

LESSON PLAN

Name of Teacher :- Kumari Indu Subject: Applied Physics -II Class: 2nd Semester Civil Engg.

S. No.	Month	Week	Date	Name of Chapter	Contents to be taught	Remarks
1	Jan	5th Week	27,30,31	Wave motion and its applications	Introduction, Wave motion, transverse and longitudinal waves with examples, definitions of wave velocity, frequency and wave length	
2		1st week	1	Wave motion and its applications	wave velocity, frequency and wave length and their relationship,	
3		2nd week	3,6,7	Wave motion and its applications	Sound and light waves and their properties, wave equation ($y = r \sin \omega t$) amplitude, phase, phase difference .Principle of superposition of waves and beat formation	
4	Feb.	3rd week	10,13,14,15	Wave motion and its applications	Simple Harmonic Motion (SHM) definition, expression for displacement, velocity, acceleration, time period, frequency etc. Free, Forced and Resonant Vibrations and their Examples	
5		4th week	17,20,21,22	Wave motion and its applications and Optics	Acoustics of buildings – reverberation, reverberation time, echo, noise, coefficient of absorption of sound, methods to control reverberation time and their applications, and Ultrasonic wave , basic law optics	
6		5th Week	24,27,28	Optics	reflection and refraction, refractive index, Images and image formation by mirrors, lens and thin lenses, lens formula, power of lens, magnification.	
7		1st week	1	Optics	Total internal reflection, Critical angle and conditions for total internal reflection, applications of total internal reflection in optical fibre	
8		2nd week	3,6,7	Optics	Optical Instruments- simple and compound microscope, astronomical telescope in normal adjustment and their magnifying powers	
9	March	3rd week	10,13,15	Optics & Electrostatics	astronomical telescope in normal adjustment and their magnifying powers , Coulomb's law, unit of charge.	Class Test - I
10		4th Week	17,20,21,22	Electrostatics	Electric field, Electric lines of force and their properties	
11		5th week	24,27,28,29	Electrostatics	Capacitor and its working, Capacitance and its units. Capacitance of a parallel plate capacitor, Series and parallel combination of capacitors (related numerical), dielectric and its effect on capacitance, dielectric break down	



12	April	1st week	3,4,5	Current Electricity	Electric Current and its units, Direct and alternating current Resistance and its units, Specific resistance, Conductance, Specific conductance, Series and parallel combination of resistances. Factors affecting resistance of a wire, carbon resistances and colour coding	
13		2nd week	7,10,11	Current Electricity	Ohm's law and its verification, Kirchhoff's laws, Concept of terminal potential difference and Electro motive force (EMF), Heating effect of current, Electric power, Electric energy and its units (related numerical problems), Advantages of Electric Energy over other forms of energy	
14		3rd week	17,19	Electromagnetism	Types of magnetic materials: dia, para and ferromagnetic with their properties, Magnetic field and its units, magnetic intensity, magnetic lines of force, magnetic flux and units, magnetization, Lorentz force (force on moving charge in magnetic field), Force on current carrying conductor	Class Test - II
15		4th Week	21,24,25,26	Semiconductor Physics	Energy bands in solids, Types of materials (insulator, semi-conductor, conductor), intrinsic and extrinsic semiconductors, p-n junction, junction diode and V-I characteristics	
16		5th week	28	Semiconductor Physics	p-n junction, junction diode and V-I characteristics	
17	May	1st week	1,2,3	Semiconductor Physics	Diode as rectifier – half wave and full wave rectifier (centre tapped) .Photocells, Solar cells, working principle and engineering applications	
18		2nd week	House Test			
19		3rd week	15,16,17	Modern Physics	Lasers: Energy levels, ionization and excitation potentials, spontaneous and stimulated emission, population inversion, pumping methods, optical feedback. Types of lasers, Ruby, He-Ne and semiconductor, laser characteristics, engineering and medical applications of lasers	
20		4th Week	19,22,23,24	Modern Physics	laser characteristics, engineering and medical applications of lasers .Fiber Optics: Introduction to optical fibers, light propagation, acceptance angle and numerical aperture, fiber types, applications in, telecommunication	
21		5th week	26	Modern Physics	applications in telecommunication	

