DEPARTMENT OF MECHANICAL ENGINEERING
GOVERNMENT CO-ED POLYTECHNIC, JAGDALPUR
Near RTO office Aadawal, Jagdalpur, Bastar (C.G) - 494001
Email: mechanical.gcpb@gmail.com

DEPARTMENT OF MECHANICAL ENGINEERING

LESSON PLAN

SESSION: APR - MAY 2025

Name of Faculty: Rakesh Kumar Ray	
Subject: Applied Mechanics	
Subject Code: 2000275(037)	
Semester: Diploma 2nd Sem	
Text Books	Applied Mechanics: Khurmi, R. S.
	Engineering Mechanics: Ramamrutham
Ref. Books	Applied Mechanics: R. K. Rajput
	Engineering Mechanics: Sadhu Singh

TOTAL CLASS SCHEDULED:	85

Faculty Signature (Rakesh Kumar Ray)	HOD Signature

LECT. N0.	UNIT N0.	TOPIC TO BE COVERED	PLANNED DATE	REMARKS
		UNIT-1 FUNDAMENTAL AND RESOLUTION OF FORCES	15.03.2025 - 10.04.2025	
1	1	Definition of Mechanics,		
2		Statics, Dynamics- Kinetics, Kinematics		
3		Concept of space, mass, particle, body, rigid body		
4		fundamental units, derived unit,		
5		Force concept definition unit, graphical representation		
6		scaler and vector quantity		
7		Concept of system of forces, non-coplanar, coplanar,		
8		Concurrent non-concurrent parallel forces etc.		
9		Composition and Resolution of forces		
10		Free body diagrams, law of parallelogram		
11		Varignon's theorem Lami's theorem		
12		Equilibrium of Coplanar concurrent and parallel forces		
13		conditions of equilibrium, applications.		
14		Moment of a force and Couple, properties of couple.		

LECT. N0.	UNIT N0.	TOPIC TO BE COVERED	PLANNED DATE	REMARKS
		UNIT-2 CENTROID AND MOMENT OF INERTIA	11.04.2025 - 30.04.2025	
15	2	Location of Centroid		
16		Location of Centre of gravity		
17		Centroid of regular plane		
18		Centroid of compound areas		
19		Center of Gravity of simple section		
20		Center of Gravity of simple geometry I section		
21		Center of Gravity of simple geometry T section		
22		Center of Gravity of simple geometry L section		
23		Center of Gravity of simple geometry Z section		
24		Center of Gravity of simple solid body		
25		Moment of Inertia of plane areas		
26		Moment of Inertia of simple geometry		
27		Moment of Inertia of plane I, Z, T, L section		
28		Moment of Inertia of plane I, Z section		
29		Perpendicular axis theorem and		
30		Parallel axis theorems		

LECT. N0.	UNIT N0.	TOPIC TO BE COVERED	PLANNED DATE	REMARKS
		UNIT-3 FRICTION	01.05.2025 - 25.05.2025	
31	3	Concept of friction		
32		Rough surface friction		
33		smooth surface friction		
34		Types of friction		
35		coulombs law of friction		
36		Coefficient of friction		
37		Friction on horizontal plane		
38		friction on inclined surface		
39		Methods of reducing friction		
40		Screw and Nut friction,		
41		Friction on journal bearing		
42		angle of friction angle of repose		

LECT. N0.	UNIT N0.	TOPIC TO BE COVERED	PLANNED DATE	REMARKS
		UNIT-4 KINEMATICS AND KINETICS	26.05.2025 - 15.06.2025	
43	4	Kinematics in Cartesian		
44		Kinematics in polar coordinates		
45		Concept of speed, velocity		
46		Concept of speed, acceleration		
47		Concept of radial and transvers velocity		
48		Particle under uniform acceleration		
49		Particle under non uniform acceleration		
50		Tangential and normal acceleration.		
51		Angular displacement,		
52		angular velocity		
53		angular acceleration		
54		Motion under gravity.		
55		Kinetics of particle, motion under constant forces		
56		Newton's Laws of motion		
57		Momentum and energy principle		
58		Impulses and angular momentum		

