Winter 2022 **LESSION PLAN** Winter 2022 1st Semester.

Discipline: CIVIL & MECHANICAL ENGINEERING	Semester: FIRST WINTER-2022	Name of the Teaching Faculty: SRI HIRENDRA KUMBHAR
Subject: COMMUNICATIVE ENGLISH	No. Of Day / per week: 4 class allotted.	Semester From date : 26/10/2022 To Date: 20/2/2023 No of weeks:15 weeks
WEEK	**CLASS DAY**	**THEORY/PRACTICAL TOPICS**
1st	1st	Reading Comprehension
	2nd	Reading Comprehension
	3rd	Reading Comprehension
	4th	Reading Comprehension
2nd	1st	Reading Comprehension
	2nd	Standing up for yourself
	3rd	Standing up for yourself
	4th	Standing up for yourself
3rd	1st	Standing up for yourself
	2nd	Standing up for yourself
	3rd	Notice Writing
	4th	Notice Writing
4th	1st	Agenda Writing
	2nd	Agenda Writing
	3rd	Use of Synonyms
	4th	Use of Antonyms
5th	1st	Same word used in different situations in different meaning
	2nd	Same word used in different situations in different meaning
	3rd	Single word Substitute
	4th	The Magic of Teamwork
6th	1st	The Magic of Teamwork
	2nd	The Magic of Teamwork
	3rd	The Magic of Teamwork
	4th	The Magic of Teamwork
7th	1st	To My True Friend
	2nd	To My True Friend
	3rd	The Inchcape Rock
	4th	The Inchcape Rock
8th	1st	The Inchcape Rock
	2nd	Countable and Uncountable Noun
	3rd	Articles and Determiners
	4th	Modal Verbs
9th	1st	Tenses
	2nd	Tenses
	3rd	Voice-change
	4th	Voice-change
10th	1st	Subject-verb Agreement
	2nd	Paragraph Writing
	3rd	Paragraph Writing

	4th	Report Writing
11th	1st	Report Writing
	2nd	Writing Personal Letter
	3rd	Letter to Principal, Librarian, Head of the Department and Hostel Superintendent
	4th	Writing Business Letters (letter of enquiry, placing an order, execution of an order, cancellation, complaint letter)
12th	1st	Writing Business Letters (letter of enquiry, placing an order, execution of an order, cancellation, complaint letter)
	2nd	Writing Business Letters (letter of enquiry, placing an order, execution of an order, cancellation, complaint letter)
	3rd	Job Application and C.V. Writing
	4th	Job Application and C.V. Writing
13th	1st	Introduction to Communication
	2nd	Good Communication and Bad Communication
	3rd	Communication Models
	4th	Process of Communication and factors responsible for it
14th	1st	Meaning of professional communication and its types
	2nd	Formal Communication (Upward, Downward and Parallel
	3rd	Formal Communication (Upward, Downward and Parallel
	4th	Informal Communication (Grape vine Communication)
15th	1st	Kinesics or Body Language (Postures, Gestures, Facial Expression and Eye contact)
	2nd	Kinesics or Body Language (Postures, Gestures, Facial Expression and Eye contact)
	3rd	Proxemics or Spatial Language (Private space, Personal space, Social space and Public space)
	4th	Language of Signs and Symbols(Audio signs and Visual signs in everyday life with merits and demerits)

Head Kandi
Lect in English

Name of the Faculty with Designation

GOVT. POLYTECHNIC KALAHANDI
LESSON PLAN (ENGG. PHYSICS)

