/05	01&02/05	28/

W/S Instructor

R K Hans
Foreman Instructor

LESSON PLAN

Session : **Jan. June 2025**
Branch: AUTO ENGG.
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.	19 & 20/02	13 & 14/02	06 & 07/02	31/01 & 05/02	29 & 30/01	21 & 27/02
2	Demonstration of bending operation, up-setting operation.	21/03	19/03	12/03	06/03	28/02	27/03
3	Description and specifications of anvils, swage blocks, hammer etc.	26/03	20/03	13/03	07/03	05/03	28/03
4	Demonstration and description of tongs, fullers.	23/04	16/04	10/04	04/04	02/04	25/04
5	To forge a L-hook	24/04	17/04	11/04	09/04	03/04	30/04
	REVISION	22 & 23/05	16 & 21/05	14 & 15/05	08 & 09/05	01 & 02/05	28/05

W/S Instructor
MOHINDER KUMAR

R K Hans
Foreman Instructor

Tejender Dev Brari
(WIS Supdt. Mech. Engg.)

LESSON PLAN

session : Jan. June 2025
Branch: AUTO ENGG.
Year/Semester : ~~1st~~ / 2nd
Subject : Engineering Workshop Practice (Elect.Shop)

S.No.	Practical	Group I	Group II	Group III	Group IV	Group V	Group VI
1	One lamp controlled by one switch by surface conduit wiring	21/02	19/02	13/02	06/02	31/01	29/01
2	Lamp circuits- connection of lamp and socket by separate switches	27/02	20/02	14/02	07/02	05/02	30/01
3	Connection of Fluorescent lamp/tube light.	27/03	21/03	19/03	12/03	06/03	28/02
4	Simple lamp circuits-in- stall bedroom lighting.	28/03	26/03	20/03	13/03	07/03	05/03
5	Simple lamp circuits- install stair case wiring.	25/04	23/04	16/04	10/04	04/04	02/04
6	Demonstration of measurement of Current, Voltage, Power and Energy.	30/04	24/04	17/04	11/04	09/04	03/04
7	Demonstration of advance power tools, pneumatic tools, electrical wiring tools and accessories.	28/05	22/05	16/05	14/05	08/05	01/05
8	Tools for cutting and drilling.	[illegible]	23/05	21/05	15/05	09/05	02/05

GOVT. POLYTECHNIC SUNDERNAGAR

LESSON PLAN

Session - 27th Jan.2025 to 29th May 2025

Name of the Teacher : Suniti Rani

Subject: Mathematics-II

Branch: Auto. Engg. (2nd Sem.)

S. No.	Month	Date	Week	Unit	Name of Chapter	Content to be taught	Remarks
1	January & February	27,28,29, 30,1	1st	1	Determinants	Def.of Det., Minors, co-factors & Laplace's Expansion (Ex-1.1) Properties of Det. (Ex.-1.2)	
2	February	3,4,5,6	2nd	1	Matrices	Solution of the system of equations by Cramer's Rule (Ex-1.3) Matrix , Algebra of Matrix , (Ex- 2.1)	
3	February	10,11,13, 15	3rd	1	Matrices	Multiplication of Matrices , Transpose of Matrix ,Symmetric & Skew Symm. Matrices (Ex-2.2)	
4	February	17,18,19, 20,22	4th	1	Matrices	Adjoint of Matrix, Inverse of Matrix,Solution of System of Linear Equations in three variables (Ex-2.3)	
5	February & March	24,25,27, 1	5th	2	Integral Calculus	Fundamental Integrals(Ex 1.1), Int.by Substitution (Ex-2.1)	
6	March	3,4,5,6	6th	2	Integral Calculus	(Ex-2.2), Integration by Parts Ex-3.1	
7	March	10,11,12, 13,15	7th	2	Definite Integral	Some Special Methods (Ex 2.3) , Int. By Partial Fractions (Ex-4.1)	
8	March	17,18,19, 20,22	8th	2	Definite Integral	Standard Formulae (Ex-4.2), Area of the Curve,Revision of Some Imortant Questions (CLASS TEST -1)	
9	March	24,25,26, 27,29	9th	3	Definite Integral & Straight Line	Volume Under the Curve(Ex-4.3) Equation of a St. Line in Different Forms (Ex-1.1)	
10	April	1,2,3,5	10th	3	Straight Line	Angle B/N Two Line , Any line parallel /perpendicular to the St. Line(Ex-1.2)	
11	April	7,8,9,10	11th	3	The Circle	The Equation of a Circle in Standard Form , Central Form & General Form (Ex-2.1)	
12	April	16,17,19	12th	3	The Circle	Revision (CLASS TEST-2)	
13	April	21,22,23, 24,26	13th	3	The Circle, Conics (Parabola)	The Equation of a Circle in Diameter Form (Ex-2.1), Equation of Parabola (Ex-3.1)	
14	April & May	28,30,1,3	14th	3	Conics (Ellipse & Hyperbola)	Equation of Ellipse (Ex-3.2) , Equation of Hyperbola (Ex-3.3)	
15	May	5,6,7,8	15th		Revision	Revision of Previous Question Papers	
16	May	13,14,15, 17	16th		HOUSE TEST	HOUSE TEST	
17	May	19,20,21, 22,24	17th	4	Differential Equations	Order & Degree of Diffrential Equation Ex(1.1)	
18	May	26,27,28	18th	4	Differential Equations	Order & Degree of Diffrential Equation Ex(1.2)	