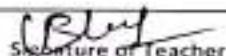

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Govt. Polytechnic Talwar
Distt. Kangra H.P. 176096
Lesson Plan

Engg. Workshop Practice

Name of Teacher:- Rakesh Kumar	Designation:- Workshop Instructor	Group:- G1 and G2	
Name of Lab/- Engineering Workshop Practice	Class/Branch:- Civil Engg. / 2nd Semester		
r. No.	Description of Practical Job	(G1) Date	Date (G2)
1	Carpentry: i) Demonstration of different wood working tools / machines. ii) Demonstration of different wood working processes, like planing, marking, chiseling, grooving, turning of wood etc. iii) One simple job involving any one joint like mortise and tenon dovetail, bridle, half lap etc	28/01/25, 3/02/25, 05/02/25, 11/02/25, 18/02/25, 24/02/25, 03/03/25, 05/03/25, 11/03/25, 17/03/25, 19/03/25, 25/03/25, 01/04/25, 7/04/25, 09/04/25, 21/04/25, 23/04/25, 30/04/25, 06/05/25, 13/05/25, 20/05/25, 25, 26/05/25, 27/05/25	27/01/25, 29/01/25, 04/02/25, 10/02/25, 17/02/25, 19/02/25, 25/02/25, 04/03/25, 10/03/25, 12/03/25, 18/03/25, 24/03/25, 26/03/25, 02/04/25, 08/04/25, 16/04/25, 22/04/25, 28/04/25, 05/05/25, 07/05/25, 19/05/25, 21/05/25, 27/05/25
2	Fitting: i) Demonstration of different fitting tools and drilling machines and power tools ii) Demonstration of different operations like chipping, filing, drilling, tapping, sawing, cutting etc. iii) One simple fitting job involving practice of chipping, filing, drilling, tapping, cutting etc	Same as above	Same as above
3	Smithy Shop*: i) Demonstration and explanation of tools & equipment used. Safety measure to be observed in smithy shop. ii) Demonstration of bending operation, up-setting operation. iii) Description and specifications of anvils, swage blocks, hammer etc. IV) Demonstration and description of tongs, fullers. V) To forge a L-hook	Same as above	Same as above
4	Sheet Metal Working: i) Demonstration of different sheet metal tools / machines. ii) Demonstration of different sheet metal operations like sheet cutting, bending, edging, end curling, flanging, soldering, brazing, and riveting iii) One simple job involving sheet metal operations and soldering and riveting	Same as above	Same as above


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**Govt. Polytechnic Talwar
Distt. Kangra H.P. 176096**
Lesson Plan
Engg. Workshop Practice

Designation:-	Workshop Instructur	Engg. Workshop Practice	
	Rakesh Kumar (Welding)		
Class/Branch:-	/ 2nd Semester		Group:- G1 and G2
Automobile Engg .		Date	Date
Description of Practical job	Carpentry: i) Demonstration of different wood working tools / machines ii) Demonstration of different wood working processes, like planing, marking, chiseling, grooving, turning of wood etc iii) One simple job involving any one joint like mortise and tenon dovetail, bridle, half lap etc.	31/01/2025,07/02,14/02,20/02,22/02,28/02 /03,13/03,20/03,22/03,28/03,03/04,05/04,11/ 04,17,04,24/04,26/04,,02/05,08/05,22/05,24/ 05	30,6,13,15, 27,28,1,7,15, 21,27,24,4,16, 16,19,1,5, 7,4,23, 2,23
Fitting: i) Demonstration of different fitting tools and drilling machines and power tools ii) Demonstration of different operations like chipping, filing, drilling, tapping, sawing, cutting etc iii) One simple fitting job involving practice of chipping, filing, drilling, tapping, cutting etc		Same as above	Same as above
Smithy Shop* i) Demonstration and explanation of tools & equipment used Safety measure to be observed in smithy shop. ii) Demonstration of bending operation, up-setting operation. iii) Description and specifications of anvils, swage blocks, hammer etc. IV) Demonstration and description of songs, fullers V) To forge a L-hook		Same as above	Same as above
Sheet Metal Working: i) Demonstration of different sheet metal tools / machines ii) Demonstration of different sheet metal operations like sheet cutting, bending, edging, end curling, lancing, soldering, brazing, and riveting iii) One simple job involving sheet metal operations and soldering and riveting		Same as above	Same as above

