LESSON PLAN
DEPARTMENT OF MATH AND SCIENCE , ITT, CHOUDWAR

SUBJECT: Engg.Chemistry   Periods: 4 per week   SEMESTER: 1st & 2nd

NAME OF FACULTY: Rajakrushna Nayak   ACADEMIC YEAR.2020-2021

Semester From date: To Date: No. of weeks: 15

Week	Class Day	Theory / Practical Topics
1st	1st	1. **Atomic structure :** Fundamental particles (electron, proton & neutron Definition, mass and charge).Rutherford's Atomic model (postulates and failure), Atomic mass and mass number, Definition, examples and properties of Isotopes, isobars and isotones. Bohr's Atomic model (Postulates only), Bohr-Bury scheme, Aufbau's principle, Hund's rule, Electronic configuration (up to atomic no 30).
	2nd	2. **Chemical Bonding :** Definition , types (Electrovalent, Covalent and Coordinate
2nd	1st	3. bond with examples (formation of $NaCl$, $MgCl_2$, H_2,Cl_2, O_2, N_2, H_2O, CH_4, NH_3, NH_{4+}, SO_2)
	2nd	4. **Acid base theory :** Concept of Arrhenius, Lowry Bronsted and Lewis theory for acid and base with examples (Postulates and limitations only)
3rd	1st	5. Neutralization of acid & base. Definition of Salt, Types of salts (Normal, acidic, basic, double, complex and mixed salts, definitions with 2 examples from each).
	2nd	6. **Solutions :** Definitions of atomic weight, molecular weight, Equivalent weight. Determination of equivalent weight of Acid, Base and Salt.
4th	1st	7. Modes of expression of the concentrations (Molarity , Normality & Molality) with Simple Problems. pH of solution (definition with simple numericals) Importance of pH in industry (sugar, textile, paper industries only)
	2nd	8. **Electrochemistry :** Definition and types (Strong & weak) of Electrolytes with example. Electrolysis (Principle & process) with example of NaCl (fused and aqueous solution).
5th	1st	9. Faraday's 1st and 2nd law of Electrolysis (Statement, mathematical expression and Simple numerical) Industrial application of Electrolysis- Electroplating (Zinc only).

	2nd	10. **Corrosion:** Definition of Corrosion, Types of Corrosion- Atmospheric Corrosion
6th	1st	11. Waterline corrosion. Mechanism of rusting of Iron only. Protection from Corrosion by (i) Alloying and (ii) Galvanization.
	2nd	12. **Metallurgy:** Definition of Mineral, ores , gangue with example. Distinction between Ores And Minerals
7th	1st	13. General methods of extraction of metals,
	2nd	14. i) Ore Dressing ii) Concentration (Gravity separation, magnetic separation, Froth floatation & leaching) iii) Oxidation (Calcinations, Roasting) iv) Reduction (Smelting, Definition & examples of flux, slag) v) Refining of the metal (Electro refining, & Distillation only)
8th	1st	15. **Alloys:** Definition of alloy. Types of alloys (Ferro, Non Ferro & Amalgam) with example. Composition and uses of Brass, Bronze, Alnico, Duralumin
	2nd	16. **Hydrocarbons :** Saturated and Unsaturated Hydrocarbons (Definition with example)
9th	1st	17. Aliphatic and Aromatic Hydrocarbons (Huckle's rule only). Difference between Aliphatic and aromatic hydrocarbons
	2nd	18. IUPAC system of nomenclature of Alkane, Alkene, Alkyne, alkyl halide and alcohol (up to 6 carbons) with bond line notation.
10th	1st	19. Uses of some common aromatic compounds (Benzene, Toluene, BHC, Phenol, Naphthalene, Anthracene and Benzoic acid) in daily life.
	2nd	20. **Water Treatment** : Sources of water, Soft water, Hard water, hardness, types of Hardness (temporary or carbonate and permanent or non-carbonate),
11th	1st	21. Removal of hardness by lime soda method (hot lime & cold lime—Principle, process & advantages)
	2nd	22. Advantages of Hot lime over cold lime process. Organic Ion exchange method (principle, process, and regeneration of exhausted resins)
12th	1st	23. . **Lubricants**: Definition of lubricant, Types (solid, liquid and semisolid with
	2nd	24. examples only) and specific uses of lubricants (Graphite, Oils, Grease), Purpose of lubrication

