



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 / Teachers Diary

Session: Nov - Dec 2025

Name of Faculty: Rakesh Kumar Ray

Subject: Engineering Drawing

Subject Code: 2000A04AT037

**Branch & Semester: Mechanical + Metallurgical Engineering
Diploma 1st Sem**

Faculty Signature (Rakesh Kumar Ray)

HOD Signature

Principal
Govt. Co-Ed Polytechnic
Jagdalpur, Aadawal



DEPARTMENT OF MECHANICAL ENGINEERING

Government Co-Ed Polytechnic Jagdalpur

Session - Nov - Dec. 2025

LESSON PLAN / TEACHER'S DIARY

Name Of Faculty: Rakesh Kumar Ray

Subject: Engineering Drawing

Branch & Semester: Mechanical + Metallurgical Engineering & Diploma in 1st Semester

Subject Code: 2000A04AT037

LECT. NO.	UNIT NO.	TOPIC TO BE COVERED	PLANNED DATE	EXECUTION DATE	REMARKS
		UNIT-1 BASICS OF ENGINEERING DRAWING			
1	1	Drawing instruments: Use of drawing board, mini drafter, compass, divider, drawing sheet etc. sheet layout, title block, folding of drawing sheets,	15.08.25 - 15.09.25	1.09.2025	
2		Lettering and numbering and its importance. single stroke letters, upper case and lower-case letters.		1.09.2025	
3		single stroke letters, upper case and lower-case letters. general procedure for lettering and numbering.		3.09.2025	
4		Lines- Different types of lines in Engineering Drawing and its applications with diagram		8.09.2025	
5		Scales - full scale, reduced scale and enlarged scale.		8.09.2025	
6		Plain scale: Construction Plain Scale with procedure.		10.09.2025	
7		Diagonal scale: Construction Diagonal Scale with procedure.		15.09.2025	
8		Vernier scale: Construction Vernier Scale with procedure.		15.09.2025	
9		Dimensioning – requirement of dimensioning. Dimensioning systems, Methods of dimensioning, important		17.09.2025	

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LECT. NO.	UNIT NO.	TOPIC TO BE COVERED	PLANNED DATE	EXECUTION DATE	REMARKS
		UNIT-2 PROJECTION OF POINTS, LINES AND PLANES			
10	2	Projection of points: Concept of quadrant, first angle and third angle projection.	16.09.25 - 12.10.25	22.09.2025	
11		Projection of points – points on different quadrants		22.09.2025	
12		Projection of points – points on the reference planes.		24.09.2025	
13		Projection of straight lines – Line in the first quadrant		8.10.2025	
14		Projection of straight lines – Line on the reference Planes.		13.10.2025	
15		Projection of straight lines – Line perpendicular to one plane and parallel to another plane,		13.10.2025	
16		Projection of straight lines – Line inclined to one plane and parallel to the other plane,		15.10.2025	
17		Projection of straight lines – Line parallel to both the planes		24.10.2025	
18		Projection of straight lines – Line inclined to both the planes.		24.10.2025	
19		Projection of Planes: Concept of planes, parallel to one of the reference planes.		29.10.2025	
20		Projection of plane inclined to one reference plane and perpendicular to another.		3.11.2025	
21		Projection of plane inclined to both the reference planes.		3.11.2025	

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LECT. NO.	UNIT NO.	TOPIC TO BE COVERED	PLANNED DATE	EXECUTION DATE	REMARKS
		UNIT-3 ORTHOGRAPHIC PROJECTION AND SECTION OF SOLIDS			
22	3	Introduction, First angle projection, Third angle projection, Symbols and comparison of first and third angle projections.	13.10.25 - 05.11.25	10.11.2025	
23		Projection of simple objects – front/ top/ right/ left side view.		10.11.2025	
24		Practice problem for Orthographic projection.		12.11.2025	
25		Practice problem for Orthographic projection.		19.11.2025	
26		Concept of sectioning planes, Concept of Auxiliary planes, Types of sections and true shape of section.		24.11.2025	
27		Projections of Solids: Types of solids, projections of solids in simple position,		24.11.2025	
28		Projections of Solids: projections of solids with axes inclined to one of the reference planes and parallel to the other,		26.11.2025	
29		Projections of solids with axes inclined to both H.P. and the V.P.		27.11.2025	
30		Practice problem for solid projection		27.11.2025	
31		Practice problems for drawing projections		28.11.2025	
32		Section of solids, Practice problems for section of solids.		28.11.2025	

