

# LESSON PLAN

Name of Faculty		RAJNI SHARMA
Department		Applied Sciences And Humanities
Semester		1st
Subject		Mathematics- I
Lesson Plan for the Duration		1st Oct 2022 - 20th Jan 2023
Week	Topic	
1st (10Oct -04Oct )	Orientation Programme	
2nd (6Oct- 13 Oct.)	Trigonometry	Concept of angles, measurement of angles in degrees, grades and radians and their conversions.
3rd (14 Oct.-20 Oct.)	Trigonometry	T-Ratios of Allied angles (without proof ), Sum,difference formulae and their applications (without proof )
4th (21 Oct.- 02 Nov.)	Trigonometry	Product Formulae ( Transformation of Product to Sum ,Difference and vice -versa ), T-Ratio of multiple angles ,sub multiple angles (2A,3A,A/2 ).Graphs of $\sin x$ , $\cos x$ .
5th (03 Nov.-09 Nov.)	Differential Caiculus	Definition of function ,Concept of limits .Four standard limits
6th (10 Nov.-17 Nov.)	Differential Caiculus	Differentiation by definition of $x^n$ , $\sin x$ , $\cos x$ , $\tan x$ , $e^x$ . Differentiation of sum ,Product of functions .
7th (18 Nov. - 24 Nov.)	Differential Caiculus	Differentiation of quotient of function ,Differentiation of function of a function
8th (25 Nov. -01 Dec.)	Differential Caiculus	Differentiation of trigonometric and inverse trigonometric function, Logarithmic differentiation .
9th (02 Dec-08 Dec.)	Algebra	Complex Number : Definition ,real and imaginary parts of a complex number, polar and cartesian representation of complex number and its conversion from one from to other. Conjugate of comolex number.
10th (09 Dec. -16 Dec.)	Algebra	Modulus and Amplitude of a complex number.Addition, Subtraction,Multiplication and Division of a complex number . De-movier's theorem, its application.
11th (17Dec. - 23 Dec.)	Algebra	Partial Fractions : Definition of polynomial fraction proper & improper fractions and definition of partial fractions .To resolve proper into partial fraction with denominator containing non- repeated linear factors ,repeated linear factors
12th (24 Dec.- 31Dec.)	Algebra	Value of $P(n,r)$ and $C(n,r)$
13th (09 Jan. -14 Jan.)	Algebra	Binomial theorem : Binomial theorem ( without proof ) for positive integral index (expansion and general form ) binomial theorem for any index (expansion without proof) .
14th (15Jan -20 Jan.)	Algebra	First and second binomial approximation with applications