13th	1st	25. **Fuel**: Definition and classification of fuel, Definition of calorific value of fuel, Choice of good fuel.
	2nd	
		26. Liquid: Diesel, Petrol, and Kerosene --- Composition and uses. Gaseous: Producer gas and Water gas (Composition and uses). Elementary idea about LPG, CNG and coal gas (Composition and uses only).
14th	1st	27. **Polymer**: Definition of Monomer, Polymer, Homo-polymer, Co-polymer and Degree of polymerization. Difference between Thermosetting and Thermoplastic, Composition and uses of Polythene, & Poly-Vinyl Chloride and Bakelite.
	2nd	28. Definition of Elastomer (Rubber). Natural Rubber (it's draw backs). Vulcanisation of Rubber. Advantages of Vulcanised rubber over raw rubber.
15th	1st	29. **Chemicals in Agriculture:** Pesticides: Insecticides, herbicides, fungicides- Examples and uses.
	2nd	30. Bio Fertilizers: Definition, examples and uses.

LESSON PLAN
DEPARTMENT OF MATH AND SCIENCE , ITT, CHOUDWAR

SUBJECT: ENGG. Engineering Chemistry Lab   Periods: 4 per week   SEMESTER: 1st & 2nd

NAME OF FACULTY: Rajakrushna Nayak   ACADEMIC YEAR.2020-2021

Semester From date: To Date: No. of weeks: 15

Week	Class Day	Theory / Practical Topics
1st	1st	1. Preparation and study of physical and chemical properties CO_2 gas.
	2nd	2. Preparation and study of physical and chemical properties CO_2 gas.
2nd	1st	3. Preparation and study of physical and chemical properties CO_2 gas.
	2nd	4. Preparation and study of physical and chemical properties NH_3 gas.
3rd	1st	5. Preparation and study of physical and chemical properties NH_3 gas.
	2nd	6. Preparation and study of physical and chemical properties NH_3 gas.
4th	1st	7. Crystallization of Copper sulphate from copper carbonate
	2nd	8. Crystallization of Copper sulphate from copper carbonate
5th	1st	9. Crystallization of Copper sulphate from copper carbonate
	2nd	10. Simple acid-base titrations (i) Acidimetry (ii) Alkalimetry
6th	1st	11. Simple acid-base titrations (i) Acidimetry (ii) Alkalimetry
	2nd	12. Simple acid-base titrations (i) Acidimetry (ii) Alkalimetry
7th	1st	13. Tests for acid radicals (Known): (i) Carbonate,
	2nd	14. Tests for acid radicals (Known): (ii) Sulphide,

8th	1st	15. Tests for acid radicals (Known): (iii) Chloride,
	2nd	16. Tests for acid radicals (Known): (iv) Nitrate
9th	1st	17. Tests for acid radicals (Known): (v) Sulphate.
	2nd	18. Tests for acid radicals (Known): (i) Carbonate,
10th	1st	19. Tests for acid radicals (Known): (ii) Sulphide,
	2nd	20 Tests for acid radicals (Known): (iii) Chloride,
11th	1st	21. Tests for acid radicals (Known): (iv) Nitrate
	2nd	22. Tests for acid radicals (Known): (v) Sulphate.
12th	1st	23. Test for unknown Acid radicals
	2nd	24. Test for unknown Acid radicals
13th	1st	25. Test for unknown Acid radicals
	2nd	26. Test for unknown basic radicals
14th	1st	27 Test for unknown basic radicals
	2nd	28. Test for unknown basic radicals
15th	1st	29. Test for unknown salt (composed of one basic radical and one acid radical)
	2nd	30. Test for unknown salt (composed of one basic radical and one acid radical)

LESSON PLAN
DEPARTMENT OF MATH & SCIENCE ENGINEERING, ITT, CHOUDWAR

SUBJECT: Communicative English   Periods: 4 per week   SEMESTER: 1st/2nd

NAME OF FACULTY: SANGITA MUDULI   ACADEMIC YEAR.2020-2021

Semester From date: To Date: No. of weeks: 15

Week	Class Day	Practical Topics
1st	1st	1. Listening Skills(1)
	2nd	1. Listening Skills(2)
2nd	1st	2. Speaking Skill
	2nd	2. Speaking Skill
3rd	1st	3. Personality Development
	2nd	3. Personality Development
4th	1st	4. Interpersonal Skills
	2nd	4. Interpersonal Skills
5th	1st	5. Presenting in GD, Seminars and Conferences.
	2nd	5. Presenting in GD, Seminars and Conferences.
		REVISON
6th	1st	1. Listening Skills
	2nd	1. Listening Skills
7th	1st	2. Speaking Skill
	2nd	2. Speaking Skill