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LESSON PLAN

Name of Teacher :- Kumari Indu Subject: FEEE Class: 2nd Semester Automobile Engg.

S. No.	Month	Week	Date	Name of Chapter	Contents to be taught	Remarks
1	Jan.	5th Week	27,28,29	Overview of Electronic Components & Signals	Passive Active	
2		1st week	1	Overview of Electronic Components & Signals	Components: Resistors, Capacitors, Inductors, Diodes, Transistors, FET, MOS and	
3		2nd week	3,4,5	Overview of Electronic Components & Signals	CMOS and their Applications. Signals: DC/A.C. voltage/current, periodic/non-periodic	
4	Feb.	3rd week	10,11,12	Overview of Electronic Components & Signals	signals, average, rms, peak values, different types of signal waveforms, ideal/non-ideal	
5		4th week	17,18,19,22	Overview of Electronic Components & Signals & Overview of Analog Circuits	voltage/current sources, independent/dependent voltage current sources.	
6		5th Week	24,25	Overview of Analog Circuits	Operational Amplifiers-Ideal Op-Amp,	
7		1st week	1	Overview of Analog Circuits	Practical op-amp, Open loop and closed loop configurations, Application of Op-Amp	
8		2nd week	2,3,4,5	Overview of Analog Circuits	as amplifier, adder, differentiator and integrator.	
9	March	3rd week	10,11,12,13	Overview of Digital Electronics	Introduction to Boolean Algebra, Electronic Implementation of Boolean Operations, Gates-Functional Block Approach.	Class Test - I
10		4th Week	17,18,19,22	Overview of Digital Electronics	Storage elements-Flip Flops-A Functional block approach, Counters: Ripple, Up/Down and decade, Introduction to digital IC Gates (of TTL Type)	
11		5th week	24,25,26,29	Electric and Magnetic Circuits	EMF, Current, Potential Difference, Power	

12	April	1st week	1,2,3	Electric and Magnetic Circuits	Self Energy, MMF, magnetic field, permeability, relative permittivity, leakage factor and B-H curve; Electromagnetic induction; Faraday's law of electromagnetic induction.	
13		2nd week	7,8,9	Electric and Magnetic Circuits	Induction Law & law of Electromagnetic induction; Mutual inductance; Self and mutual inductances; Analogy between electric and magnetic circuits.	
14		3rd week	10,11	A.C. Currents	Code, Frequency, Periodic wave, Amplitude, Angular velocity.	Class Test - II
15		4th week	12,13,23,26	A.C. Currents	RMS value, Average value, Form Factor, Peak Factor, impedance, phase angle, and.	
16		5th week	28,30	A.C. Currents	Power factor, Mathematical and phasor representation of alternating and.	
17	May	1st week	1	A.C. Currents	Impedance, Voltage and Current relationship in Star and Delta connections, A.C. in	
18		2nd week			House Test	
19		3rd week	13,14,17	A.C. Currents	reactive, inductive and capacitive A.C. in R-L series, R-C series, R-L-C series and parallel circuit, Power in A.C. Circuits, power triangle.	
20		6th Week	19,20,21,24	Transformer and Machines	General construction and principle of core and shell type of transformers, Emf equation and transformation ratio of transformer, Auto.	
21		7th week	26,27,28	Transformer and Machines	Transformer, Basic principle of Electromechanical energy conversion	


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Govt. Polytechnic Talwar
Distt. Kangra H.P. 176096
Lesson Plan
(Labs/Workshop)