Teacher's Signature

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LESSON PLAN

Program Name	**AUTOMOBILE ENGG**
Course/Subject Name	**Applied Physics-II**
Course/Subject Code	**BS-104 & BS-106**
Course/Subject Coordinator Name	**MONIKA**

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		

Monika

	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		

	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	2ndweek of May2025		

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.			

(Signature of Teacher)

(Signature of HOD)

LESSON PLAN

Program Name	Diploma (Auto Engg., Archi Asst., Civil Engg., Computer Engg. & Electrical Engg)
Course/Subject Name	Environmental Science
Course/Subject Code	AU102(Theory)
Course/Subject Coordinator Name	Mrs. Puja Verma

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(Theory)	40	-	60	-

Reference books	(i)	S.C Sharma & M.P. Poonia, Environmental Studies, Khanna Publishing House, New Delhi
	(ii)	C.N.R. Rao, Understanding Chemistry, University Press (India) Pvt. Ltd. 2011
	(iii)	Nazaroff, William, Cohen,Lisa , Envir Engi. Sci. Willy New York, 2000, ISBN10: 0471144940
	(iv)	OP Gupta, Elements of Environmental Pollution Control, Khanna Publishing House New Delhi
	(v)	Keshav Kant , Air Pollution and Control, Khanna Publishing House, New Delhi (2018)
Open Source Software and Website Address	(i)	www.eco-prayer.org
	(ii)	www.cpcp.nic.in
	(iii)	www.indianenvironmentalportal.org.in

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

CO1	Understand the ecosystem and terminology and solve various engineering problems by applying ecosystem knowledge to produce eco friendly products.
CO2	Understand the suitable air, extent of noise pollution , and control measure and acts
CO3	Understand the water and soil pollution , and control measure and acts
CO4	Understand different renewable energy resources and use efficient process of harvesting
CO5	Understand solid waste management , ISO 140000 & environmental management

Teaching Plan:

Lecture No.	Name of topic	Actual date	Remarks
1	**Unit-1 Ecosystem:** Structure of ecosystem, biotic and abiotic component.		
2	Food chain and food web, Aquatic and terrestrial ecosystem (lentic and lotic)		
3	Carbon, nitrogen, sulphur and phosphorus cycle.		
4	Global warming (cause , effect and process), green house effect and ozone depletion.		
5	**Unit-2 Air and Noise Pollution:** Pollution and pollutant (definition), source of air pollution(natural and man made. Air pollutant (types).		
6	Particulate pollutants: Effects and control (Bag filter, cyclone separator & electrostatic precipitator).		
7	Gaseous pollution control (Absorber, catalytic converter).		
8	Effects of air pollution due to refrigerants, I.C, Boiler. Noise Pollution (Source).		
9	Noise Pollution (Measurement and effects),Noise Pollution Rules 2000 (Regulation and control)		
10	**Unit-3 Water and Soil Pollution:** Water pollution(Source), water pollutants types & Characteristics (turbidity, pH, total suspended solids (definition and calculation)).		
11	Water pollutants Characteristics BOD and COD (definition and calculation)).		
12	Waste water treatment (Primary methods: sedimentation & froth floatation).		
13	Secondary methods: Activated Sludge treatment, trickling filter and bioreactor)		
14	Waste water treatment (Tertiary methods: membrane separation technology and RO (reverse osmosis))		
15	Soil pollution (Causes, effect and preventive measure), causes: excessive use of fertiliser, pesticite and insecticide, irrigation and e-waste.		
16	**Unit-4 Renewable Source of energy:** Solar energy (basics).Theory of Flat plate collector (liquid & air).		
17	Importance of coating, advanced collector, solar(pond, water heater, dryer &stills)		
18	Biomass(as energy source, thermal characteristics as fuel, anaerobic digestion). Biogas (production mechanism & utilization and storage).		
19	Wind energy (current status and future prospects, environmental benefits and problems), Wind energy in India.		
20	New energy sources (Need, types), Applications (Hydrogen energy, ocean energy, tidal energy).		
21	Geothermal energy (Concept, origin and power plants)		