8th	1st	3. Personality Development
	2nd	3. Personality Development
9th	1st	4. Interpersonal Skills
	2nd	4. Interpersonal Skills
10th	1st	5. Presenting in GD, Seminars and Conferences.
	2nd	5. Presenting in GD, Seminars and Conferences.
11th	1st	5. Presenting in GD, Seminars and Conferences.
	2nd	4. Interpersonal Skills
12th	1st	3. Personality Development Initiation Physical Appearance Audience Purpose

	2nd	2. Speaking Skill
		    Reading aloud of dialogues, texts, poems, speeches focusing on intonation.
		    • Self-introduction
		    • Role plays on any two-situations.
		    • Telephonic Conversations

13th	1st 2nd	1. Listening Skills The student should be able to listen to s text read aloud in normal speed with focus on intonation. After listening the student can fill-in-blanks, choose a suitable title, make a summary, supply required information and be able to answer comprehension questions from the passage read aloud.
		1. Listening Skills The student should be able to listen to s text read aloud in normal speed with focus on intonation. After listening the student can fill-in-blanks, choose a suitable title, make a summary, supply required information and be able to answer comprehension questions from the passage read aloud.

14th	1st	2. Speaking Skill
		    Reading aloud of dialogues, texts, poems, speeches focusing on intonation.
		    • Self-introduction
		    • Role plays on any two-situations.
		    • Telephonic Conversations

	2nd	3. Personality Development Initiation Physical Appearance Audience Purpose
15th	1st	4. Interpersonal Skills Appropriate use of non-verbal skills in face to face communication [i.e.Viva-Voce, group -interviews, GDs and seminars.]
	2nd	5. Presenting in GD, Seminars and Conferences. • Leadership Quality • Time Management • Achieving the target,

	2nd	3. Personality Development Initiation Physical Appearance Audience Purpose
15th	1st	4. Interpersonal Skills Appropriate use of non-verbal skills in face to face communication [i.e.Viva-Voce, group -interviews, GDs and seminars.]
	2nd	5. Presenting in GD, Seminars and Conferences. • Leadership Quality • Time Management • Achieving the target,

LESSON PLAN

DEPARTMENT OF MATH & SCIENCE ENGINEERING, ITT, CHOUDWAR

SUBJECT: Communicative English   Periods: 4 per week   SEMESTER: 1st/2nd

NAME OF FACULTY: SANGITA MUDULI   ACADEMIC YEAR.2020-2021

Semester From date: To Date: No. of weeks: 15

Week	Class Day	Theory Topics
1st	1st	1.Unit-1 literature appreciation A reading comprehension
	2nd	2. Unit-1 literature appreciation A reading comprehension
2nd	1st	B.Text standing up your self BY YEVGENY YEVTUSHENKO
	2nd	B.Text standing up your self BY YEVGENY YEVTUSHENKO
3rd	1st	3. The Magic of teamwork BY SAM PITRODA
	2nd	The Magic of teamwork BY SAM PITRODA
4th	1st	4. Inchcape Rock BY Robert southey
	2nd	Inchcape Rock BY Robert southey
5th	1st	TO my true friend BY Elizabeth pinard
	2nd	TO my true friend BY Elizabeth pinard
6th	1st	, Unit 2 use of synonyms ,antonyms
	2nd	Articles and Determiners
7th	1st	Modal verbs
	2nd	Tenses,
8th	1st	Voice change

	2nd	Subject verb agreement
9th	1st	A paragraph writing , meaning
	2nd	Features of paragraph writing
10th	1st	Notice
	2nd	agenda
11th	1st	D.Report writing
	2nd	Writing personal letter
12th	1st	Writing business letters
	2nd	*Unit v – elements of communication , meaning of communication*
13th	1st	Communication of model , process of communication
	2nd	
		Professional communication , types of professional communication
14th	1st	Formal communication , informal communication
	2nd	Meaning of non verbal communication
15th	1st	Different areas of non verbal communication
	2nd	Language of signs and symbols

