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	Feb	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 ωt) amplitude, phase, phase difference ,Principle of superposition of waves and beat formation	
4		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	March	1st week	1	Optics	Total internal reflection, Critical angle and conditions for total internal reflection, applications of total internal reflection in optical fibe	
8		2nd week	3,6,7	Optics	Optical Instruments- simple and compound microscope, astronomical telescope in normal adjustment and their magnifying powers	
9		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 taped) ,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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Signature of Teacher

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

Engg. Workshop Practice

Name of Teacher:- Rakesh Kumar	Designation:- Workshop Instructur	Group.- G1 and G2
Name of Lab/: Engineering Workshop Practise	Class/Branch:- Civil Engg. / 2nd Semester	

Pr. 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 plaining, marking, chiseling, grooving, turning of wood etc.iii) One simple job involving any one joint like mortise and tenon dovetail, bridle, half lap etc	28/01/25,3/02/25,05/02/25,11/02/25,18/02/25,24/02/25,03/03/25,05/03/25,11/03/25,17/03/25,19/03/25,25/03/25,01/04/25,7/04/25,09/04/25,21/04/25,23/04/25,30/04/25,06/05/25,13/05/25,20/05/25,26/05/25,28/05/25	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, fancing, soldering, brazing, and riveting iii) One simple job involving sheet metal operations and soldering and riveting	Same as above	Same as above

Signature of Teacher

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

Designation:- Workshop Instructur

Rakesh Kumar (Welding)

Class/Branch:- / 2nd Semester

Automobile Engg.

Group:- G1 and G2

Description of Practical job	Date	Date
Carpentry: i) Demonstration of different wood working tools / machines ii) Demonstration of different wood working processes, like planning, marking, chiseling, grooving, turning of wood etc iii) One simple job involving any one joint like mortise and tenon dovetail, bridle, half lap etc	31/01/2025,07/02,14/02,20/02,22/02,28/0206/03,13/03,20/03,22/03,28/03,03/04,05/04,11/04,17,/04,24/04,26/04,.02/05,08/05,22/05,24/05	30/1, 6/2, 13/2, 15/2, 21/2, 27/2, 28/2, 1/3, 7/3, 13/3, 15/3, 21/3, 22/3, 28/3, 4/4, 5/4, 11/4, 12/4, 18/4, 19/4, 25/4, 26/4, 2/5, 23/5
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 tongs, 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