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Subject: Engineering Drawing

Subject Code: 2000A04AT037

LECT. NO.	UNIT NO.	TOPIC TO BE COVERED	PLANNED DATE	EXECUTION DATE	REMARKS
		UNIT-4 ISOMETRIC PROJECTION			
33	4	Isometric axis, lines, and planes.	06.11.25 - 05.12.25	1.12.2025	
34		isometric scale.		3.12.2025	
35		isometric projection.		4.12.2025	
36		isometric drawing.		4.12.2025	
37		isometric drawing Views.		8.12.2025	
38		Isometric projection of objects containing rectangular shapes		8.12.2025	
39		Isometric projection of objects containing circular, cylindrical shapes		10.12.2025	
40		Isometric projection of slots on sloping and plane Surfaces.		15.12.2025	
41		Practice problem of Isometric projection		15.12.2025	
42		Practice problem of Isometric projection		17.12.2025	
43		Practice problem of Isometric projection		20.12.2025	
44		Practice problem of Isometric projection		31.12.2025	

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Subject Code: 2000A04AT037

LECT. NO.	UNIT NO.	TOPIC TO BE COVERED	PLANNED DATE	EXECUTION DATE	REMARKS
		UNIT-5 COMPUTER AIDED DRAFTING			
45	5	Basics of AutoCAD, AutoCAD interface, screen layout.	06.12.25 - 10.01.26	5.01.2027	
46		starting commands from menus, Coordinate system.		5.01.2028	
47		Angular measurements, Point specification,		7.01.2026	
48		Drawing aids - Grid, Snap, Ortho, O snap, Units, Limits, Layers, Line type.		12.01.2026	
49		Creating basic drawings Drawing objects - lines, arc		12.01.2027	
50		Creating basic drawings Drawing objects - circles, ellipses		12.01.2028	
51		Creating basic drawings Drawing objects - polyline and polygons.		12.01.2028	
52		Modify commands - erase, copy, move, rotate		14.01.2026	
53		Modify commands - scale, stretch, array.		19.01.2026	
54		Printing and plotting of drawings.		19.01.2026	

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Session - Nov - Dec. 2025

Detailed Teaching Plan

Name Of Faculty: Rakesh Kumar Ray

Branch & Semester: Mechanical + Metallurgical Engineering & Diploma in 1st Semester

Subject: Engineering Drawing

Subject Code: 2000A03AL037

Practical No.	Topic to be covered	Execution Date	Remark
1	Draw lettering, types of lines, methods of dimensioning and one problem from plain scale & diagonal scale each on a single drawing sheet.	08.09.2025	
3	Draw the problems on projection of points and lines on a drawing sheet.	22.09.2025	
4	Draw the projection of given planes on a drawing sheet.	13.10.2025	
5	Draw the orthographic projections of a given object with and without section on a Drawing sheet.	10.11.2025	
6	Draw the projections of a solids and section of given solids on a drawing sheet.	24.11.2025	
7	Draw isometric views of simple machine elements.	08.12.2025	
8	Draw minimum two 2D drawings using AutoCAD software.	15.12.2025	

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Subject: Engineering Drawing

Subject Code: 2000A04AT037

Branch & Semester: Electrical Engineering & Diploma 1st Sem

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Subject: Engineering Drawing

Branch & Semester: Electrical Engineering & Diploma in 1st Semester

Subject Code: 2000A04AT037

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43		Practice problem of Isometric projection		23.12.2025	
44		Practice problem of Isometric projection		30.12.2025	

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7	Draw minimum two 2D drawings using AutoCAD software.	10.12.2025	