LECT. N0.	UNIT N0.	TOPIC TO BE COVERED	PLANNED DATE	REMARKS
		UNIT-5 WORK POWER AND ENERGY		
59		Work- Definition and unit of work done		
60		Force displacement diagram		
61		torque, work done by torque		
62		Power-Definition and unit of power		
63	5	I.H.P and B.H.P. of engine	16.05.2025 - 05.07.2025	
64		Equation of H.P in terms of Torque and R.P.M.		
65		Energy- Definition and unit of energy		
66		Kinetics and Potential energy		
67		Relation between Heat and mechanical work		
68		Relation between Electrical and Mechanical Energy		

LECT. N0.	UNIT N0.	TOPIC TO BE COVERED	PLANNED DATE	REMARKS
		UNIT-6 SIMPLE LIFTTING MACHINE AND TRANSMISSION OF POWER		
69		Concept of load and efforts		
70		Mechanical advantages, velocity ratio and		
71		efficiency of lifting machine		
72		Relationship between MA, VR and efficiency		
73		Law of Machine of lifting machine		
74		Reversibility of lifting machine		
75		Study of Machines- types of lifting machine		
76	6	Differential wheel and axel	06.07.2025 - 25.07.2025	
77		Simple Screw Jack		
78		Pulley block		
79		System of pulleys		
80		Simple and compound levers.		
81		Transmission of power through belt		
82		Flat belt V-belt timer belt		
83		Rope Gears (spure gear, helical gear etc)		
84		Worm and Worm wheel Rack and pinions		
85		Simple and compound gear train		

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DEPARTMENT OF MECHANICAL ENGINEERING

LESSON PLAN

SESSION: APR - MAY 2025

Name of Faculty: Rakesh Kumar Ray	
Subject: Engineering Drawing	
Subject Code: 2000277(037)	
Semester: Diploma 2nd Sem	
Text Books	**Engineering Drawing: N. D. Bhatt**
	Engineering Drawing: K Venugopal, Prabhu Raja
Ref. Books	**Engineering Drawing: Mc Graw Hill**
	Engineering Drawing: S.R. Singhal, O. P. Saxena

TOTAL CLASS SCHEDULED:	**81**

Faculty Signature (Rakesh Kumar Ray)

HOD Signature

LECT. N0.	UNIT N0.	TOPIC TO BE COVERED	PLANNED DATE	REMARKS
		UNIT-1 BASICS OF ENGINEERING DRAWING	15.03.2025 - 05.04.2025	
1	1	Drawing instruments: Use of drawing board, mini drafter, compass, divider, Drawing sheet etc.		
2		sheet layout, title block, folding of drawing sheets,		
3		Lettering and numbering and its importance.		
4		single stroke letters, upper case and lower-case letters		
5		single stroke letters, upper case and lower-case letters		
6		general procedure for lettering and numbering.		
7		Lines- Different types of lines.		
8		Scales - full scale, reduced scale and enlarged scale.		
9		Plain scale		
10		Diagonal scale		
11		Diagonal scale		
12		Dimensioning – requirement of dimensioning.		
13		Dimensioning systems, Methods of dimensioning, important		

LECT. N0.	UNIT N0.	TOPIC TO BE COVERED	PLANNED DATE	REMARKS
		UNIT-2 CONSTRUCTION OF CONIC CURVES	06.04.2025 - 25.04.2025	
14	2	Conic Sections- Definition of locus, focus, directrix, axis etc.		
15		Definition: ellipse, parabola and hyperbola.		
16		Ellipse: Construction of ellipse by concentric circle method,		
17		Ellipse: Construction of ellipse by Oblong or method,		
18		Ellipse: Construction of ellipse by Arc of circle method		
19		Ellipse: Construction of ellipse by Eccentricity method		
20		Parabola: Construction of parabola by rectangle method,		
21		Parabola: Construction of parabola by parallelogram method		
22		Parabola: Construction of parabola by Tangent method		
23		Parabola: Construction of parabola by eccentricity method		
24		Hyperbola: Construction of hyperbola by rectangular method		
25		Hyperbola: Construction of hyperbola by eccentricity method		