Signature of H.O.D

Signature of the Teacher

Rajni Sharma

### Lesson Plan

Name of Faculty	Anil Rewal, Saroop Chand	
Department	Applied Science & Humanities	
Semester	First	
Subject	Applied Physics-I	
Lesson Plan for the Duration	1st Oct. 2022 to 20 Jan.2023	
Week	Topic	Details Of Topics
1st(1Oct. - 4 Oct.)	Orientation programme	Orientation programme
2nd(6 Oct.-13 Oct.)	Physical world, Units and Measurements	Physical quantities: fundamental and derived, Units and systems of units (FPS, CGS and SI units), Dimensions and dimensional formulae of physical quantities, Principle of homogeneity of dimensions, Dimensional equations and their applications
3rd(14 Oct - 20 Oct)	Physical world, Units and Measurements	(conversion from one system of units to other, checking of dimensional equations and derivation of simple equations), Limitations of dimensional analysis. Errors in measurements (systematic and random), absolute error, relative error, error estimation and significant figures.
4th(21 Oct.- 2 Nov.)	Force and Motion	Scalar and Vector quantities – examples, representation of vector, types of vectors. Addition and Subtraction of Vectors, Triangle and Parallelogram law (Statement only), Scalar and Vector Product, Resolution of a Vector and its application to inclined plane (Rectangular components) and lawn roller.
5th(3 Nov.-9 Nov.)	Force and Motion	Force, Momentum, Statement and derivation of conservation of linear momentum, its applications such as recoil of gun & rockets, Impulse and its applications. Circular motion, definition of angular displacement, angular velocity, angular acceleration, frequency, time period.
6th(10 Nov.-17 Nov.)	Force and Motion	Relation between linear and angular velocity, linear acceleration and angular acceleration (related numerical), Centripetal and Centrifugal forces with live examples, Expression and applications such as banking of roads and bending of cyclist.
7th(18 Nov.-24 Nov.)	Work, Power and Energy	Work: Concept and units, examples of zero work, positive work and negative work Friction: concept, types, laws of limiting friction, coefficient of friction, methods for reducing friction and its engineering applications, Work done in moving an object on horizontal and inclined plane for rough and plane surfaces and related applications.
8th(25 Nov.-1 Dec.)	Work, Power and Energy	Energy and its units, kinetic energy, gravitational potential energy with examples and derivations, Mechanical energy, conservation of mechanical energy for freely falling bodies, transformation of energy (examples). Power and its units, power and work relationship, calculation of power (numerical problems).
9th(2 Dec.-8 Dec.)	Rotational Motion	Translational and rotational motions with examples. Definition of torque and angular momentum and their examples. Conservation of angular momentum (quantitative) and its applications.
10th(9 Dec.-16 Dec.)	Rotational Motion	Moment of inertia and its physical significance, radius of gyration for rigid body, Theorems of parallel and perpendicular axes (statements only), Moment of inertia of rod, disc, ring and sphere (hollow and solid): (Formulae only).
11th(17 Dec.-23 Dec.)	Properties of Matter	Elasticity: Definition of stress and strain, different types of moduli of elasticity, Hooke's law, significance of stress-strain curve.
12th(24 Dec.-31 Dec.)	Properties of Matter	Pressure: definition, units, atmospheric pressure, gauge pressure, absolute pressure, Fortin's Barometer and its applications. Surface tension: concept, units, cohesive and adhesive forces, angle of contact, Ascent Formula (No derivation), applications of surface tension, effect of temperature and impurity on surface tension
13th(9 Jan.-14 Jan.)	Heat and Thermometry	Concept of heat and temperature. Modes of heat transfer (conduction, convection and radiation with examples), scales of temperature and their relationship, Types of Thermometer (Mercury thermometer, bimetallic thermometer, Platinum resistance thermometer, Pyrometer) and their uses.
14th(16 Jan.-20 Jan.)	Heat and Thermometry	Expansion of solids, liquids and gases, coefficient of linear, surface and cubical expansions and relation amongst them, Co-efficient of thermal conductivity.

Anil Rewal  
HOD AS&H


Saroop Chand  
Lecturer Physics



### Lesson Plan

Name of Faculty	Anil Rewal, Saroop Chand	
Department	Applied Science & Humanities	
Semester	First	
Subject	Applied Physics-I	
Lesson Plan for the Duration	1st Oct. 2022 to 20 Jan.2023	
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14th(16 Jan.-20 Jan.)	Heat and Thermometry	Expansion of solids, liquids and gases, coefficient of linear, surface and cubical expansions and relation amongst them, Co-efficient of thermal conductivity.