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Lesson Plan

Course Title:- Fundamentals of Computer & Information Technology			Course Code:- 2000A03CT022
Branch:- Electrical+ Mechanical+ Metallurgy			Semester:- 1st
Lecture no.	Topics	No. of Classes Required	Remarks
1	Introduction about the subject	1	1st Unit (L+P= 12)
2	Generation of computers and their Evolution	2	
3	Computer Block diagram in details	4	
4	Memory System	3	
5	Basics of Data and Information	2	
6	Overview of Peripheral Devices	3	2nd Unit (L+P=9)
7	Plug and Play Devices and Drivers	3	
8	BIOS and System Utilities	3	
9	Basics of popular Operating Systems	3	3rd Unit (L+P=11)
10	File and Folder Management	3	
11	Configuring System Setting	3	
12	Introduction to Virus & Antivirus	2	
13	Introduction to Computer Networks	2	4th Unit (L+P=11)
14	Networking Devices	2	
15	Internet Basics and Connectivity	3	
16	Using web browsers and search engines	1	
17	Email and collaborative tools	3	
18	Overview of IoT, AI and Machine learning	2	5th Unit (L+P= 8)
19	Basics of Cloud Computing	2	
20	Impact of Computers in Society	1	
21	Case Studies	3	

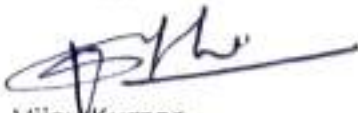
51

Vijay Kumar
sarathi

Lecturer (CSE)

Lesson Plan

Course Title:- Cyber Threats and Awareness		Course Code:- 2000A06FT033	
Branch:- Electrical+ Mechanical+ Metallurgy		Semester:- 1st	
Lecture no.	Topics	No. of Classes Required	Remarks
1	Introduction about the subject	1	1st Unit (L= 6)
2	Basics of cyber security and its relevance in everyday digital life, Common cyber threats	2	
3	Overview of cybercrime vs cyberattacks	1	
4	Real-life examples of data breaches	1	
5	Importance of awareness and alertness, Basic cyber safety tips	1	
6	Safe internet practices	2	2nd Unit (L=4)
7	Concept of secure browsing (HTTPS), Essential mobile/computer safety	1	
8	Social media safety and avoiding public Wi-Fi	1	
9	Introduction to Online Scams and Cyber Frauds	1	3rd Unit (L=4)
10	Types of Common Online Scams	1	
11	Tricks used by fraudsters	1	
12	Identify and Avoid Online Scams	1	
13	Overview of Indian Cyber Laws (IT Act 2000)	1	4th Unit (L=4)
14	Offences like cyberbullying, identity theft, data breaches	2	
15	Importance of ethical online behavior, privacy, and digital footprints	1	
16	Good cyber habits	1	5th Unit (L=4)
17	Concept of digital cleanliness	1	
18	Cyber Swachhta Kendra, and Cyber Surakshit Bharat	1	
19	Promoting cyber safety among peers and families	1	


 Vijay Kumar
 sarthi
 Lecturer (CSE)

GOVERNMENT CO-ED POLYTECHNIC, JAGDALPUR

BASTAR(C.G)

DEPARTMENT OF SCIENCE AND HUMANITY

LESSON PLAN

Session: - NOV-DEC 2025

Semester: - 1ST

Session start date as per University Calendar: - 14/08/2025

Course Name: - Applied Physics

Course Code: - 2000B01AT015

Name of Subject teacher:- AAYUSHI DEWANGAN

Unit-1.0 Unit & Dimensional Analysis

Class Room Instruction (CI)	No. of Periods	Laboratory Instruction (LI)	No. of Periods	Remark
1.1 Units for measurement 1.11 Fundamental and derived unit		LE1.1 Use Vernier Calipers to measure the dimensions of given object in significant figures and estimate errors precisely.		
1.12 S. I. units, Advantages of SI unit 1.2 Dimensional Analysis 1.21 Dimensions & Dimensional Formula 1.22 Applications of Dimensional Analysis		LE1.2 Use Screw gauge to measure the dimensions of given object in significant figures and estimate errors precisely		
1.3 Accuracy & Precision 1.31 Accuracy & Precision definition and examples		LE1.3 Use Spherometer to measure the dimensions of given objects in significant figures and estimate error precisely.		