LECT. N0.	UNIT N0.	TOPIC TO BE COVERED	PLANNED DATE	REMARKS
		UNIT-3 PROJECTION OF POINTS, LINES AND PLANES		
26		Projection of points: Concept of quadrant,		
27		first angle and third angle projection.		
28		Projection of points – points on different quadrants		
29		Projection of points – points on the reference planes.		
30		Projection of straight lines – Line in the first quadrant		
31		Projection of straight lines – Line on the reference Planes,		
32		Projection of straight lines – Line perpendicular to one plane and parallel to another plane,	26.04.2025 - 15.05.2025	
33	3	Projection of straight lines – Line inclined to one plane and parallel to the other plane,		
34		Projection of straight lines – Line parallel to both the planes		
35		Projection of straight lines – Line inclined to both the planes.		
36		Projection of Planes: Concept of planes,		
37		Projection of planes parallel to one of the reference planes.		
38		Projection of plane inclined to one reference plane and perpendicular to another.		
39		Projection of plane inclined to both the reference planes.		

LECT. N0.	UNIT N0.	TOPIC TO BE COVERED	PLANNED DATE	REMARKS
		UNIT-4 ORTHOGRAPHIC PROJECTION AND SECTION OF SOLIDS		
40		Introduction, First angle projection, Third angle projection,		
41		Symbols and comparison of first and third angle projections.		
42		Projection of simple objects – front/ top/ right/ left side view.		
43		Practice problem for Orthographic projection.		
44		Concept of sectioning planes, Concept of Auxiliary planes.		
45		Types of sections and true shape of section.		
46		Projections of Solids: Types of solids,	16.05.2025 - 30.05.2025	
47	4	Projections of Solids: projections of solids in simple position,		
48		Projections of Solids: projections of solids with axes inclined to one of the reference planes and parallel to the other,		
49		Projections of solids with axes inclined to both H.P. and the V.P.		
50		Practice problem for solid projection		
51		Practice problems for drawing projections		
52		Section of solids, Practice problems for section of solids.		

LECT. N0.	UNIT N0.	TOPIC TO BE COVERED	PLANNED DATE	REMARKS
		UNIT-5 ISOMETRIC PROJECTION		
53		Isometric axis, lines, and planes,		
54		isometric scale,		
55		isometric projection,		
56		isometric drawing.		
67		isometric drawing Views.		
58		Isometric projection of objects containing rectangular shapes	01.06.2025 - 20.06.2025	
59	5	Isometric projection of objects containing circular, cylindrical shapes		
60		Isometric projection of slots on sloping and plane Surfaces.		
61		Practice problem of Isometric projection		
62		Practice problem of Isometric projection		
63		Practice problem of Isometric projection		
64		Practice problem of Isometric projection		

LECT. N0.	UNIT N0.	TOPIC TO BE COVERED	PLANNED DATE	REMARKS
		UNIT-6 COMPUTER AIDED DRAFTING		
65		Basics of AutoCAD		
66		AutoCAD interface, screen layout,		
67		starting commands from menus,		
68		Coordinate system,		
69		Angular measurements,		
70		Point specification,		
71		Drawing aids - Grid, Snap, Ortho, Snap,		
72		Drawing aids - Units, Limits, Layers, Line type.		
73		Creating basic drawings Drawing objects - lines.	21.06.2025 - 15.07.2025	
74	6	Creating basic drawings Drawing objects - arc		
75		Creating basic drawings Drawing objects - circles		
76		Creating basic drawings Drawing objects - ellipses		
77		Creating basic drawings Drawing objects - polyline and polygons.		
78		Modify commands - erase, copy		
79		Modify commands - move, rotate		
80		Modify commands - scale, stretch, array.		
81		Printing and plotting of drawings.		