Discipline: Civil & Mech.	Semester: 1st Winter 2022	Name of the teaching faculty: **Binayak Sahu (Lect. In Physics)**
Subject: **Engg. Physics (Th.2a)**	No. of days/week class allotted: 04	Semester from date: 26/10/2022 To date: 20/02/2023 No. of weeks: 15 weeks
Week	Class Day	Theory Topics
1st	1st	Unit-1: UNITS & DIMENSIONS **Physical quantities, Units, types of units and system of units**
	2nd & 3rd	Unit-1: UNITS & DIMENSIONS **Dimension and dimensional formulae of physical quantities Principle of homogeneity and application of dimensional analysis: Checking the correctness of physical relations and Examples**
	4th	Unit-2:SCALARS AND VECTORS **Concept of scalar and vector quantities with definition, types of vectors, Rules of vector addition: Statements of Triangle law of vector addition**
2nd	1st	Unit-2: SCALARS AND VECTORS **Parallelogram law of vector addition and simple numericals, Concept on Resolution of vectors with simple numerical on Horizontal and vertical components**
	2nd	Unit-2: SCALARS AND VECTORS **Vector multiplication: Dot product and Cross Product with simple numericals on dot and cross products**
	3rd & 4th	Unit-3: KINEMATICS **Concept of Rest and Motion with examples, Fundamental ideas on distance, displacement, speed, velocity, acceleration and force, equations of motion under gravity both for upward and downward motion**
3rd	1st	Unit-3: KINEMATICS **Circular motion: Conceptual idea on circular motion and terms related to circular motion such as angular displacement, angular velocity and angular acceleration.**
	2nd	Unit-3: KINEMATICS **Derivations of Relation between- (i) Linear & angular velocity, (ii) Linear & Angular acceleration**
	3rd & 4th	Unit-3: KINEMATICS **Projectile motion: Definition and examples, Expression for equation of Trajectory, Time of Flight, Maximum Height and Horizontal Range for a projectile fired at an angel, condition for maximum horizontal range with simple numericals**
4th	1st	Unit-4: WORK AND FRICTION **Definition of work, its formula and SI unit with simple numericals**
	2nd	Unit-4: WORK AND FRICTION **Concept of friction with definition and simple examples, Types of friction**
	3rd	Unit-4: WORK AND FRICTION **Definition with concept on limiting friction, and laws of**

	4th	Unit-9: ELECTROSTATICS AND MAGNETOSTATICS **Concept of Electric field and Electric field intensity, Statement and Explanation of Coulomb's law and definition of Unit charge, Absolute & Relative Permittivity (Definition, Relation & Unit**
11th	1st	
	2nd & 3rd	Unit-9: ELECTROSTATICS AND MAGNETOSTATICS **Electric potential & Electric potential difference (Definition, formula & SI units), Concept of capacitor and capacitance, Series and parallel combination of capacitors: Formula for equivalent capacitance and simple numericals**
	4th	Unit-9: ELECTROSTATICS AND MAGNETOSTATICS **Fundamental idea on magnet, Coulomb's law in magnetism and definition of Unit pole**
12th	1st	Unit-9: ELECTROSTATICS AND MAGNETOSTATICS **Definition of magnetic field and Magnetic field Intensity (H) with its formula and SI unit, Magnetic lines of force-Definition and Properties**
	2nd	Unit-9: ELECTROSTATICS AND MAGNETOSTATICS **Magnetic flux(ϕ) and Magnetic flux density (B)**
	3rd & 4th	Unit-10: CURRENT ELECTRICITY **Introduction to Electric Current, Ohm's law and its applications**
13th	1st & 2nd	Unit-10: CURRENT ELECTRICITY **Series and parallel combination of resistors: Formula for equivalent resistance and simple numericals**
	3rd	Unit-10: CURRENT ELECTRICITY **Kirchhoff's laws: Statements & Explanation with diagram**
	4th	Unit-10: CURRENT ELECTRICITY **Application of Kirchhoff's laws to Wheatstone bridge-Derivation of balance condition of Wheatstone bridge**
14th	1st & 2nd	Unit-11: ELECTROMAGNETISM AND ELECTROMAGNETIC INDUCTION **Introduction, Force acting on a current carrying conductor placed in a uniform magnetic field, Fleming's left hand rule**
	3rd & 4th	Unit-11: ELECTROMAGNETISM AND ELECTROMAGNETIC INDUCTION **Statement on Faraday's Laws of Electromagnetic Induction & Lenz's law**
15th	1st	Unit-11: ELECTROMAGNETISM AND ELECTROMAGNETIC INDUCTION **Fleming's Right Hand Rule, Comparison between Fleming's RHR & LHR**
	2nd & 3rd	Unit-12: MODERN PHYSICS **Introduction to LASER and laser beam, its principle: Population inversion & Optical Pumping**
	4th	Unit-12: MODERN PHYSICS **Concept on Wireless Transmission- Ground waves, Sky waves & Space Waves**