Number of periods planned (Approx. Hrs: CI+ LI+SW+SL) = 18

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	Remark
2.1 Force 2.11 Conservative and non-conservative forces 2.12 Gravitational Force, Relation between 'G' and 'g' and Factors affecting 'g'		LE2.1 Determine g using simple pendulum. LE2.2 Determine terminal velocity of given object by Stoke's law apparatus.		
2.2 Surface Tension 2.21 Adhesive and Cohesive force 2.22 Surface energy and surface tension 2.23 Surface tension in daily life. 2.24 Rise of liquid in capillary tube (no derivation of formula)		LE2.3 Determine surfacetension of water by Capillary rise method. LE2.4 Comparison of viscosity of different liquids		
2.3 Viscosity 2.31 Coefficient of viscosity, Newton's law of viscosity 2.32 Streamline and turbulent flow 2.33 Reynolds number and it's significance 2.34 Stoke's law				

Number of periods planned (Approx. Hrs: CI+ LI+SW+SL) = 18

Number of periods actually taken :

Unit-3.0 General Optics

Class Room Instruction (CI)	No. of Periods	Laboratory Instruction (LI)	No. of Periods	Remark
3.1 Refraction 3.11 Refraction through multiple media & Law of reversibility of light. 3.12 Refraction through lenses at different positions, real and virtual image 3.13 Refraction through prism, formula for thin prism 3.14 Total internal reflection of light, critical angle, relation between critical angle and refractive index		LE3.1 Calculate refractive index of material of glass slab. LE3.2 Calculate refractive index of material of glass prism. LE3.3 Calculate focal length of convex/concave lenses accurately.		
3.2 Pure and impure spectrum				

3.3 Optical fiber

Number of periods planned (Approx. Hrs: CI+ LI+SW+SL) = 18

Number of periods actually taken :

Unit-4.0. Basic of Electricity and Magnetism

Class Room Instruction (CI)	No. of Periods	Laboratory Instruction (LI)	No. of Periods	Remark
4.1 Static Electricity 4.11 Electric Charge, Coulomb's law, Electro static potential		LE4.1 To determine the resistance of a conductor by applying Ohm's law.		
4.2 Current Electricity 4.21 Current, Voltage, Resistance, Specific resistance & conductivity 4.22 Ohm's Law 4.23 Relation between voltage, current & power in electrical circuit.		LE4.2 To determine the power consumption in resistive load using voltmeter and ammeter		
4.3 Magnetism 4.31 Magnetic pole strength and Coulomb's inverse square law for magnets 4.32 Magnetic flux and magnetic field intensity		LE4.3 To draw the magnetic lines of force of a bar magnet keeping its N-pole pointing to magnetic north of the earth (N-N). Locate neutral points.		
4.4 Electromagnetism linkage magnetic flux of an EMF in a coil (Faraday's law)		LE4.4 To draw the magnetic lines of force of a bar magnet keeping its S-pole pointing to magnetic north of the earth (N-S). Locate neutral points.		

Number of periods planned (Approx. Hrs: CI+ LI+SW+SL) = 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		LE5.1 Calculate the work function of given photoelectric materials.		
5.2 Laws of photoelectric emission, photoelectric effect and threshold frequency.				
5.3 Einstein's photoelectric equation		LE5.2 Calculate the divergence of given laser.		
5.4 Laser 5.41 Spontaneous and stimulated emission 5.42 Population inversion, pumping methods, active medium and resonance cavity. 5.43 Ruby Laser 5.44 Ultra sonics		LE5.3 To verify inverse square law of light using photocell		
5.51 frequency range 5.52 production of ultra sonic waves using piezo electric method 5.53 Properties of ultra-sonic waves. 5.54 Applications of ultra-sonic waves.				