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22	**Unit-5 Solid waste management, ISO 14000 & environmental management:** Solid waste source & characteristics (Municipal, e waste, biomedical).		
23	Industries metallic and non metallic waste(lubricants, plastic and rubber).		
24	Collection & disposal : MSW(3R, principles, energy recovery, sanitary landfill), Hazardous Waste.		
25	Air quality act 2004, air pollution control act 1981. Water pollution & control act 1996.		
26	Structure and role of central and state pollution control board. Carbon credit concept, carbon footprint.		
27	Environmental management in fabrication industry.		
28	ISO 14000: Implementation in industry and benefits.		

Assignments:

Assignment serial	Contents of syllabus covered	Proposed	Actual date	Remarks
A-1	Ecosystem, Air and noise Pollution	2nd week of March 2025		
A-2	Water and Soil Pollution, Renewable Source of Energy	2nd Week of April 2025		
A-3	Solid Waste Management, ISO 14000 & Environmental management	1st Week of May		

House Test/Class Test:

House/Class Test	Contents of syllabus covered	Proposed/ Academic Calander	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		

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Signature of Teacher
27/1/2025
(PUJA VERMA)

HOD(ASE-II)

Lesson Plan : Jan-Jun 2025

Sub: FEEE 2nd Semester

Branch: Automobile

Lecture	Topic	Remarks
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	
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.	
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)	
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	
41	Equations of self and mutual inductance	
42	Analogy between electric and magneticcircuits	
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

28/01/25

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28/01/25

GOVT. POLYTECHNIC COLLEGE SUNDERNAGAR-175018 H.P.

LESSON PLAN

Name of Teacher: Vikrant Sharma **Class: Auto Engg.**

Name of Subject: Engineering Mechanics(N-2022) **Sem: 2nd**
2nd

SR. NO.	MONTH	WEEK	DATE	CHAPTER TITLE	CONTENTS	REMARKS
1	January February	5th, 1st,2nd, 3rd,4th	28,31 1,4,7,11 ,14,15	**Basics of Mechanics and Force System**	Significance and relevance of Mechanics, Applied mechanics, Statics, Dynamics. Space, time, mass, particle, flexible body and rigid body. 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. Resolution of a force - Orthogonal components of a force, moment of a force, Varignon's Theorem. Composition of forces – Resultant, analytical method for determination of resultant for concur-rent, non-concurrent and parallel co-planar force systems – Law of triangle, parallelogram and polygon of forces.	
2	February March	5th 1st ,2nd, 3rd	25,28 1,4,7,11 ,15	**Equilibrium**	Equilibrium and Equilibrant, Free body and Free body diagram, Analytical and graphical meth-ods of analyzing equilibrium. Lami's Theorem – statement and explanation, Application for various engineering 50 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. Beam reaction graphically for simply supported beam subjected to vertical point loads	
3	March	4th, 5th	18,21,22 25,28,29	**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. 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.	
4	April	1st,2nd, 4th	1,4,5, 8,11,22, 25,26	**Centroid and Centre of Gravity**	Centroid of geometrical plane figures (square, rectangle, triangle, circle, semi-circle, quarter circle). 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 ofGravity of composite solids composed of not more than two simple solids.	
5	**May**	1st 3rd 4th	2,3,13,1 6,17,20, 23,24	**Simple Lifting Machines**	Simple lifting machine, load, effort, mechanical advantage, applications and advantages. Velocity ratio, efficiency of machines, law of machine. Ideal machine, friction in machine, maximum Mechanical advantage and efficiency, reversible and non-reversible machines, conditions for reversibility. Velocity ratios of Simple axle and wheel, Differential axle and wheel, Worm and worm wheel, Simple screw jack.	**House Test 2nd week of may**

Note:- Lesson plan is tentative and subjected to the availability of time, teacher and students.