Signature of Teacher

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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	Feb.	1st week	1	Overview of Electronic Components & Signals	Components: Resistances, Capacitors, Inductors, Diodes, Transistors, FET, MOS and	
3		2nd week	3,4,5	Overview of Electronic Components & Signals	CMOS and their Applications. Signals: DC/AC, voltage/current, periodic/non- periodic	
4		3rd week	10,11,15	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	March	1st week	1	Overview of Analog Circuits	Practical op amp, Open loop and closed loop configurations, Application of Op-Amp	
8		2nd week	3,4,5	Overview of Analog Circuits	as amplifier, adder, differentiator and integrator.	
9		3rd week	10,11,12,15	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	and Energy, MMF, magnetic force, permeability, Reluctance, leakage factor and BH curve. Electromagnetic induction, Faraday's laws of electromagnetic	
13		2nd week	7,8,9	Electric and Magnetic Circuits	induction, Lenz's law, Dynamically induced emf, Statically induced emf, Expression of self and mutual inductance. Analogy between electric and magnetic circuits	
14		3rd week	10,11	A.C. Circuits	Cycle, Frequency, Periodic time, Amplitude, Angular velocity,	Class Test - II
15		4th Week	21,22,23,26	A.C. Circuits	RMS value, Average value, Form Factor Peak Factor, impedance, phase angle, and	
16		5th week	28,30	A.C. Circuits	power factor. Mathematical and phasor representation of alternating and	
17	May	1st week	1	A.C. Circuits	pulsed. Voltage and Current relationships in Star and Delta connections. A.C. in	
18		2nd week	House Test			
19		3rd week	13,14,17	A.C. Circuits	resistive, inductive and capacitive. A.C. in R-L series, R-C, R-L-C series and parallel circuits. Power in A.C. Circuits, power triangle	
20		4th 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 transformers, Auto	
21		5th week	26,27,28	Transformer and Machines	transformers. 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	Remarks
Name of Lab/Workshop:- FEEE		Class/Branch:- 2nd/ Automobile Engg.		
Sr. No.	Description of Practical job		Date	
1	Determine the permeability of magnetic material by plotting its B-H curve		29-1-2025 & 5-2-2025	
2	Measure voltage,current and power in 1- phase circuit with resistive load			
3	Measure voltage,current and power in R-L series circuit			
4	Determine the transformation (K) of 1-phase transformer.		19-02-2025 & 5-3-2025	
5	Connect single phase transformerand measure input and output quantities			
6	Make Star and Delta connection in induction motor startersmeasurethe line and phase values.		12-03-2025 & 19-3-2025	
7	Identfy various passive electronic components in given circuits			
8	Connect resistors in series and parallel combination on			
9	Connect capacitors in series and parallel combination on breadboard and measure its value using multimeter		26-03-2025 & 02-4-2025	
10	Identfy various active electronic components in given circuits			
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 registor 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 o fZenor Diode		23-04-2025 & 30-4-2025	
17	Test the performance of LED			
18	Indentify three terminal of transistor using Digital Multimeter			
19	Test a performance of NPN Transistor			
20	Determine the current gain of CE Transistor configuration		7-05-2025 & 14-5-2025	
21	Test a performace of Transistor switch circuit			
22	Test a performance of Transistor amplifier circuit.		21-05-2025 & 28-5-2025	
23	Test Op Amp as amplifier and integrator.			

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Govt. Polytechnic Talwar

Department of Applied sciences and humanities

LESSON PLAN

Name of Teacher :- Pushap raj Sharma Subject: Engg. Mechanics Class: 2nd sem Semester Auto Engg.

S. No.	Month	Week	Date	Name of Chapter	Contents to be taught	Remarks
1	January	5th week	27,28,29	Unit- 1 Basics of Mechanics & Force System	Significance and relevance of Mechanics, Applied mechanics, Statics, Dynamics. Space, time, mass, particle, Flexible body and rigid body. Scalar and vector quantity.	
2	February	1st week	1,3,4,5		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	
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	Unit- 2 Equilibrium	Equilibrium and Equilibrant, Free body and Free body diagram, Analytical and graphical methods of analysing equilibrium. Lami's Theorem – statement and explanation.	1st Assignment
5		4th week	24,25		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).	
6	March	1st week	1,3,4,5		Beam reaction for cantilever, simply supported beam with or without overhang –	
7		2nd week	10,11,12,15		subjected to combination of Point load and uniformly distributed load.	2nd assignment
8		3rd week	17,18,19,22		Beam reaction graphically for simply supported beam subjected to vertical point loads only.	class test 1
9		4th week	24,25,26,29	Unit- 3 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,	
10	April	1st week	1,2,5		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.	
11		2nd week	7,8,9	Unit 4 - Centre of Gravity	Centroid of geometrical plane figures (square, rectangle, triangle, circle, semicircle, quarter circle).	
12		3rd week	16,19		Centroid of composite figures composed of not more than two geometrical figures.	2nd class test
13		4th week	21,22,23,26		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	Unit- 5 Simple Lifting Machines	Simple lifting machine, load, effort, mechanical advantage, applications and advantages	3rd Assignment
15	May	1st week	3,		Velocity ratio, efficiency of machines, law of machine, Ideal machine, friction in machine, maximum Mechanical advantage and efficiency.	PTM
16		2nd week		House Test		
17		3rd week	13,14,17,19,20	Unit- 5 Simple Lifting Machines	conditions for reversibility. Velocity ratios of Simple axle 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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Signature of Teacher