Signature of teaching faculty

26/10/22
Signature of HOD

Discipline: **Electrical**	Semester: **1st Winter 2022**	Name of the teaching faculty: **Jnyana Ranjan Mishra (Lect. In Chemistry)**
Subject: **Engg. Chemistry (Th.2b)**	No. of days/week class allotted: 04	Semester from date: **26/10/2022** To date: 20/02/2023 No. of weeks: **15**
Week	Class Day	Theory Topics
1st	1st	**Chapter 1: Atomic structure :** Fundamental particles (electron, proton & neutron Definition,mass and charge)
	2nd	Rutherford's Atomic model (postulates and failure). Atomic mass and mass number, Definition, examples and properties of Isotopes, isobars and isotones
	3rd & 4th	Bohr's Atomic model (Postulates only)
2nd	1st	Bohr-Bury scheme, Aufbau's principle, Hund's rule, Electronic configuration (up to atomic no 30).
	2nd	**Chapter 2 : Chemical Bonding :** Definition , types (Electrovalent, Covalent and Coordinate bond with examples)
	3rd & 4th	Formation of NaCl, $MgCl_2$, H_2,Cl_2, O_2, N_2, H_2O, CH_4, NH_3, NH_4+, SO_2
3rd	1st	**Chapter 3 : Acid base theory :** Concept of Arrhenius, Lowry Bronsted and Lewis theory for acid and base with examples (Postulates and limitations only).
	2nd	Neutralization of acid & base. Definition of Salt, Types of salts (Normal, acidic, basic, double, complex and mixed salts, definitions with 2 examples from each).
	3rd & 4th	**Chapter 4: Solutions :** Definitions of atomic weight, molecular weight, Equivalent weight. Determination of equivalent weight of Acid, Base and Salt
4th	1st	Modes of expression of the concentrations (Molarity , Normality & Molality) with Simple Problems. pH of solution (definition with simple numericals)
	2nd	Importance of pH in industry (sugar, textile, paper industries only)
	3rd	**Chapter 5 : Electrochemistry :** Definition and types (Strong & weak) of Electrolytes with example. Electrolysis (Principle & process) with example of NaCl (fused and aqueous solution).)

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	4th	Faraday's 1st and 2nd law of Electrolysis (Statement,mathematical expression and Simple numerical)
5th	1st	Industrial application of Electrolysis- Electroplating (Zinc only)
	2nd	**Chapter 6 : Corrosion:** Definition of Corrosion, Types of Corrosion- Atmospheric Corrosion,Waterline corrosion.
	3rd &4th	Mechanism of rusting of Iron only
6th	1st & 2nd	Protection from Corrosion by (i) Alloying and (ii) Galvanization.
	3rd & 4th	**Chapter 7 : Metallurgy:** Definition of Mineral, ores , gangue with example. Distinction between Ores And Minerals.
7th	1st	General methods of extraction of metals, i) Ore Dressing ii) Concentration (Gravity separation, magnetic separation, Froth floatation & leaching)
	2nd & 3rd	iii) Oxidation (Calcinations, Roasting) iv) Reduction (Smelting, Definition & examples of flux, slag) v) Refining of the metal (Electro refining, & Distillation only)
	4th	**Chapter 8 : Alloys:** Definition of alloy. Types of alloys (Ferro, Non Ferro & Amalgam) with example
8th	1st	Composition and uses of Brass, Bronze, Alnico, Duralumin
	2nd & 3rd	**Chapter 9 : Hydrocarbons :** Saturated and Unsaturated Hydrocarbons (Definition with example) Aliphatic and Aromatic Hydrocarbons (Huckle's rule only). Difference between Aliphatic and aromatic hydrocarbons
	4th	IUPAC system of nomenclature of Alkane, Alkene, Alkyne, alkyl halide and alcohol (up to 6 carbons) with bond line notation.
9th	1st &2nd	
	3rd	Uses of some common aromatic compounds (Benzene, Toluene, BHC, Phenol, Naphthalene, Anthracene and Benzoic acid) in daily life.
	4th	**Chapter 10 : Water Treatment** : Sources of water, Soft water, Hard water, hardness
10th	1st	
	2nd	Types of Hardness (temporary or carbonate and permanent or non-carbonate)
	3rd	Removal of hardness by lime soda method (hot lime & cold lime—Principle, process & advantages)
	4th	Advantages of Hot lime over cold lime process. Organic Ion exchange method (principle, process, and regeneration of exhausted resins)