Name of Teacher:- Kumari Indu		Designation:- Lecturer in Physics	Group	
Name of Lab/Workshop:- FEEE		Class/Branch:- 2nd/ Automobile Engg.		Remarks
Sr. No.	Description of Practical job		Date	
1	Determine the permeability of magnetic material by plotting its B-H curve			
2	Measure voltage, current and power in 1-phase circuit with resistive load		29-1-2025 & 5-2-2025	
3	Measure voltage, current and power in R-L series circuit			
4	Determine the transformation (K) of 1-phase transformer.			
5	Connect single phase transformer and measure input and output quantities		19-02-2025 & 5-3-2025	
6	Make Star and Delta connection in induction motor starters measure the line and phase values.			
7	Identify various passive electronic components in given circuits		12-03-2025 & 19-3-2025	
8	Connect resistors in series and parallel combination on breadboard			
9	Connect capacitors in series and parallel combination on breadboard and measure its value using multimeter			
10	Identify various active electronic components in given circuits		26-03-2025 & 02-4-2025	
11	Use multimeter to measure the value of given resistor			
12	Use LCR-Q tester to measure the value of given capacitor			
13	Determine the value of given resistor using digital multimeter to confirm with colour code		9-04-2025 & 16-4-2025	
14	Test PN-junction diodes using digital multimeter.			
15	Test the performance of P-N junction Diode			
16	Test the performance of Zener Diode			
17	Test the performance of LED		23-04-2025 & 30-4-2025	
18	Identify three terminal of transistor using Digital Multimeter			
19	Test a performance of NPN Transistor			
20	Determine the current gain of CE Transistor configuration			
21	Test a performance of Transistor switch circuit		7-05-2025 & 14-5-2025	
22	Test a performance of Transistor amplifier circuit.			
23	Test Op Amp as amplifier and integrator.		21-05-2025 & 28-5-2025	

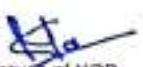
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Govt. Polytechnic Talwar
Department of Applied sciences and humanities

LESSON PLAN

S. No.	Month	Week	Date	Subject: Engg. Mechanics	Class: 2nd sem Semester Auto Engg.
				Name of Chapter	Contents to be taught
1	January	5th week	27,28,29	Unit- 1 Basics of Mechanics & Force System	Significance and relevance of Mechanics, Applied mechanics, Matrix, Dynamics, Space, time, mass, particle, Rigid body and rigid body, Scalar and vector quantity. Units of measurement (SI units) – Fundamental units and dimensions, 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.
2		1st week	1,3,4,5		
3		2nd week	10,11,15		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 concurrent, non-concurrent and parallel co-planar force systems - Law of triangle, parallelogram and polygon of forces.
4		3rd week	17,18,19,22		Equilibrium and Equilibrium, Free body and Free body diagram, Analytical and graphical methods of analysing equilibrium, Lami's Theorem - statement and explanation.
5	February	4th week	24,25	Unit- 2 Equilibrium	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.
6		1st week	1,3,4,5		
7		2nd week	10,11,12,15		subjected to combination of Point load and uniformly distributed load.
8		3rd week	17,18,19,22		Beam reaction graphically for simply supported beam subjected to vertical point loads only.
9	March	4th week	24,25,26,29	Unit- 3 Friction	Friction and its relevance in engineering, types and laws of friction, limiting equilibrium, limiting friction, coefficient of friction, angle of friction, angle of repose.
10		1st week	1,2,5		relation between coefficient 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.
11		2nd week	7,8,9		Centroid of geometrical plane figures (square, rectangle, triangle, circle, semi-circle, quarter circle).
12		3rd week	16,19		Centroid of composite figures composed of not more than two geometrical figures.
13	April	4th week	21,22,23,26	Unit 4 - Centre of Gravity	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.
14		5th week	28,30		Simple lifting machine, load, effort, mechanical advantage, applications and advantages.
15		1st week	3,		Velocity ratio, efficiency of machines, law of machine, Ideal machine, Friction in machine, maximum Mechanical advantage and efficiency.
16		2nd week			PTM
17	May	3rd week	13,14,17,19,20	Unit- 5 Simple Lifting Machines	ratios for reversibility, Velocity ratios of Simple axis and wheel, Differential axle and wheel,
18		4th week	21,24,26,27,28		Worm and worm wheel, Simple screw jack;