GOVT. POLYTECHNIC SUNDER NAGAR

LESSON PLAN : ENGINEERING MECHANICS LAB(G-I) **(SESSION: JAN.-JULY. 2025)**

AUTOMOBILE ENGINEERING (SEMESTER - 2ND)

S.NO.	MONTH	WEEK	DATE	CONTENT (PRACTICAL)	REMARKS
1	JAN.	5TH	NIL	NIL	
2	FEB.	1st	1	1. To study various equipments related to Engineering Mechanics.	
		2nd	8	NIL	8(HOLIDAY)
		3rd	15	2. To find the M.A., V.R., Efficiency and law of machine for Differential Axle and Wheel.	
		4th	22	3. To find the M.A., V.R., Efficiency and law of machine for Simple Screw Jack.	
		5th	NIL	NIL	
3	MARCH	1st	1	4. Derive Law of machine using Worm and worm wheel.	
		2nd	8	NIL	8(HOLIDAY)
		3rd	15	5. Determine resultant of concurrent force system applying Law of Polygon of forces using forcetable.	
		4th	22	6. Determine resultant of concurrent force system graphically.	
		5th	29	7. Determine resultant of parallel force system graphically.	
4	APRIL	1st	5	8. Verify Lami's theorem.	
		2nd	12	NIL	12(HOLIDAY)
		3rd	19	9. Study forces in various members of Jib crane.	
		4th	26	10. Determine support reactions for simply supported beam.	
		5th	NIL	NIL	
5	MAY	1st	3	11. Obtain support reactions of beam using graphical method.	
		2nd	10	NIL	10(HOLIDAY)
		3rd	17	12. Determine coefficient of friction for motion on horizontal and inclined plane.	
		4th	24	13. Determine centroid of geometrical plane figure.	
		5th		REPEAT IF ANY	

24/9/2025

VISHAL CHANDEL
(Lect. Mech. Engg.)

HOD (ME)

GOVT. POLYTECHNIC SUNDER NAGAR

LESSON PLAN : ENGINEERING MECHANICS LAB(G-II) (SESSION: JAN.-JULY. 2025)

AUTOMOBILE ENGINEERING (SEMESTER - 2ND)

	MONTH	WEEK	DATE	CONTENT (PRACTICAL)	REMARKS
1	JAN.	5TH	31	1. To study various equipments related to Engineering Mechanics.	
2	FEB.	1st	NIL	NIL	
		2nd	7	2. To find the M.A., V.R., Efficiency and law of machine for Differential Axle and Wheel.	
		3rd	14	NIL	14(HOLIDAY)
		4th	21	3. To find the M.A., V.R., Efficiency and law of machine for Simple Screw Jack.	
		5th	28	4. Derive Law of machine using Worm and worm wheel.	
3	MARCH	1st	NIL	NIL	
		2nd	7	5. Determine resultant of concurrent force system applying Law of Polygon of forces using forcetable.	
		3rd	14	6. Determine resultant of concurrent force system graphically.	
		4th	21	7. Determine resultant of parallel force system graphically.	
		5th	28	8. Verify Lami's theorem.	
4	APRIL	1st	4	9. Study forces in various members of Jib crane.	
		2nd	11	10. Determine support reactions for simply supported beam.	
		3rd	18	NIL	18(HOLIDAY)
		4th	25	11. Obtain support reactions of beam using graphical method.	
		5th	NIL	NIL	
5	MAY	1st	2	12. Determine coefficient of friction for motion on horizontal and inclined plane.	
		2nd	9	13. Determine centroid of geometrical plane figure.	
		3rd	16	REPEAT IF ANY	
		4th	23	REPEAT IF ANY	
		5th	NIL	NIL	