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11th	1st	Class test - 1
	2nd & 3rd	**Chapter 11 : Lubricants**: Definition of lubricant, Types (solid, liquid and semisolid with examples only)
	4th	Specific uses of lubricants (Graphite, Oils, Grease), Purpose of lubrication
12th	1st	**Chapter 12 : Fuel**: Definition and classification of fuel, Definition of calorific value of fuel, Choice of good fuel.
	2nd	Liquid: Diesel, Petrol, and Kerosene --- Composition and uses.
	3rd & 4th	Gaseous: Producer gas and Water gas (Composition and uses). Elementary idea about LPG, CNG and coal gas (Composition and uses only).
13th	1st & 2nd	**Chapter 13 : Polymer**: Definition of Monomer, Polymer, Homo-polymer, Co-polymer and Degree of polymerization.
	3rd	Difference between Thermosetting and Thermoplastic
	4th	Composition and uses of Polythene, & Poly-Vinyl Chloride and Bakelite.
14th	1st & 2nd	Definition of Elastomer (Rubber). Natural Rubber (it's draw backs). Vulcanisation of Rubber.
	3rd & 4th	Advantages of Vulcanised rubber over raw rubber
15th	1st	**Chapter 14: Chemicals in Agriculture:** Pesticides: Insecticides, herbicides, fungicides-Examples and uses.
	2nd & 3rd	Bio Fertilizers: Definition, examples and uses
	4th	Important Question answer discussion & Class test - 2

Signature of the HOD/ Faculty in-charge

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Signature of the teaching faculty

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Discipline: **Electrical**	Semester: **1st Winter 2022**	Name of the teaching faculty: **Jnyana Ranjan Mishra (Lect. In Chemistry)**
Subject: **Engg. Chemistry Lab (Pr.2b)**	No. of days/week class allotted: **04**	Semester from date: **26/10/2022** To date: No. of weeks: **15**
Week	Class Day	Theory Topics
1st	1st 2nd 3rd & 4th	Basic ideas and identification of appratus
2nd	1st & 2nd	Preparation and study of physical and chemical properties CO2 gas.
	3rd & 4th	Preparation and study of physical and chemical properties NH3 gas.
3rd	1st 2nd 3rd & 4th	Crystallization of Copper sulphate from copper carbonate.
4th	1st 2nd 3rd & 4th	Simple acid-base titrations (i) Acidimetry (ii) Alkalimetry
5th	1st & 2nd	Tests for acid radicals (Known): (i) Carbonate, (ii) Sulphide, (iii) Chloride, (iv) Nitrate and (v) Sulphate.
	3rd & 4th	
6th	1st 2nd 3rd & 4th	Test for Basic radicals (Known): (i) Ammonium, (ii) Zinc, (iii) Magnesium,
7th	1st 2nd 3rd & 4th	Test for Basic radicals (Known): (iv) Aluminium, (v) Calcium, (vi) Sodium and (vii) potassium.
8th	1st & 2nd	Test for unknown Acid radicals
	4th & 3rd	
9th	1st 2nd 3rd & 4th	
10th	1st 2nd 3rd & 4th	Test for unknown basic radicals
11th	1st & 2nd	
	3rd & 4th	
12th	1st 2nd 3rd & 4th	Test for unknown salt (basic radical)
13th	1st 2nd 3rd & 4th	
14th	1st 2nd 3rd & 4th	Test for unknown salt (acid radical)
15th	1st 2nd 3rd & 4th	Repeat of experiment (test for unknown salt-2)

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LESSON PLAN (ENGG. MATHEMATICS I)