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**Govt. Polytechnic Talwar
Distt. Kangra H.P. 176096**

Lesson Plan

Session: January 2025 - June 2025

Name of Teacher:- Gaurav Puwari	Designation:-Lecturer (Auto. Engg.)	Group:- All	
Name of Lab/Workshop:- Engineering Mechanics	Class/Branch:- 2nd Sem/Auto Engg.		
Sr. No.	Name of Practical	Date	Remarks
1	To study various equipment related to Engineering Mechanics.	27/1,3/2	
2	To find the M.A., V.R., Efficiency and law of machine for Differential Axle and Wheel.	2/10/2025	
3	To find the M.A., V.R., Efficiency and law of machine for Simple Screw Jack.	2/17/2025	
4	Derive Law of machine using Worm and worm wheel	2/24/2025	
5	Determine resultant of concurrent force system applying Law of Polygon of forces using force table.	3/3/2025	
6	Determine resultant of concurrent force system graphically.	3/10/2025	
7	Determine resultant of parallel force system graphically.	3/17/2025	
8	Verify Lami's theorem.	24-Mar	
9	Study forces in various members of Jib crane.	7-Apr	
10	Determine support reactions for simply supported beam.	21-Apr	
11	Obtain support reactions of beam using graphical method.	28-Apr	
12	Determine coefficient of friction for motion on horizontal and inclined plane.	19-May	
13	Determine centroid of geometrical plane figure	26-May	

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LESSON PLAN

Name of Teacher :- Sangeeta Sharma Subject: Mathematics -II Class: 2nd Semester Civil Engg.

S. N.	Month	Week	Date	Name of Chapter	Contents to be taught	Remarks
1	January	5th week	28,29,30,31	UNIT - I: Determinants and Matrices	Elementary properties of determinants up to 3rd order, consistency of equations, Crammer's rule	
2		1st week	01/02/2025		Algebra of matrices, Inverse of a matrix,,	
3		2nd Week	4,5,6,7		matrix inverse method to solve a system of linear equations in 3 variables	
4	February	3rd week	11,12,14,15	UNIT - II: Integral Calculus	Integration as inverse operation of differentiation. Simple integration by substitution	
5		4th week	15,19,20,21,22		by parts and by partial fractions (for linear factors only)	
6		5th week	25,27,28		use of formulae for solving problems where m and n are positive integers	
7		1st week	01/03/2025		Applications of integration for i) simple problems on evaluation of area bounded by a curve and axes.	
8		2nd Week	11,12,13,15		ii.) Calculation of Volume of a solid formed by revolution of an area about axes.	
9	March	3rd week	18,19,20,21,22		Equation of straight line in various standard forms (without proof)	Class Test - I
10		4th week	25,26,27,28,29		Intersection of two straight lines, angle between two lines.	
11		5th week	26,27,28		Parallel and perpendicular lines, perpendicular distance formula.	
12		1st week	1,2,3,4,5		General equation of a circle and its characteristics.	
13	April	2nd Week	8,9,10,11	UNIT - III: Co-Ordinate Geometry	To find the equation of a circle, given: i. Centre and radius, ii. Three points lying on it and iii. Coordinates of end points of a diameter;	
14		3rd week	16,17,19		Definition of conics (Parabola, Ellipse, Hyperbola) their standard equations without proof	Class -Test -II
15		4th week	22,23,24,25,26		House Test	
16		5th week	30/04/2025		Problems on conics when their foci, directrices or vertices are given.	
17		1st week	1,2,3			House Test
18	May	2nd Week	6,7,8,9	UNIT-IV : Differential Equations		
19		3rd week	13,14,15,16,17		Solution of first order and first degree differential equation by variable separable method (simple problems).	
20		4th week	20,21,22,24		Solution of first order and first degree differential equation by variable separable method (simple problems).	
21		5th week	27,28		Solution of first order and first degree differential equation by variable separable method (simple problems).	