LESSON PLAN

DEPARTMENT OF MATH & SCIENCE, ITT, CHOUDWAR

SUBJECT: ENGG. MATH II   Periods: 6 per week   SEMESTER: 2nd

NAME OF FACULTY: Sk. S. Ali   ACADEMIC YEAR.2020-2021

Semester From date: To Date: No. of weeks: 15

Week	Class Day	Theory / Practical Topics
1st	1st	**1) VECTOR ALGEBRA** a) Introduction
	2nd	b) Types of vectors (null vector, parallel vector , collinear vectors) (in component form)
	3rd	c) Representation of vector
2nd	1st	d) Magnitude and direction of vectors
	2nd	e) Addition and subtraction of vectors
	3rd	f) Position vector
3rd	1st	g) Scalar product of two vectors
	2nd	h) Geometrical meaning of dot product
	3rd	i) Angle between two vectors
4th	1st	j) Scalar and vector projection of two vectors
	2nd	k) Vector product and geometrical meaning (Area of triangle and parallelogram)
	3rd	**2) LIMITS AND CONTINUITY** a) Definition of function, based on set theory
5th	1st	b) Types of functions i) Constant function ii) Identity function iii) Absolute value function
	2nd	iv)The Greatest integer function

	3rd	v) Trigonometric function
6th	1st	vi) Exponential function
	2nd	vii) Logarithmic function
	3rd	c) Introduction of limit
7th	1st	d) Existence of limit
	2nd	e) Methods of evaluation of limit i) $\lim_{x\to 0} \frac{x^n - a^n}{x - a} = na^{n-1}$ ii) $\lim_{x\to 0} \frac{a^x - 1}{x} = \log_e a$ iii) $\lim_{x\to 0} \frac{e^x - 1}{x} = 1$ iv) $\lim_{x\to 0} (1 + x)^{1/x} = e$ v) $\lim_{x\to \infty} \left(1 + \frac{1}{x}\right)^x = e$ vi) $\lim_{x\to 0} \frac{\log(1+x)}{x} = 1$ vii) $\lim_{x\to 0} \frac{\sin x}{x} = 1$ viii) $\lim_{x\to 0} \frac{\tan x}{x} = 1$
	3rd	f) Definition of continuity of a function at a point and problems based on it
8th	1st	**3) DERIVATIVES** a) Derivative of a function at a point
	2nd	b) Algebra of derivative
	3rd	c) Derivative of standard functions
9th	1st	d) Derivative of composite function (Chain Rule)
	2nd	e) Methods of differentiation of i) Parametric function
	3rd	ii) Implicit function
10th	1st	iii) Logarithmic function

	2nd	iv) a function with respect to another function
	3rd	f) Applications of Derivative
11th	1st	i) Successive Differentiation (up to second order)
	2nd	ii) Partial Differentiation (function of two variables up to second order)
	3rd	g) Problems based on above
12th	1st	**4) INTEGRATION** a) Definition of integration as inverse of differentiation
	2nd	Definition of integration as inverse of differentiation
	3rd	b) Integrals of standard functions
13th	1st	c) Methods of integration
	2nd	
		i) Integration by substitution
		ii) Integration by parts
14th	1st	d) Integration of the following forms i) $\int \dfrac{dx}{x^2+a^2}$ ii) $\int \dfrac{dx}{x^2-a^2}$ iii) $\int \dfrac{dx}{a^2-x^2}$ iv) $\int \dfrac{dx}{\sqrt{x^2+a^2}}$ v) $\int \dfrac{dx}{\sqrt{x^2-a^2}}$ vi) $\int \dfrac{dx}{\sqrt{a^2-x^2}}$ vii) $\int \dfrac{dx}{x\sqrt{x^2-a^2}}$ viii) $\int \sqrt{a^2-x^2}\,dx$ ix) $\int \sqrt{a^2+x^2}\,dx$ x) $\int \sqrt{x^2-a^2}\,dx$ Definite integral, properties of definite integrals i) $\int_0^a f(x)\,dx = \int_0^a f(a-x)\,dx$ ii) $\int_a^b f(x)\,dx = -\int_b^a f(x)\,dx$ iii) $\int_a^c f(x)\,dx = \int_a^b f(x)\,dx + \int_b^c f(x)\,dx$, $a < b < c$ iv) $\int_{-a}^a f(x)\,dx = 0$, if $f(x) =$ odd $= 2\int_0^a f(x)\,dx$, if $f(x) =$ even