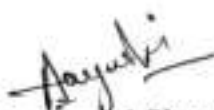
Number of periods planned (Approx. Hrs: CI+ LI+SW+SL) = 18

Number of periods actually taken :

Number of Total periods planned : 90

Number of Total periods actually taken :

Subject Teacher : AAYUSHI DEWANGAN


(Name and Signature)

Aayushi Dewangan


HOD

(Department of SCIENCE & HUMANITY)

GOVT. CO-ED POLYTECHNIC BASTAR, JAGDALPUR

DEPARTMENT OF HUMANITIES & SCIENCE

LESSON PLAN

Course Name : APPLIED CHEMISTRY	Session: Nov-Dec 2025	
Course Code : 2000A01AT011		
Name of Subject teacher: TEMAN LAL BARLE		
Lecture plus Tutorial/Week : 3		
Branch : MECHANICAL+METALLURGY		
Semester: 1		

<u>LESSON PLAN</u>					
Week	Lecture no.	chapter/unit no.	Topic/Subtopics to be covered under this unit	No. of period planned	Remarks if any
1st	1-2	UNIT- 1	Atomic Structure:- Electronic structure of atoms, Discovery of electron, proton and neutron	2	
	3		Rutherford model	1	
2nd	4		Bohr's model	1	
	5		De-Broglie equation, Heisenberg uncertainty Principle	1	
	6		Auffbau's rule	1	
3rd	7		Pauli's exclusion principle, Hund's rule of maximum multiplicity	1	
	8		Quantum number	1	
	9		Definitions of solute, solvent, solution and concentration	1	
4th	10		Molarity, Normality, Molecular weight, Equivalent weight	1	
	11	UNIT- 2	Water Treatment:- Hard Water and Soft water, Types of Water Hardness	1	
	12		Boiler Problems- Scale & Sludge, Priming & Foaming	1	
5th	13		Boiler Problems- Boiler Corrosion, Caustic Embrittlement	1	
	14		Water Softening- lime-soda process	1	
	15		Zeolite process	1	
6th	16		Ion exchange process	1	
	17		Municipal water treatment	1	
	18		Chemical bond: Concept of chemical bond, Octet rule, Ionic bond	1	
7th	19		Covalent Bond and Coordinate Bond	1	
	20		Hydrogen Bond	1	
	21	UNIT-3	Electrochemistry: Arrhenius theory of ionization, Acid base concept	1	

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8th	22		Electronic concept of oxidation, Reduction, and redox reactions.	1	
	23		Concept of pH and pOH, Buffer solutions,	1	
	24		Electrical Conductance in Metal & Electrolyte	1	
9th	25		Hydrogen electrode	1	
	26		Calomel electrode	1	
	27		Glass electrode	1	
10th	28		Batteries:- Types of batteries with examples	1	
	29		Construction and Working of Dry cell	1	
	30		Construction and Working of Lead-acid storage cell.	1	
11th	31	UNIT-4	Metallurgy- Introduction, Mineral, Ore, Gangue, Flux, Slag.	1	
	32		Metallurgical process of copper	1	
	33		Metal Alloys:- Properties of Alloys	1	
12th	34		Metal Alloys:- Purpose of making an Alloy	1	
	35-36		Ferrous Alloys	2	
13th	37-38		Non Ferrous alloy	2	
	39	UNIT-5	Fuel & Combustion:- Fuel- Calorific Value and ignition Temperature, Classification	1	
14th	40		Solid fuels: Coal, Classification and composition	1	
	41-42		proximate Analysis and Ultimate Analysis	2	
15th	43		Bomb Calorimeter	1	
	44		Carbonization of coke by Otto Hofmanns oven	1	
	45		Liquid fuels: Fractional distillation of crude petroleum	1	
16th	46		Lubricant	1	
	47		Paints: Constituents, Properties And uses	1	
	48		Varnishes: Constituents, Properties and uses	1	
	Total Periods			48	

Total No. of periods as per Lesson Plan - 48

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