Lesson Plan

Course Title:- Computer Fundamental and Applications		Course Code:- 2000276 (022)	
Branch:- Mechanical + Metaalurgy		Semester:- 2nd	
Lecture no.	**Topics**	**No. of Classes Required**	**Remarks**
1	Introduction about the subject	1	1st Unit (L+P= 17)
2	Computer Block diagram in details	5	
3	Data Reprentation	2	
4	Concept of Hardware and Software	2	
5	Operating System	1	
6	Operations of Windows OS	2	
7	Windows OS Utilities	2	
8	Green IT Concepts	2	
9	Overview of word processor	2	2nd Unit (L+P=20)
10	Working with text	2	
11	Formatting Paragraphs	2	
12	Page settings	2	
13	Spelling and Grammatical checks	1	
14	Table and its options	5	
15	Working with pictures	2	
16	Using Drawings & Objects	4	
17	Introduction to spread sheet	2	3rd Unit (L+P=20)
18	Concept of hyperlink	1	
19	Introduction to formatting	2	
20	Understanding Formulas	2	
21	Understanding Functions	10	
22	Introduction to charts	2	
23	Printing in spread sheet	1	
24	Introduction to multimedia	3	4th Unit (L+P=19)
25	Work with text boxes	1	
26	Introduction to formatting	3	
27	work with fonts	1	
28	Work with slides	3	
29	Using Drawings & Objects	1	
30	Work with clip art & pictures	2	
31	Find and replace text, correcting your spelling	1	
32	Use Table	1	
33	work with video	1	
34	Use animation, sound and effects	2	
35	Types of network	2	5th Unit (L+P= 20)
36	Internet, Intranet, VPN,Wi-Fi, bluetooth, switches	2	
37	Brief of Internet connectivity	1	
38	Devices and Services	4	
39	Web Browsers, URL, Website, http	2	
40	Internet Services	3	
41	Introduction to Virus & Antivirus	3	
42	Overview of Cloud Computing	3	
		96	

Vijay Kumar
sarthi
Lecturer (CSE)

Lesson Plan

Course Title:- Cummunication skills-2		Course Code:-2000271(046)	
Branch:- Electrical,Mechnical,Metallurgy		Semester:- 2nd	
Lecture no.	Topics	No. of Classes Required	Remarks
1	Introduction about the subject	1	1st Unit
2	fundamental of English grammer	5	
3	auxillary	2	
4	verbs	2	
5	modifiers	1	
6	adverbial phrases	2	
7	degree	2	
8	narration	2	
9	static features of non verbal	2	2nd Unit
10	communication	2	
11	distance	2	
12	posture movement	2	
13	physical contact	1	
14	dynamic features	5	
15	mannerism,head & hand movement	2	
16	Eye to eye contact,facial expressions	4	
17			3rd Unit
18	Paragraph writing	2	
19	Letter writing	2	
20	Business letters	2	
21	Letters of Enqury,complaints	5	
22			
23			
24	Report writing	2	4th Unit
25	Project report	3	
26	Notice of purpose,Format,qualities	3	
27	Purposes of mail	2	
28	Format of mail	3	
29			
30			
31			
32			
33			

Singh.

GOVT. CO-ED POLYTECHNIC BASTAR, JAGDALPUR

DEPARTMENT OF HUMANITIES & SCIENCE

LESSON PLAN (2nd semester, Jan-June 2025)

Course Name : **APPLIED CHEMISTRY**			
Name of Subject teacher: **TEMAN LAL BARLE**			
Course Code : **2000278(011)**			
Lecture plus Tutorial/Week : 3			
Branch : **ELECTRICAL**			
Semester: 2			

LESSON PLAN

Week	Lecture no.	chapter/unit no.	Topic/Subtopics to be covered under this unit	No. of period planned	Remarks if any
1st	1	UNIT- 1	Atomic Structure:- Electronic structure of atoms, Discovery of electron, proton and neutron	1	
	2		Atomic Structure:- Electronic structure of atoms, proton and neutron	1	
	3		Rutherford model	1	
2nd	4		Bohrs scheme of distribution of electrons.	1	
	5		De-Broglie equation, Heisenberg uncertainty Principle	1	
	6		Auffbaus rule, Paulis exclusion priciple, Hunds rule of maximum multiplicity	1	
3rd	7		Quantum number	1	
	8		Chemical bonding:- Theory of Chemical Bonding, Types of Bonds	1	
	9		Ioninc Bon, Covalent Bond	1	
4th	10		Coordinate Bond, Hydrogen Bond	1	
	11	UNIT- 2	Water Treatment:- Types of Hardness, Determination of hardness using EDTA method	1	
	12		Boiler Problems- Scale and Sludge	1	
5th	13-14		Boiler Problems- priming & foaming, corrosion, Caustic Embrittlement	2	
	15		Water Softening- lime-soda process	1	
6th	16		Zeolite process	1	
	17		Ion exchange process	1	
	18		Muncipal water treatment	1	
7th	19		Polymer:- Classification of Polymer ,Types of rubber, Processing of Natural & Synthetic rubber	1	