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 forcetable.	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	February	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		3rd week	11,13,14,15	UNIT - II: Integral Calculus	Integration as inverse operation of differentiation. Simple integration by substitution	
5		4th week	18,19,20,21,22		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	March	1st week	01/03/2025		Applications of integration for i). Simple problem 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		3rd week	18,19,20,21,22	UNIT - III: Co-Ordinate Geometry	Equation of straight line in various standard forms (without proof)	Class Test - I
10		4th week	25,26,27,28,29		inter section of two straight lines, angle between two lines.	
11		5th week	26,27,28		Parallel and perpendicular lines, perpendicular distance formula.	
12	April	1st week	1,2,3,4,5		General equation of a circle and its characteristics.	
13		2nd Week	8,9,10,11		To find the equation of a circle, given: i. Centre and radius,	
14		3rd week	16,17,19		ii. Three points lying on it and iii. Coordinates of end points of a diameter;	Class -Test -II
15		4th week	22,23,24,25,26		Definition of conics (Parabola, Ellipse, Hyperbola) their standard equations without proof	
16		5th week	30/04/2025		House Test	
17	May	1st week	1,2,3		Problems on conics when their foci,	
18		2nd Week	6,7,8,9		directrices or vertices are given.	House Test
19		3rd week	13,14,15,16,17	UNIT-IV : Differential Equations	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.N.	Month	Week	Date	Name of Chapter	Contents to be taught	Remarks
1	January	5th week	28/01/2025	Unit - 1 Ecosystem	Structure of ecosystem.	
2	February	1st week	01/02/2025		Biotic & Abiotic components Food chain and food web	
3		2nd Week	04/02/2025		Aquatic (Lentic and Lotic) and terrestrial ecosystem(Carbon, Nitrogen, Sulphur, Phosphorus cycle	
4		3rd week	11.15		Global warming, Causes, effects, process, Green House Effect, Ozone depletion	
5		4th week	18.22	Unit - 2 Air and Noise Pollution	Definition of pollution and pollutant, Natural and manmade sources of air pollution (Refriger- ants, I.C., Boiler),	
6		5th week	25/02/2025		Gaseous Pollution Control: Absorber, Catalytic Converter, Effects of air pollution due to Refrigerants, I.C., Boiler	
7		1st week	01/03/2025		Noise pollution: sources of pollution, measurement of pollution level, Effects of Noise pollu- tion, Noise pollution (Regulation and Control) Rules, 2000	
9		2nd Week	04/03/2025	Unit- 3 Water and Soil Pollution	Sources of water pollution, Types of water pollutants, Characteristics of water pollutants for- bidity, pH, total suspended solids, total solids BOD and COD	
10	March	3rd week	11.15		Definition, calculation, 62 Waste Water Treatment: Primary methods: sedimentation, froth floatation, Secondary meth- ods: Activated sludge treatment,	Class Test - I
11		4th week	18.22		Trickling filter, Bioreactor, Tertiary Method: Membrane sepa-ration technology, RO (reverse osmosis)	
12		5th week	25.29		Causes, Effects and Preventive measures of Soil Pollution: Causes Excessive use of fertilizers, Pesticides and insecticides, Irrigation, E-Waste	
13	April	1st week	1.5	Unit- 4 Renewable sources of Energy	Solar Energy: Basics of Solar energy, Flat plate collector (Liquid & Air), Theory of flat plate col- lector, importance of coating, Advanced collector, Solar pond, Solar water heater, solar dryer, Solar stills,	
14		2nd Week	08/04/2025		Biomass: Overview of biomass as energy source, Thermal characteristics of biomass as fuel, Anaerobic digestion, Biogas production mechanism, Utilization and stor-age of biogas, Wind energy: Current status and future prospects of wind energy, Wind energy in India, Environmental benefits and problem of wind energy,	
		3rd 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	Concept, origin and power plants of geothermal energy	Class -Test -II
15		4th week	22.26	Unit 5 Solid Waste Management, ISO 14000 & Environmental Management	Solid waste generation: Sources and characteristics of: Municipal solid waste, E- waste, bio medical waste Metallic wastes and Non-Metallic wastes (lubricants, plastics, rubber) from industries.	
16	May	1st week	03/05/2025		Collection and disposal: MSW (3R, principles, energy recovery, sanitary landfill), Hazardous	
		2nd Week	06/05/2025		Waste Air quality act 2004, air pollution control act 1981 and water pollution and control act 1974.	House Test
		3rd week	13.17		Structure and role of Central and state pollution control board.	
		4th week	20.24		Concept of Carbon Credit, Carbon Footprint, Environmental management in fabrication industry (ISO14000: implementation in industries, Benefits.	
		5th week	27/05/2025		Concept of Carbon Credit, Carbon Footprint, Environmental management in fabrication industry (ISO14000: implementation in industries, Benefits.	