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LESSON PLAN

Name of Teacher - Sangeeta Sharma Subject: Environmental Science Class: 2nd Semester Civil Engg

S.No.	Month	Week	Date	Name of Chapter	Contents to be taught	Remarks
1	January	5th week	26/01/2025	UNIT - I Ecosystem	Structure of ecosystem.	
2		6th week	02/02/2025		Biotic & Abiotic components Food chain and Food web.	
3		7th week	04/02/2025		Aquatic (Plastic and Land) and Terrestrial ecosystem Carbon, Nitrogen, Sulphur, Phosphorus cycle.	
4		8th week	11.15		Global warming, Causes, effects, process, Green House Effect, Ozone depletion.	
5		9th week	18.22		Definition of pollution and pollutant, Natural and manmade sources of air pollution (Refrigerants, I.C., Boiler).	
6		10th week	25/02/2025		Gaseous Pollution Control, Absorber, Catalytic Converter, Effects of air pollution due to Refrigerants, I.C., Boiler.	
7	February	1st week	01/03/2025	Unit- 2 Air and Noise Pollution	Noise pollution, sources of pollution, measurement of pollution level, Effects of Noise pollution, Noise pollution (Regulations and Control Rules, 2000)	
8		2nd Week	04/03/2025		Sources of water pollution, Types of water pollutants, Characteristics of water pollutants, Tur. Brtly, pH, Total suspended solids, total solids BOD and COD.	
9		3rd week	11.15		Definition, calculation, 62 Waste Water Treatment, Primary methods: sedimentation, froth floatation, Secondary meth- ods: Activated sludge treatment.	Class Test - I
10		4th week	18.22		Trickling filter, Bio-reactor, Tertiary Method: Membrane separation technology, RO (reverse osmosis).	
11		5th week	25.29		Causes, Effects and Preventive measures of Soil Pollution, Causes-Excessive use of fertilizers, Pesticides and insecticides, Irrigation, E-Waste.	
12		6th week	01.04.2025	Unit- 3 Water and Soil Pollution	Solar Energy, Basics of solar energy, Flat plate collector (Liquid & Air), Theory of flat plate col. sector, Importance of coating, Advanced collector, Solar pond, Solar water heater, solar dryer, Solar still.	
13	March	7th week	08.04/2025		Biomass, Overview of biomass as energy source, Thermal characteristics of biomass as fuel, Anaerobic digestion, Biogas production mechanism, Utilization and storage of biogas, Wind energy, Current status and future prospects of wind energy, Wind energy in India, Environmental benefits and problem of wind energy.	
14		8th week	15/04/2025		New Energy Sources, Need of new sources, Different types new energy sources, Applications of Hydrogen energy, Ocean energy resources, Tidal energy conversion, Liquefied, import and power plants of geothermal energy.	Class Test - II
15		9th week	22.26		Solid waste generation- Sources and characteristics of Municipal solid waste, E-waste, bio-medical waste, Metallic wastes and Non-Metallic wastes (Rubbers, plastics, rubber) from industries.	
16		10th week	03/05/2025	Unit- 5 Solid Waste Management, ISO 14000 & Environmental Management	Collection and disposal, MW (MSW), principles, energy recovery, sanitary landfills, Hazards.	
		11th week	06/05/2025		Waste Air quality act 2004, air pollution control act 1983 and water pollution and control act 1976.	House Test
		12th week	13.17		Structure and role of Central and state pollution control board.	
		13th week	20.24		Concept of Carbon Credit, Carbon Footprint, Environmental management in fabrication industry (ISO14000- Implementation in industries, Benefits.	
		14th week	27/05/2025		Concept of Carbon Credit, Carbon Footprint, Environmental management in fabrication industry (ISO14000- Implementation in industries, Benefits.	