Week	Lecture no.	chapter/unit no.	Topic/Subtopics to be covered under this unit	No. of period planned	Remarks if any
	34 20-21		Properties & Applications of Buna-N, Thiokol, Neoprene	1 2	
8th	22	UNIT-3	Electrochemistry	1	
	23		Elecrical Conductance in Metal & Electrolyte	1	
	24		Hydrogen electrode	1	
9th	25		Calomel electrode	1	
	26		Glass electrode	1	
	27		Conductomeric Titration	1	
10th	28		Batteries:- Types of batteries with examples	1	
	29		Electric Insulator	1	
	30		Thermocouple alloy	1	
11th	31	UNIT-4	Metallurgy- Mineral, Ore, Gaungue, Flux, Slag.	1	
	32-33		Metallurgical process of iron and copper	2	
12th	34		Metal Alloys:- Properties of metal like copper, Aluminium, Tungsten, Platinum, Nickel	1	
	35		Ferrous Alloys	1	
	36		Non Ferrous alloy	1	
13th	37		Cement - Setting and Hardening	1	
	38		Cement:- Portland cement- Constituent	1	
	39	UNIT-5	Fuel & Combustion:- Fuel- Calorific Value and ignition Temperature, Classification	1	
14th	40		Fuel -Classification	1	
	41-42		Solid Fuels	2	
15th	43		Carbonization of coke by Otto Hofmanns oven	1	
	44		Liquid fuels	1	
	45		Lubricants, Paints and Varnishes:- Lubricant	1	
16th	46		Paints and Varnishes	1	
	47-48		Paints and Varnishes- Constituents, Properties and uses	2	
	Total Periods			48	

Total No. of periods as per Lesson Plan - 48

Subject Teacher : TEMAN LAL BARLE
(Name and signature)

GOVT. CO-ED POLYTECHNIC BASTAR, JAGDALPUR

DEPARTMENT OF HUMANITIES & SCIENCE

LESSON PLAN (2nd semester, Jan-June 2025)

Course Name : Environmental Engg. & Sustainable Development (EE & SD)

Name of Subject teacher: **TEMAN LAL BARLE**

Course Code : **2000273(020)**

Lecture plus Tutorial/Week : 3

Branch : **MECHANICAL+METALLURGY**

Semester: 2

LESSON PLAN

Lecture no.	chapter/unit no.	Topic/Subtopics to be covered under this unit	No. of period planned	Remarks if any
1	UNIT- 1	**Water pollution and Air pollution:** Introduction to environment and environment pollution	1	
2		**water pollution :** Introduction, classification of water pollutants	1	
3-4		sources of water pollution, adverse effect of water pollution, control of water pollution	2	
5		Physical and chemical standard of domestic water as per Indian standard.	1	
6		**Air pollution:** Introduction, classification of air Pollutants,	1	
7-8		Sources of air Pollutants, Effect of air pollution on human plant, animal.	2	
9-10		Air monitoring system and air pollution control	2	
11-13	UNIT- 2	**Soil pollution:** introduction, sources, adverse effec and control measures of soil pollution	3	
14-15		**Noise pollution:** Introduction, sources, effects and control of noise pollution	2	
16-17		**Thermal pollution:** introduction, causes, effects and control of thermal pollution	2	
18-20		**Radioactive pollution:** Introduction, sources, effects and control of radioactive pollution	3	
21	UNIT-3	**Sustainable Development :** Concept of sustainable development and types of resources	1	
22		Principles of conservation of energy and management	1	
23-24		Need of Renewable energy Growth of renewable energy in India and the world Concept of waste management and recycling	2	