Discipline:	**Semester: 1st**	**Name of the teaching faculty:** Ritu Biswal
Subject: Engg. Mathematics I (Th-3)	No. of days/week class allotted: 2	Semester from date: 26/10/22 to date: 20/02/22 No. of weeks: 15
Week	**Class Day**	**Theory Topics**
1st	1st	**3.Coordinate geometry in two dimensions:** Geometry in two dimensions: introduction, coordinate plane and axes, fundamental concepts
	2nd	Internal division and external division of straight lines, internal division formula and external division formula and solving related problems
2nd	1st	Distance formula with example, area of a triangle formula and problem solving
	2nd	**Slope:** Definition , slope of a line joining two distinct points(non vertical line) properties
3rd	1st	Condition of perpendicularity and parallelism with examples
	2nd	Problems on distance formula, division formula and slope
4th	1st	Locus and its equation: definition, equation of a straight line: slope intercept form , slope point form with examples
	2nd	Equation of a straight line in: two point form, intercept form with examples
5th	1st	Equation of a straight line in: perpendicular form, general form of a straight line and deduction into different forms
	2nd	Solving problems on different forms of straight line
6th	1st	Case of parallel lines: equation of a line passing through a point and parallel to a line
	2nd	Problems on distance formula, division formula and slope
7th	1st	Case of perpendicular lines: equation of a line passing through a point and perpendicular to a line with example
	2nd	Pont of intersection of two lines, family of lines
8th	1st	Equation of a line passing through the intersection of two lines with examples
	2nd	Distance of a point from a line and related problem solving
9th	1st	Revision of straight lines
	2nd	Problem solving from family of straight lines
10th	1st	**4. Circle:** Definition of a circle, Equation of circle with given centre and radius with example
	2nd	Problems on equation of circle in centre radius form if the circle touches X-axis, Y-axis or both the axes with examples
11th	1st	Equation of a circle in end point of diameter form with examples
	2nd	General equation of a circle
12th	1st	Determining centre and radius of a circle from general form
	2nd	Solving Problems on circle
13th	1st	Revision of circle problems
	2nd	**5. Coordinate geometry in three dimensions:** Brief idea of three dimensional coordinate system, Distance formula with examples, section formulae with examples.
14th	1st	Solving problems on section formula, direction cosine and direction ration with examples.
	2nd	Finding dcs from drs with examples
15th	1st	Angle between two lines, condition of perpendicularity and condition of parallelism.
	2nd	Problem solving on Angle between two lines, condition of perpendicularity and condition of parallelism.

Signature of the teaching faculty

Signature of the HOD 26/10/22

LESSON PLAN SUB-COMPUTER APPLICATION		
Discipline: Electrical	**Semester: 1st**	**Name of the Teaching Faculty**: Mrs. Manik Manjari Khatua
Subject:- Computer Application	No of Days/ per week class allotted:-	Semester :- 1st Sem. Winter 2022 No of weeks:- 15 (26/10/2022 to 20/02/2023)
Week	**Class day**	**Theory Topics**
1st	1st	Introduction to computer, Evolution of computer
	2nd	Generation of computer, Classification of computer
	3rd	Classification of computer, Basic Organisation of Computer(Functional Block diagram)
	4th	Input Devices ,CPU, Output Devices
2nd	1st	Computer Memory and Classification of Memory
	2nd	Software concept, System software, Application software, Overview of Operating System Objective and Functions of O.S
	3rd	Types of Operating System: Batch Processing, Multiprogramming, Timesharing O S
	4th	Feature of DOS , Windows and LINUX
3rd	1st	Programming Languages, Compiler, Interpreter, Computer Virus
	2nd	Different Types of computer virus
	3rd	Detection and Prevention of virus
	4th	Application of Computers in different Domain
4th	1st	Networking concept, Protocol,
	2nd	Connecting Media ,Data Transmission mode
	3rd	Network Topologies
	4th	Types of Network
5th	1st	Networking Devices like Hub, Repeater, Switch, Bridge
	2nd	Router, Gateway & NIC
	3rd	Internet Services Like E-Mail, WWW, FTP, Chatting, Internet Conferenci
	4th	Different types of Internet connectivity and ISP
6th	1st	Concept of File and Folder, File access and Storage Methods: Sequential
	2nd	Direct , ISAM
	3rd	Data Capture, Data storage
	4th	Data processing
7th	1st	Data Retrieval
	2nd	Algorithm, Pseudo code and Flow chart generation of programming Languages
	3rd	Structured Programming Languages
	4th	Examples of Problem solving through Flowchart