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LESSON PLAN

Program Name	AUTOMOBILE, ENGG.
Course/Subject Name	Applied Mathematics-II
Course/Subject Code	BS102
Course Subject / Co-ordinator Name	Kharatti Lal
Course Category	BS
Number of Credits	L- 4, DCS – 1, P - 0

Evaluation scheme

S.No.	Subject Name	Study scheme - (Hrs/Week)	Marks in evaluation scheme			
			Internal Assessment		External Assessment	
			Theory	Practical	Theory	Practical
1.	Applied Mathematics-II	5	40	00	60	00
<u>Reference books</u>						
Elementary Engineering Mathematics by BS Grewal						
Applied mathematics by Dr. RD Sharma						
Engineering Mathematics by Dass Gupta						
Applied Mathematics, vol I &II by SS Sabharwal & Sunita Jain						
<u>Applied mathematics by S. K. Sharma</u>						

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

CO1	Understand the determinants and their uses.
CO2	Understand the matrices and their uses.
CO3	Understand the concept of Integration

CO4	Application of integration
CO5	Understand the coordinate geometry.
CO6	Understand the concept of differential equation..
CO7	Able to solve the questions of Integrations and its application.

Teaching Plan:

S. No.	Name of topic	Proposed date	Actual date	Remarks
UNIT - I	Determinants: Elementary properties of determinants up to 3rd order, Consistency of equations & Properties of Determinants . Crammer's rule. Matrix: Algebra of matrices, Inverse of a matrix, Matrix inverse method to solve a system of linear equations in 3 variables . Adjoint of square Matrix. Inverse of a square matrix.Properties of the inverse of a Matrix. Solution of system of Linear Equations by Matrices.	27/01/2025, 28,29,30, 31, 03/02/2025 04,05,06, 07,10,11, 12,13,14, 17,18,19, 20,21,24, 25,27,28, 03/03/2025/ 04,05,06,07,		

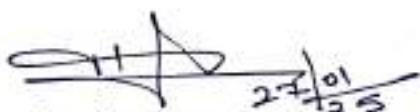
<u>UNIT - II</u>	<p>Integral calculus: Simple Integration by substitution method, by parts, by partial fractions (for linear factors only). Use of formulas $\int_0^{\frac{\pi}{2}} \sin^n x dx$, $\int_0^{\frac{\pi}{2}} \cos^n x dx$ & $\int_0^{\frac{\pi}{2}} \sin^n x \cos^m x dx$</p> <p>Applications of integration: Simple problem on evaluation of area bounded by a curve and axes.</p> <p>Calculation of Volume of a solid formed by revolution of an area about a curve</p>	10/03/2025 ,11,12, 13,17,18, 19,20,21 24,25,26 27,28, 01/04/2025, 02, 03, 04, 07, 08, 09, 09/04/2025, , 11,14,15,16,		
<u>UNIT - III</u>	<p>Co-Ordinate Geometry: Equations of straight line in various standard forms (without proof), intersection of two straight lines, angle between two lines, Perpendicular distance formula.</p> <p>General equation of a circle and its characteristics, To find the equation of a circle, given: * Centre and radius,</p> <p>Three points lying on it,</p> <p>Coordinates of end points of diameter. Definition of conics (Parabola, Ellipse, Hyperbola) their standard Equations without proof. Problems on conics when their foci, directrices and vertices are given</p>	17/04/2025, 21, 22, 23, 24, 25, 26, 27,28,29,30, 01/05/2025, 02,05,06, 07,08,09, 13/05/2025 14/05/2025 15,16,		
<u>UNIT - IV</u>	<p>Differential Equations:</p> <p>Solution of first order and first degree differential equation by variable</p>	19,20, 21, 22,23,26, 27,28,29,		

Assignments:

Assignment serial	Contents of syllabus covered	Proposed date	Actual date	Remarks
A-1	Determinants & Matrices	01/03/2025		
A-2	Integration	01/04/2025		
A-3	Differential Equation /Co-ordinate Geometry	01/05/2025		