25		**Clean Technologies** Introduction: Clean technology Types of Energy- Conventional and Non-conventional Sources of Energy	1	
26-27		**Solar Power** Features of solar thermal and PV systems Types of solar cookers and solar water heaters	2	
28		Hydel Energy , wind energy - advantages and limitations	1	
29-30		**Biomass Energy:** Types of Biomass Energy Sources Energy content in biomass of different types Types of Biomass conversion processes Biogas production	2	
31	**UNIT-4**	**Envi. Impact Assessment (EIA) :** Public Participation in EIA	1	
32-33		EIA documentation	2	
34		Case studies on EIA	1	
35-36		EIA scope & steps	2	
37-38		**EIA process:** EIA report, EIA Gazette notification	2	
39-40		**EIA action plan:** EIA implementation , EIA directives, Follow-up	2	
41-42	**UNIT-5**	**Social Issues And The Environment :** Water conservation, Rain water Harvesting, Watershed management	2	
43-46		Acid Rain and its effects, Climate Change, Ozone Layer Depletion, Green house effect, Global Warming	4	
47		**Solid waste management:** causes, effects and control measures of urban and industrial waste, importance ofm 3R's in waste management.	1	
48		**Environment protection Act 1986:** importance and objective	1	
Total Periods			48	

Total No. of periods as per Lesson Plan - 48

Subject Teacher : **TEMAN LAL BARLE**
(Name and signature)

GOVERNMENT CO-ED POLYTECHNIC,JAGDALPUR BASTAR(C.G)

DEPARTMENT OF SCIENCE AND HUMANITY

LESSON PLAN

Session: - **MAY-JUNE 2025**
Semester: - **2 nd**
Session start date as per University Calendar: -
Course Name: - Applied Physics
Course Code: - 2000274 (015)
Name of Subject teacher:- **AAYUSHI DEWANGAN**

Unit-1.0 Units, Measurement and Error analysis

Class Room Instruction (CI)	No. of Periods	Laboratory Instruction (LI)	No. of Periods	Remark
1.1 Unit of physical quantity 1.11 Fundamental andderived unit	1	LE1.1 Use Vernier Calipers to measure the dimensions of givenobject in significant figures and estimate errors precisely.	2	
1.2 Unit system 1.21 CGS, MKS and SI (a) Advantages/disadvant ages of SI unit system (b) Seven basic and Supplementary units.	2	LE1.2 Use Screw gauge tomeasure the dimensions of givenobject in significant figures and estimate errors precisely	2	
1.3 Dimensional Analysis 1.31 Dimensional formula and equations. 1.32 Applications of Dimensional equations. 1.33 Numerical problemson Dimensional analysis.	1	LE1.3 Use Spherometer tomeasure the dimensions of given objects in significantfigures and estimateerror precisely.	2	
1.4 Measurement 1.41 Accuracy, Precisionand Errors. 1.42 Absolute, Relativeand percentage Error.	2			
1.5 Significant figures androunding off.	2			

Number of periods planned (L+W+P) = 12
Number of periods actually taken :

Unit-2.0 Force and General Properties of matter

Class Room Instruction (CI)	No. of Periods	Laboratory Instruction (LI)	No. of Periods	Remar
2.1 Force 2.11 Types of Forces 2 Conservative and non-conservative forces 3 Frictional Forces, Limiting static and dynamic friction. 4 Centripetal and centrifugal force and 5 their illustration. 5.1 Gravitational Force 'G' and 'g' and their interrelation, Factors affecting 'g'	2	LE2.1 Determine g using simple pendulum. LE2.2 Determine terminal velocity of given object by Stoke's law apparatus.	2	
2.2 Elasticity 2.21 Hooke's law (a) Elastic limit and elastic fatigue 2.22 Modulii of elasticities (a) Young' s modulus, Bulk Modulus, Shear modulus of rigidity	1	LE2.3 Determine surface tension of water by Capillary rise method.	2 2	
2.3 Surface Tension 2.31 Molecular force, surface energy, effect of temperature 2.32 Cohesive and adhesive force 2.33 Excess pressure and its illustration, rise of liquid in capillary tube	1			
2.4 Viscosity 2.41 Coefficient of viscosity, Newton's law of viscosity 2.42 Streamline and turbulent flow, Reynolds number 2.43 Poiseuille's equation (no derivation of formula), Stoke's law and their applications	1			