	2nd	ii) Area of a circle with centre at origin
	3rd	f) Application of integration
15th	1st	i) Area enclosed by a curve and X – axis
	2nd	**5) DIFFERENTIAL EQUATION** a) Order and degree of a differential equation
	3rd	b) Solution of differential equation i) 1st order and 1st degree equation by the method of separation of variables

LESSON PLAN

DEPARTMENT OF MATH & SCIENCE, ITT, CHOUDWAR

SUBJECT: ENGG. MATH I Periods: 6 per week SEMESTER: 1st

NAME OF FACULTY: Sk. S. Ali ACADEMIC YEAR.2020-2021

Semester From date: To Date: No. of weeks: 15

Week	Class Day	Theory / Practical Topics
1st	1st	**INTRODUCTION CLASS**
	2nd	**1) MATRICES AND DETERMINANTS** 2) Types of matrices
	3rd	a)Types of matrices
2nd	1st	b)Algebra of matrices
	2nd	3) Algebra of matrices
	3rd	4) Determinant
3rd	1st	c)Determinant
	2nd	d) Properties of determinant
	3rd	5) Properties of determinant
4th	1st	6) Inverse of a matrix (second and third order) (Question should be on second order matrix)
	2nd	e) Inverse of a matrix (second and third order) (Question should be on second order matrix)
	3rd	f) Cramer's Rule (Question should be on two variables)
5th	1st	7) Cramer's Rule (Question should be on two variables)
	2nd	g) Cramer's Rule (Question should be on two variables)

	3rd	h) Solution of simultaneous equations by matrix inverse method (Question should be on two variables)
6th	1st	i) Solution of simultaneous equations by matrix inverse method (Question should be on two variables)
	2nd	**2) TRIGONOMETRY** a) Trigonometrically ratios
	3rd	b) Compound angles, multiple and sub-multiple angles (only formulae)
7th	1st	c) Define inverse circular functions and its properties (no derivation)
	2nd	**3) CO-ORDINATE GEOMETRY IN TWO DIMENSIONS (Straight line)** a) Introduction of geometry in two dimension
	3rd	b) Distance formulae, division formulae, area of a triangle (only formulae no derivation)
8th	1st	c) Define slope of a line, angle between two lines (only F), condition of perpendicularity and parallelism.
	2nd	d) Different forms of straight lines (only formulae)
	3rd	i) One point form
9th	1st	ii) two point form
	2nd	iii) slope form
	3rd	iv) intercept form
10th	1st	v) Perpendicular form
	2nd	e) Equation of a line passing through a point and

	3rd	i) parallel to a line
11th	1st	ii) Perpendicular to a line
	2nd	f) Equation of a line passing through the intersection of two lines
	3rd	g) Distance of a point from a line
12th	1st	**4) CIRCLE** a) Equation of a circle i) center radius form
	2nd	ii) general equation of a circle
	3rd	iii) end point of diameter form
13th	1st	**5) CO-ORDINATE GEOMETRY IN THREE DIMENSIONS** a) Distance formulae, section formulae, direction ratio
	2nd	b) direction cosine,angle between two lines
		c) (condition of parallelism and perpendicularity)
14th	1st	d) Equation of a plane General form, angle between two planes, perpendicular distance of a point from a plane, equation of a plane passing through a point and
	2nd	e) parallel to a plane
	3rd	f) perpendicular to a plane
15th	1st	**6) SPHERE** a) Equation of a sphere i) center radius form
	2nd	ii) general form
	3rd	iii) two end points of a diameter form (only formulae and problems)