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Week	Class day	Theory Topics
8th	1st	Examples of Problem solving through Flowchart
	2nd	Examples of Problem solving through Flowchart
	3rd	Constants, Variables and Data types in C, Managing Input and Output operations
	4th	Operators, Expressions, Type conversion & Typecasting
9th	1st	Decision Control and Looping Statements(if, if-else, switch, while)
	2nd	do-while, for, Break ,Continue & goto
	3rd	Programming Assignments Using above features
	4th	Programming Assignments Using above features
10th	1st	Programming Assignments Using above features
	2nd	Programming Assignments Using above features
	3rd	Programming Assignments Using above features
	4th	Programming Assignments Using above features
11th	1st	Programming Assignments Using above features
	2nd	Programming Assignments Using above features
	3rd	Programming Assignments Using above features
	4th	Programming Assignments Using above features
12th	1st	Programming Assignments Using above features
	2nd	Functions and Passing Parameters to the Function(Call by value and call by Reference)
	3rd	Scope of Variables and Storage Classes
	4th	Recursion Function and Types of Recursion
13th	1st	One Dimensional Array and Multidimensional Array
	2nd	String operations and Pointers
	3rd	Pointer Expression and Pointer Arithmetic
	4th	Programming Assignments using the above Features
14th	1st	Programming Assignments using the above Features
	2nd	Programming Assignments using the above Features
	3rd	Programming Assignments using the above Features
	4th	Programming Assignments using the above Features
15th	1st	Programming Assignments using the above Features
	2nd	Programming Assignments using the above Features
	3rd	Programming Assignments using the above Features
	4th	Structure and Union

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LESSON PLAN (ENGG. MATHEMATICS I)

Discipline: All	**Semester: 1st**	**Name of the teaching faculty:**
Subject: Engg. Mathematics I(Th-3)	No. of days/week class allotted:	Semester from date: To date: No. of weeks:
Week	**Class Day**	**Theory Topics**
1st	1st	**1: Matrices and Determinants:** Definition of a matrix, Element of a matrix, Row and column of matrix with examples, Types of matrices: Row matrix, Column matrix, Rectangular matrix, Square matrix, Null matrix or zero matrix with examples.
	2nd	Types of matrices (continues):Diagonal matrix, Scalar matrix, Unit matrix or Identity matrix, Singular matrix, Regular matrix, Equality of two matrices with examples.
	3rd	Transpose of a matrix with example, Algebra of matrices: Addition and subtraction of matrices with examples.
	4th	Properties of matrix addition with example
	5th	Multiplication of matrices by a scalar: Definition and properties with examples
	6th (Tutorial class)	Solving problems on matrix addition , subtraction and multiplication of matrices by a scalar
2nd	1st	**Matrix multiplication:** Definition, prefactor, postfactor with examples
	2nd	**Matrix multiplication** (continues): some more examples on matrix multiplication, Properties of matrix multiplication with examples
	3rd	Determinants: Definition, Minors and cofactors, Expansion of Determinant of second and third order with examples
	4th	Properties of determinants with examples
	5th	Properties of determinants with examples(continues)
	6th (Tutorial class)	Solving problems on minor, cofactor and evaluation of determinants without expanding.
3rd	1st	Cramer's Rule: Theory, Solving linear simultaneous equations by Cramer's rule(emphasis on two variables)
	2nd	Solving some more linear simultaneous equations by Cramer's rule
	3rd	Adjoint of a matrix : Definition and examples, Inverse of a matrix:Definition and examples(second and third order)
	4th	Some more Examples on Inverse of a matrix
	5th	Solution of simultaneous equations by inverse matrix method: Theory and example
	6th (Tutorial class)	Solving problems on inverse of matrix, adjoint of a matrix
4th	1st	Solution of simultaneous equations by inverse matrix method: solving some more problems of two variables
	2nd	Solving some important problems on determinant
	3rd	Solving some important problems on Cramer's rule.
	4th	**2. Trigonometry:**(Trigonometric functions and their signs, domains and ranges):trigonometric ratios and common angle measures
	5th	ASTC rule, domains and ranges of trigonometric functions
	6th (Tutorial class)	Discussion on ASTC rule and trigonometric ratios