Number of periods planned . (L+W+P) = 18
Number of periods actually taken :

Unit-3.0 Optics, optical instruments and opticalfibers

Class Room Instruction (CI)	No. of Periods	Laboratory Instruction (LI)	No. of Periods	Remark
3.1 Refraction 3.11 Laws of refraction 3.12 Lenses and combination of lenses	2	LE3.1 Calculate refractive indexof material of glass slab. LE3.2 Calculate refractive indexof material of glass prism. LE3.3 Calculate focal lengthof convex/concave lenses accurately.	4	
3.2 Absolute and relative refractive index 3.21 Refraction through prism, Angle of minimum deviation and its relation	2			
3.3 Total internal reflection of light 3.31 Critical angle. 3.32 Applications of TIR 3.33 Optical fiber, NA of Opticalfiber	2	LE3.4 Determine the Criticalangle for total Internalreflection of given medium w. r. t. air. LE3.5 Determine Numericalaperture of Optical fiber.	2	
3. 4 Optical instruments 3.41 Simple and compound microscope 3.42 Spectrometer	1			
3.5 Electromagnetic spectrum 3.51 Pure and Impure spectrum, Visible range	2			

Number of periods planned (L+W+P) : 16
Number of periods actually taken :

Unit-4.0. Electrostatics, Magnetism and Current Electricity

Class Room Instruction (CI)	No. of Periods	Laboratory Instruction (LI)	No. of Periods	Remark
4.1 Electric Charge, Coulomb's Law	2	LE4.1 Use Ohm's law to calculate unknown resistance in a given circuit. LE4.2 Determine the resistance of given circuits by applyingseries and parallel combination of resistance.	2	
4.2 Electric Field, Potential, Potential Difference betweenTwo Points, Equipotential Surfaces	2			

4.3 Types of dielectricsand dielectric Strength	1	LE4.3 Determine the specific resistanceof the given material by using meter bridge. LE4.4 Use deflection magnetometer for comparison of magnetic moments of two bar magnets. LE4.5 Draw the magnetic lines offorces using bar magnet and compass needle. LE4.6 To compare e.m.f of two cells using potentiometer. LE4.7 To determine internal resistance of a cell.	2	
4.4 Capacity, Units, Principleof Capacitor 4.41 Factors Affecting Capacity, type of capacitors	1			
4.5 Magnetism: - 4.51 Magnetic lines of force, lines of induction,	2			
4.6 Current Electricity 4.61 Resistance, Specific resistance 4.62 Series and parallel combination of resistance 4.63 Internal resistanceof a cell 4.64 Potential difference and e.m.f. of a cell 4.65 Combination of cells inseries and in parallel. 4.66 Simple applications of Wheatstone bridge, metre bridge and Potentiometer. 4.67 Electrical power	1			

Number of periods planned (L+W+P) : 18
Number of periods actually taken :

UNIT 5. Modern Physics

Class Room Instruction (CI)	No. of Periods	Laboratory Instruction (LI)	No. of Periods	Remark
5.1 Photoelectric effect 5.11 Laws of photoelectric emission, Photoelectric equation and threshold frequency 5.12 Photo cell	1	**5.1** Perform parallel operation of two three phase transformers	2	
5.2 X-rays 5.21 Production of X rays, properties & uses.	2			
5.3 Laser	2			

5.31 Spontaneous and stimulated emission 5.32 population inversion, pumping scheme and active system Ruby Laser And semiconductor laser.					
5.4 Ultra-sonics 5.41 Frequency range 5.42 Methods of production- Magnetostriction & Piezo electric method 5.43 Properties of ultra-sonics 5.44 Applications of ultra-sonic.		2			

Number of periods planned (L+W+P) : 16
Number of periods actually taken :

Number of Total periods planned :
Number of Total periods actually taken :
Subject Teacher : AAYUSHI DEWANGAN

Aayushi

(Name and Signature)
Aayushi Dewangan

HOD
(Department of SCIENCE & HUMANITY)

Principal
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