  
Anil Rewal  
HOD AS&H

  
Saroop Chand  
Lecturer Physics

### LESSON PLAN

Name of Faculty		Ankaj Thakur
Department		Applied Science & Humanities
Semester		1st
Subject		Applied Chemistry
Lesson Plan for the Duration		1st oct. to 20 Jan.2023
Week	Topic	Details Of Topics
1st (1 oct. - 4 Oct.)		Orientation Programme
2nd (6 oct.-13 oct.)	Atomic Structure	Definition-Electron,Proton,Neutron,Bohr's Theory with Success & Limitations,Hydrogen Spectrum,Heisenberg uncertainty principle,Quantum Numbers,Shape of s & p Orbitals,Difference b/w Orbit & Orbital,Pauli's Exclusion Principle,Hund's rule,Aufbau Rule,Electronic Configuration (Z=1-30)
3rd (14oct - 20 oct)	Chemical Bonding & Solutions	Chemical Bonding,Cause of Chemical Bonding,Types of Bonds,Ionic Bond,Covalent Bond,Electronegativity,Difference b/w sigma & pie Bond,Electronic Sea Model of Metallic Bond,Solute,Solvent,Solution,Methods of expressing concentration of solution.
4th (21 Oct - 2 Nov)	Electro Chemistry & Corrosion	Electronic Concept of Oxidation ,Reduction & Redox Reactions,Definition-Electrolytes,Non-Electrolytes with examples,Faraday's Law of Electrolysis with simple numerical problems.
5th (03 Nov.-09 Nov.)		Industrial application of Electrolysis-*Electrometallurgy,*Electroplating,*Electrolytic Refining,Primary Cell(Dry Cell),Secondary Cell(Lead Acid Storage Battery)
6th (10 Nov.-17 Nov.)		Corrosion with types of Corrosion,H <sub>2</sub> liberation & O <sub>2</sub> absorption mechanism of electrochemical corrosion,Internal & External Corrosion preventive measures.
7th (18 Nov.-24 Nov.)	Engineering Materials	Natural Occurance of metals-mineral,ores of iron,aluminium & copper,gangue,flux,slag,metallurgy (a) Crushing & Grinding (b) Concentration of Ore (c) Extraction (d) Refining.
8th (25 Nov.-1 Dec.)		Extraction of Iron from Haematite Ore,Definition of Alloys,Purpose of making alloys,Types of alloys with suitable examples,properties and applications.
9th (2 Dec.-8 Dec.)	Water	Classification of Hard Water & Soft Water,Salts causing hardness of water,Unit of hardness(mg/l and ppm),simple numericals of water hardness,Causes of poor lathering of soap in hard water,Disadvantages of using hard water in boilers.
10th (9 Dec.-16 Dec.)		Water Softening Techniques (Zeolite Process),Municipal Water treatment-Sedimentation,coagulation, filtration,sterilizationProperties of water used for drinking & cooking purpose,Indian Standard Specification of drinking water.
11th (17Dec.-23Dec.)	Fuels	Definition-Fuels,Combustion,Classification of fuels,Calorific Value(HCV & LCV),Calculation of HCV & LCV using Dulong's Formula,Characteristic of Good Fuel,Octane number & Cetane Number,Chemical composition,calorific value and applications of LPG,CNG,Water Gas,Producer Gas, Biogas
12th (24Dec.-31Dec.)	Lubrication	Function & Characteristic properties of Good Lubricants,Classification with examples,Lubricant Mechanism-Hydrodynamic & Boundary Lubrication.
13th (9 Jan.-14 Jan.)		Physical Properties (Viscosity & Viscosity Index,Oiliness,Flash & Fire Point),Chemical Properties(coke number,acid number,saponification value) of Lubricants
14th (16 Jan.-20 Jan.)	Polymers	Monomers,Homo & Co Polymers,Degree of polymerization,Thermoplastics & Thermosetting Plastics (using polythene,PVC,PS,PTFE,NYLON 66,Bakelite)Vulcanization of rubber & properties of Vulcanised rubber

Signature of Subject Teacher

Signature of HOD



### LESSON PLAN

Name of Faculty		Deepa Kapoor
Department		Applied Science & Humanities
Semester		1st
Subject		Communication Skills in English
Lesson Plan for the Duration		1st oct. to 20 Jan.2023
Week	Topic	Details Of Topics
1st(1oct. - 4 oct.)	Orientation programme	Orientation programme
2nd(6 oct.-13 oct.)	Basic of Communication	Introduction ,definition, meaning , Process of Communication etc.
3rd(14oct - 20 oct)	Types of Communication	Formal ,Informal,Verbal,Non verbal and written barriers of effective communication
4th(21oct.- 2Nov.)	7Cs for effective communication	considerate,concrete,concise,clear,complete,correct,courteous.
5th(3Nov.-9Nov.)	Art of effective communication	Choosing words,voice,modulation,clarity,time,simplification of words, technical communication
6th(10Nov.- 17Nov.)	Soft skills for professional Excellence	Introduction: Soft skill and Hard skill, importance of soft skills .
7th(18Nov.- 24Nov.)	Life skills	Self awareness and self analysis,adaptability,resilience,emotional intelligence and empathy etc..
8th(25Nov.- 1Dec.)	Life skills	Applying soft skills across cultures ,case studies.
9th(2Dec.-8Dec.)	Short stories	The Gift of Magi by O.Henry,Uncle Podger Hangs a picture by JeromeK.Jerome.
10th(9Dec.- 16Dec.)	Poetry	Night of the Scorpion by Nissim Ezekiel,Stopping by Woods on a snowyEvening by Robert Frost.
11th(17Dec.- 23Dec.)	Poetry	Where the mind is without fear by Rabindranath Tagore.
12th(24Dec.- 31Dec.)	Professional Writing	The art of precis writing,Business and personal letters,drafting e-mail, notices,minutes of the meeting .
13th(9Jan.- 14Jan.)	Vocabulary and Grammar	Glossary of administrative terms(English and Hindi), one word substitution,idioms and phrases etc.
14th(16Jan.- 20Jan).	Vocabulary and Grammar	Part of speech, active passive voice, tenses , Punctuation etc.