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LESSON PLAN (ENGG. MATHEMATICS I)

5th	1st	Fundamental trigonometric identities, even and odd trigonometric functions
	2nd	Compound angles: addition theorem($\sin(\alpha+\beta)$,$\cos(\alpha+\beta)$,$\tan(\alpha+\beta)$,$\tan(\alpha+\beta+\gamma)$) and deductions
	3rd	Multiple and sub multiple arguments with examples
	4th	Problems on Multiple and sub multiple arguments
	5th	Writing trigonometric ratios in acute angles
	6th (Tutorial class)	Problem discussion on compound angles and trigonometric ratios
6th	1st	Periodicity of trigonometric functions, maxmimum value of trigonometric expressions
	2nd	.Inverse trigonometric functions: definition and graphs
	3rd	Useful formulae of inverse trigonometric functions
	4th	Simple identities of inverse trigonometric functions
	5th	Solving problems using inverse trigonometric identities
	6th (Tutorial class)	Revision of inverse trigonometric functions
7th	1st	**3.Coordinate geometry in two dimensions:** Geometry in two dimensions: introduction, coordinate plane and axes, fundamental concepts
	2nd	Internal division and external division of straight lines, internal division formula and external division formula and solving related problems
	3rd	Distance formula with example, area of a triangle formula and problem solving
	4th	**Slope:** Definition , slope of a line joining two distinct points(non vertical line) properties
	5th	Condition of perpendicularity and parallelism with examples
	6th (Tutorial class)	Problems on distance formula, division formula and slope
8th	1st	Locus and its equation: definition, equation of a straight line: slope intercept form , slope point form with examples
	2nd	Equation of a straight line in: two point form, intercept form with examples
	3rd	Equation of a straight line in: perpendicular form, general form of a straight line and deduction into different forms
	4th	Solving problems on different forms of straight line
	5th	Case of parallel lines: equation of a line passing through a point and parallel to a line
	6th (Tutorial class)	Problems on case of parallel lines
9th	1st	Case of perpendicular lines: equation of a line passing through a point and perpendicular to a line with example
	2nd	Pont of intersection of two lines, family of lines
	3rd	Equation of a line passing through the intersection of two lines with examples
	4th	Distance of a point from a line and related problem solving
	5th	Revision of straight lines
	6th (Tutorial class)	Problem solving from family of straight lines
10th	1st	**4. Circle:** Definition of a circle, Equation of circle with given centre and radius with example
	2nd	Problems on equation of circle in centre radius form if the circle touches X-axis, Y-axis or both the axes with examples

	3rd	Equation of a circle in end point of diameter form with examples
	4th	General equation of a circle
	5th	Determining centre and radius of a circle from general form
11th	6th (Tutorial class)	Solving Problems on circle
	1st	Revision of circle problems
	2nd	5. **Coordinate geometry in three dimensions:** Brief idea of three dimensional coordinate system, Distance formula with examples, section formulae with examples.
	3rd	Solving problems on section formula, direction cosine and direction ration with examples.
	4th	Finding dcs from drs with examples
	5th	Angle between two lines, condition of perpendicularity and condition of parallelism.
	6th (Tutorial class)	Problem solving on Angle between two lines, condition of perpendicularity and condition of parallelism.
12th	1st	Equation of a plane: General equation of a plane, Equation of a plane passing through a point and having dcs normal to the plane with examples.
	2nd	Angle between two planes with examples
	3rd	Condition of parallelism and condition of perpendicularity of two planes with examples.
	4th	Perpendicular distance of a point from a plane with examples
	5th	Equation of a plane passing through a point and parallel to a plane with examples
	6th (Tutorial class)	Problem solving on plane
13th	1st	Equation of a plane passing through a point and perpendicular to a plane with examples
	2nd	Revision : on topic plane
	3rd	6. SPHERE: Definition, equation of a sphere in centre radius form and general form with examples
	4th	Equation of a sphere in end point of diameter form with examples
	5th	Solving problems on sphere
14th	6th (Tutorial class)	Determining centre and radius of a circle from general form
	1st	Revision:chapter 1
	2nd	Revision:chapter 2
	3rd	Revision:chapter 3
	4th	Revision:chapter 4
	5th	Revision:chapter 5
	6th (Tutorial class)	Revision:chapter 6
15th	1st 2nd 3rd 4th & 5th	Discussion of problems of previous year question paper
		Discussion of important questions of 2 marks, 5 marks, 10 marks
	6th (Tutorial class)	Discussion of important questions of 5 marks

Signature of teaching faculty

Signature of HOD, Math& Sc.