LESSON PLAN
DEPARTMENT OF MATH AND SCIENCE , ITT, CHOUDWAR

SUBJECT: ENGG. PHYSICS THEORY   Periods: 4 per week   SEMESTER: 1st & 2nd

NAME OF FACULTY: Pranabesh Bhanja   ACADEMIC YEAR.2020-2021

Semester From date: To Date: No. of weeks: 15

Week	Class Day	Theory / Practical Topics
1st	1st	1.Unit And Dimensions,Physical quantities - (Definition),Definition of fundamental and derived units, systems of units (FPS, CGS, MKS and SI units)
	2nd	2. Definition of dimension and Dimensional formulae of physical quantities,Dimensional equations
2nd	1st	3. Principle of homogeneity,Checking the dimensional correctness of Physical relations.
	2nd	4.Scalar and Vector quantities (definition and concept), Representation of a Vector – examples, types of vectors.
3rd	1st	5.Triangle and Parallelogram law of vector Addition (Statement only), Simple Numerical
	2nd	6.Resolution of Vectors – Simple Numericals on Horizontal and Vertical components,Vector multiplication (scalar product and vector product of vectors)
4th	1st	7. Concept of Rest and Motion,Displacement, Speed, Velocity, Acceleration & FORCE (Definition, formula, dimension & SI units)
	2nd	8. Equations of Motion under Gravity (upward and downward motion) - no derivation
5th	1st	9. Circular motion: Angular displacement, Angular velocity and Angular acceleration(definition, formula & SI units),Relation between –(i) Linear & Angular velocity, (ii) Linear & Angular acceleration)
	2nd	10. Define Projectile, Examples of Projectile
6th	1st	11. Expression for Equation of Trajectory, Time of Flight, Maximum Height and Horizontal Range for a projectile fired at an angle, Condition for maximum Horizontal Range
	2nd	12. Work – Definition, Formula & SI units,Friction – Definition & Concept,Types of friction (static, dynamic)
7th	1st	13. Limiting Friction (Definition with Concept),Laws of Limiting Friction (Only statement, No Experimental Verification)
	2nd	14. Coefficient of Friction – Definition & Formula, Simple Numericals,Methods to reduce friction

8th	1st	15. Newton's Laws of Gravitation – Statement and Explanation,Universal Gravitational Constant (G)- Definition, Unit and Dimension
	2nd	16. Acceleration due to gravity (g)- Definition and Concept,Definition of mass and weight,Relation between g and G
9th	1st	17. Variation of g with altitude and depth (No derivation – Only Explanation),Kepler's Laws of Planetary Motion (Statement only).
	2nd	18. Simple Harmonic Motion (SHM) - Definition & Examples,Expression (Formula/Equation) for displacement
10th	1st	19. Velocity, acceleration of a body/ particle in SHM,Wave motion – Definition & Concept,Transverse and Longitudinal wave motion – Definition, Examples & Comparison
	2nd	20. Definition of different wave parameters (Amplitude, Wavelength, Frequency, Time Period, Derivation of Relation between Velocity, Frequency and Wavelength of a wave,Ultrasonics – Definition, Properties & Applications.
11th	1st	21. Heat and Temperature – Definition & Difference,Units of Heat (FPS, CGS, MKS & SI),Specific Heat (concept, definition, unit, dimension and simple numerical),Change of state (concept), Latent Heat (concept, definition, unit, dimension and simple numerical)
	2nd	22. Thermal Expansion – Definition & Concept,Expansion of Solids (Concept),Coefficient of linear, superficial and cubical expansions of Solids – Definition & Units,Relation between α, β & Υ,Work and Heat - Concept & Relation, Joule's Mechanical Equivalent of Heat (Definition, Unit),First Law of Thermodynamics (Statement and concept only)
12th	1st	23. Reflection & Refraction – Definition,Laws of reflection and refraction (Statement only),Refractive index – Definition, Formula &Simple numerical, Critical Angle and Total internal reflection – Concept, Definition & Explanation,Refraction through Prism (Ray Diagram & Formula only – NO derivation),Fiber Optics – Definition, Properties & Applications
	2nd	24.Electrostatics – Definition & Concept,Statement & Explanation of Coulombs laws, Definition of Unit charge,Absolute & Relative Permittivity (ε) – Definition, Relation & Unit.Electrostatics – Definition & Concept,Statement & Explanation of Coulombs laws, Definition of Unit charge, Absolute & Relative Permittivity (ε) – Definition, Relation & Unit
13th	1st	25. Electric potential and Electric Potential difference (Definition, Formula & SI Units),Electric field, Electric field intensity (E) – Definition, Formula & Unit,Capacitance - Definition, Formula & Unit,Series and Parallel combination of Capacitors (No derivation, Formula for effective/Combined/total capacitance & Simple numericals).
	2nd	
		26. Magnet, Properties of a magnet,Coulomb's Laws in Magnetism – Statement & Explanation, Unit Pole (Definition),Magnetic field, Magnetic Field intensity