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Signature of Teacher

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
Reference books			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			
			Applied mathematics by S. K. Sharma			

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,		

UNIT - II	Integral calculus: Simple Integration by substitution method, by parts, by partial fractions (for linear factors only). Use of formulas $\int_0^{\frac{\pi}{2}} sin^n x\, dx$, $\int_0^{\frac{\pi}{2}} cos^n x\, dx$ & $\int_0^{\frac{\pi}{2}} sin^n x\, cos^m x\, dx$ Applications of integration: Simple problem on evaluation of area bounded by a curve and axes. Calculation of Volume of a solid formed by revolution of an area about a curve	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.		
UNIT - III	Co-Ordinate Geometry: Equations of straight line in various standard forms (without proof), inter section of two straight lines, angle between two lines, Perpendicular distance formula. General equation of a circle and its characteristics, To find the equation of a circle, given: * Centre and radius, Three points lying on it, 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	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,		
UNIT - IV	Differential Equations: Solution of first order and first degree differential equation by variable	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, 1st week of April		
House Test	80% of the syllabus	05/05/2025, 1st week of May		

27/01/25

Teacher's signature

HOD signature

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

Name of Teacher:- Rakesh Kumar	Designation:- I.S.I- Welding	Group	Remarks
		(G-I	(G-II
Name of Lab/Workshop:- Engg W/Shop Practice	Class/Branch:- Automobile Engg 2nd Sem		

Sr. No.	Description of Practical job	Date (G-I) Jan to Feb.	(G-II)
(i)	Demonstration of different welding tools, and machines.	31/01, 7/2, 14/2, 20/2, 22/2. Feb to March.	30/1, 6/2, 13/2, 15/2, 21/2
(ii)	Demonstration on Arc welding, Gas welding, MIG, Mag welding, gas cutting and rebuilding of broken parts with welding.	28/2, 6/3, 13/3, 20/3, 20/3 March to April	27/2, 28/2, 1/3, 7/3, 15/3
(iii)	One Simple Job involving butt joint.	28/3, 3/4, 5/4, 11/4, 17/4 (April to May)	21/3, 27/3, 29/3, 4/4, 10/4, 16/4
(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, 7/5, 23/5
	Revision		

Signature of Teacher

Signature of HOD

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

Name of Teacher:- Rakesh Kanoj	Designation:- I.I.S.T. Welding	Group G-I	Remarks G-II
Name of Lab/Workshop:- Engg. Wkshop 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.	$\frac{28}{2}, \frac{3}{2}, \frac{5}{2}$ $\frac{11}{2}, \frac{18}{2}, \frac{24}{2}$ (March)	$\frac{27}{1}, \frac{29}{1}, \frac{4}{2}$ $\frac{10}{2}, \frac{17}{2}$ $\frac{19}{2}$
(ii)	Demonstration on Arc welding Gas welding, Mig, Mag welding, gas cutting and Rebuilding 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.	$\frac{1}{4}, \frac{7}{4}, \frac{7}{4}$ $\frac{21}{4}, \frac{23}{4}, \frac{30}{4}$ (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 HOD