LESSON PLAN
SUB-COMPUTER APPLICATION

Discipline: Electrical	**Semester: 1st**	**Name of the Teaching Faculty**: Mrs. Manik Manjari Khatua
Subject:- Computer Application	No of Days/ per week class allotted:-	Semester :- 1st Sem. Winter 2022 No of weeks:- 15 (26/10/2022 to 20/02/2023)
Week	**Class day**	**Theory Topics**
1st	1st	Introduction to computer, Evolution of computer
	2nd	Generation of computer, Classification of computer
	3rd	Classification of computer, Basic Organisation of Computer(Functional Block diagram)
	4th	Input Devices ,CPU, Output Devices
2nd	1st	Computer Memory and Classification of Memory
	2nd	Software concept, System software, Application software, Overview of Operating System Objective and Functions of O.S
	3rd	Types of Operating System: Batch Processing, Multiprogramming, Timesharing O S
	4th	Feature of DOS , Windows and LINUX
3rd	1st	Programming Languages, Compiler, Interpreter, Computer Virus
	2nd	Different Types of computer virus
	3rd	Detection and Prevention of virus
	4th	Application of Computers in different Domain
4th	1st	Networking concept, Protocol,
	2nd	Connecting Media ,Data Transmission mode
	3rd	Network Topologies
	4th	Types of Network
5th	1st	Networking Devices like Hub, Repeater, Switch, Bridge
	2nd	Router, Gateway & NIC
	3rd	Internet Services Like E-Mail, WWW, FTP, Chatting, Internet Conferencir
	4th	Different types of Internet connectivity and ISP
6th	1st	Concept of File and Folder, File access and Storage Methods: Sequential
	2nd	Direct , ISAM
	3rd	Data Capture, Data storage
	4th	Data processing
7th	1st	Data Retrieval
	2nd	Algorithm, Pseudo code and Flow chart generation of programming Languages
	3rd	Structured Programming Languages
	4th	Examples of Problem solving through Flowchart

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Week	Class day	Theory Topics
8th	1st	Examples of Problem solving through Flowchart
	2nd	Examples of Problem solving through Flowchart
	3rd	Constants, Variables and Data types in C, Managing Input and Output operations
	4th	Operators, Expressions, Type conversion & Typecasting
9th	1st	Decision Control and Looping Statements(if, if-else, switch, while)
	2nd	do-while, for, Break ,Continue & goto
	3rd	Programming Assignments Using above features
	4th	Programming Assignments Using above features
10th	1st	Programming Assignments Using above features
	2nd	Programming Assignments Using above features
	3rd	Programming Assignments Using above features
	4th	Programming Assignments Using above features
11th	1st	Programming Assignments Using above features
	2nd	Programming Assignments Using above features
	3rd	Programming Assignments Using above features
	4th	Programming Assignments Using above features
12th	1st	Programming Assignments Using above features
	2nd	Functions and Passing Parameters to the Function(Call by value and call by Reference)
	3rd	Scope of Variables and Storage Classes
	4th	Recursion Function and Types of Recursion
13th	1st	One Dimensional Array and Multidimensional Array
	2nd	String operations and Pointers
	3rd	Pointer Expression and Pointer Arithmetic
	4th	Programming Assignments using the above Features
14th	1st	Programming Assignments using the above Features
	2nd	Programming Assignments using the above Features
	3rd	Programming Assignments using the above Features
	4th	Programming Assignments using the above Features
15th	1st	Programming Assignments using the above Features
	2nd	Programming Assignments using the above Features
	3rd	Programming Assignments using the above Features
	4th	Structure and Union

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