		(H), (Definition, Formula & SI Unit),Magnetic lines of force (Definition and Properties),Magnetic Flux (Φ) & Magnetic Flux Density (B) – Definition, Formula & Unit
14th	1st	27.Electric Current – Definition, Formula & SI Units,Ohm's law and its applications,Series and Parallel combination of resistors (No derivation, Formula for effective/Combined/ total resistance & Simple numericals), Kirchhoff's laws (Statement & Explanation with diagram),Application of Kirchhoff's laws to Wheatstone bridge - Balanced condition of Wheatstone's Bridge – Condition of Balance (Equation).
	2nd	28.Electromagnetism – Definition & Concept,Force acting on a current carrying conductor placed in a uniform,magnetic field, Fleming's Left Hand Rule
15th	1st	29. Faraday's Laws of Electromagnetic Induction (Statement only),Lenz's Law (Statement),Fleming's Right Hand Rule,Comparison between Fleming's Right Hand Rule and Fleming's Left Hand Rule.
	2nd	30. LASER & laser beam (Concept and Definition),Principle of LASER (Population Inversion & Optical Pumping),Properties & Applications of LASER,Wireless Transmission – Ground Waves, Sky Waves, Space Waves(Concept & Definition)

LESSON PLAN

DEPARTMENT OF MATH AND SCIENCE , ITT, CHOUDWAR

SUBJECT: ENGG. PHYSICS PRACTICAL   Periods: 4 per week   SEMESTER: 1st & 2nd

NAME OF FACULTY: Pranabesh Bhanja   ACADEMIC YEAR.2020-2021

Semester From date: To Date: No. of weeks: 15

Week	Class Day	Practical Topics
1st	1st	1. To find the cross sectional area of a wire using a screw gauge.
	2nd	2. To find volume of a solid cylinder using a Vernier Calipers(2)
2nd	1st	3. To find the thickness and volume of a glass piece using a screw gauge.
	2nd	4. To find the thickness and volume of a glass piece using a screw gauge(2)
3rd	1st	5. To find volume of a solid cylinder using a Vernier Calipers.
	2nd	6. To find volume of a solid cylinder using a Vernier Calipers.
4th	1st	7. To find volume of a solid cylinder using a Vernier Calipers.
	2nd	8. To find volume of a solid cylinder using a Vernier Calipers.
5th	1st	9. To determine the radius of curvature of convex surface using a Spherometer(1).
	2nd	10. To determine the radius of curvature of convex surface using a Spherometer(2).
6th	1st	11. To determine the radius of curvature of convex surface using a Spherometer(3).
	2nd	12. To determine the radius of curvature of concave surface using a Spherometer(1).
7th	1st	13. To determine the radius of curvature of concave surface using a Spherometer(2).
	2nd	14. To determine the radius of curvature of concave surface using a Spherometer(3).
8th	1st	15. To find the time period of a simple pendulum and determine acceleration due to gravity(1).

	2nd	16. To find the time period of a simple pendulum and determine acceleration due to gravity(2).
9th	1st	17. To determine the angle of Prism(1).
	2nd	18. To determine the angle of Prism(2).
10th	1st	19. To determine the angle of Minimum Deviation by I ~ D curve method(1).
	2nd	20. To determine the angle of Minimum Deviation by I ~ D curve method(2).
11th	1st	21. To determine the angle of Minimum Deviation by I ~ D curve method(3).
	2nd	22. To trace lines of force due to a bar magnet with North pole pointing North and locate the neutral points(1)
12th	1st	23. To trace lines of force due to a bar magnet with North pole pointing North and locate the neutral points(2)
	2nd	24. To trace lines of force due to a bar magnet with North pole pointing North and locate the neutral points(3)
13th	1st	25. To trace lines of force due to a bar magnet with North pole pointing South and locate the neutral points(1).
	2nd	26. To trace lines of force due to a bar magnet with North pole pointing South and locate the neutral points(2).
14th	1st	27. To trace lines of force due to a bar magnet with North pole pointing South and locate the neutral points(3).
	2nd	28. To verify Ohm's Law by Ammeter – Voltmeter method(1).
15th	1st	29. To verify Ohm's Law by Ammeter – Voltmeter method(2).
	2nd	30. To verify Ohm's Law by Ammeter – Voltmeter method(3).