House Test / Class Test: between :(27th JAN To 29 th May – 2025)

House/Class Test	Contents of syllabus covered	Proposed date	Actual date	Remarks
CT-1	30% of the syllabus	05/03/2025, 4th week of February		
CT-2	Next 30% of the syllabus	05/04/2025, 1 st week of April		
House Test	80% of the syllabus	05/05/2025, 1 st week of May		


Teacher's signature
27/01/2025

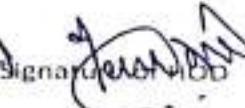

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Govt. Polytechnic Talwar
Distt. Kangra H.P. 176096

Lesson Plan
(Labs/Workshop)

Name of Teacher:-	Rakesh Kangra	Designation:- M.S.I.- Welding	Group	Remarks
Name of Lab/Workshop:-	Engg workshop Practice	Class/Branch:- Automobile Engg 2nd year		
Sr. No.	Description of Practical job	Date (G.I)	(G.II)	
(i)	Demonstration of different welding tools, and machines.	31/01, 1/2, 14/2 20/2, 22/2	20, 6, 13 1, 2, 13 15, 21 2, 2	Jan to Feb. Feb to March.
(ii)	Demonstration on dc welding, Gas welding, Mig, Mag welding, gas cutting and debulking of broken parts with welding.	28/2, 6/3, 13/3 22/3, 22/3	22, 23 1/3, 7/3 15	March to April
(iii)	One simple Job involving Butt Joint.	28/3, 3/4, 5/4 11/4, 17/4	21/3, 27, 29 4, 10, 16 (April to May)	
(iv)	One simple Job involving Lap Joint	24/4, 26/4 2/5, 8/5, 22/5 28/5	19/4, 25/4, 1/5 3/5, 1/5, 23/5	
	Revision			

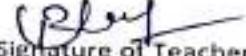

Signature of Teacher

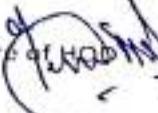

Signature Head of Department

Govt. Polytechnic Talwar
Distt. Kangra H.P. 176096

Lesson Plan
(Labs/Workshop)

Name of Teacher:-	Rakesh Kumar	Designation:- M.S.T. Welding	Group G-I	Remarks G-II
Name of Lab/Workshop:-	Engg. Workshop Practice	Class/Branch:- CIVIL Engg -II 2nd Sem		
Sr. No.	Description of Practical Job	Date Jan to Feb.		
i,	Demonstration of different welding tools, and machines.	$\frac{29}{2}, \frac{3}{2}, \frac{5}{2}$ $\frac{11}{2}, \frac{18}{2}, \frac{24}{2}$ (March.)	$\frac{27}{1}, \frac{29}{1}, \frac{1}{2}$ $\frac{10}{2}, \frac{17}{2}$ $\frac{19}{2}$	
ii)	Demonstration on Arc Welding Gens Welding, mig, mag welding, gas Cutting and Deburring of Broken parts with welding.	$\frac{3}{3}, \frac{5}{3}, \frac{11}{3}$ $\frac{17}{3}, \frac{19}{3}, \frac{25}{3}$ (April)	$\frac{25}{2}, \frac{4}{3}, \frac{10}{3}$ $\frac{12}{3}, \frac{18}{3}, \frac{24}{3}$	
iii)	One simple job involving Butt Joint.	$\frac{1}{4}, \frac{7}{4}, \frac{9}{4}$ $\frac{21}{4}, \frac{23}{4}, \frac{30}{4}$ (May)	$\frac{26}{3}, \frac{2}{4}, \frac{8}{4}$ $\frac{16}{4}, \frac{22}{4}$ $\frac{28}{4}$	
iv)	One simple job involving Lap joint.	$\frac{6}{5}, \frac{13}{5}, \frac{20}{5}$ $\frac{26}{5}, \frac{28}{5}$	$\frac{5}{5}, \frac{7}{5}, \frac{19}{5}$ $\frac{21}{5}, \frac{27}{5}$	
		Revision		


Signature of Teacher


Signature of Head