Signature of HOD

Signature of Subject Teacher

### Lesson Plan

Name of Faculty	Saroop Chand	
Department	Applied Science & Humanities	
Semester	First	
Subject	Sports & Yoga	
Lesson Plan for the Duration	1st Oct. 2022 to 20 Jan.2023	
Week	Topic	Details Of Topics
1st(1Oct. - 4 Oct.)	Orientation programme	Orientation programme
2nd(6 Oct.-13 Oct.)	Introduction to Physical Education	Meaning & definition of Physical Education. Aims & Objectives of Physical Education. Changing trends in Physical Education.
3rd(14 Oct - 20 Oct)	Olympic Movement	Ancient & Modern Olympics (Summer & Winter.) Olympic Symbols, Ideals, Objectives & Values.Awards and Honours in the field of Sports in India(Dronacharya Award, Arjuna Award, Dhayanchand Award, Rajiv Gandhi Khel Ratna Award etc.)
4th(21 Oct.- 2 Nov.)	Physical Fitness, Wellness & Lifestyle	Meaning & Importance of Physical Fitness & Wellness. Components of Physical fitness.Components of Health related fitness. Components of wellness. Preventing Health Threats through Lifestyle Change. Concept of Positive Lifestyle.
5th(3 Nov.-9 Nov.)	Fundamentals of Anatomy & Physiology in Physical Education, Sports and Yoga	Define Anatomy, Physiology & Its Importance. Effect of exercise on the functioning of Various Body Systems. (Circulatory System, Respi- ratory System, Neuro-Muscular System etc.).
6th(10 Nov.-17 Nov.)	Kinesiology, Biomechanics & Sports	Meaning & Importance of Kinesiology & Biomechanics in Physical Edu. & Sports.Newton's Law of Motion & its application in sports. Friction and its effects in Sports.
7th(18 Nov.-24 Nov.)	Postures	Meaning and Concept of Postures. Causes of Bad Posture. Advantages & disadvantages of weight training. Concept & advantages of Correct Posture. Common Postural Deformities – Knock Knee; Flat Foot; Round Shoulders; Lordosis, Ky- phosis, Bow Legs and Scoliosis. Corrective Measures for Postural Deformities
8th(25 Nov.-1 Dec.)	Yoga	Meaning & Importance of Yoga. Elements of Yoga. Introduction - Asanas, Pranayama, Meditation & Yogic Kriyas.Yoga for concentration & related Asanas (Sukhasana; Tadasana; Padmasana & Sha-shankasana). Relaxation Techniques for improving concentration Yognidra.
9th(2 Dec.-8 Dec.)	Yoga & Lifestyle	Asanas as preventive measures.Hypertension: Tadasana, Vajrasana, Pavan Muktasana, Ardha,Chakrasana,Bhujangasana,Sharasana.Obesity: Procedure, Benefits & contraindications for Vajrasana, Hastasana, Trikonasana, Ardh Matsyendrasana. Back Pain: Tadasana, Ardh Matsyendrasana,Vakrasana,Shalabhasana,Bhujangasana.Diabetes:Procedure, Benefits & contraindications for Bhujangasana,Paschimottasana, Pavan Muktasana, Ardh Matsyendrasana.Asthema: Procedure, Benefits & contraindications for Sukhasana, Chakrasana,Gomukhasana, Parvatasana, Bhujangasana, Paschimottasana, Matsyasana.
10th(9 Dec.-16 Dec.)	Training and Planning in Sports	Meaning of Training.Warming up and limbering down. Skill, Technique & Style.Meaning and Objectives of Planning. Tournament – Knock-Out, League/Round Robin &Combination.
11th(17 Dec.-23 Dec.)	Psychology & Sports	Definition & Importance of Psychology in Physical Edu. & Sports. Define & Differentiate Between Growth &Development, Adolescent Problems & Their Management. Emotion: Concept, Type & Controlling of emotions. Meaning, Concept & Types of Aggressions in Sports. Psychological benefits of exercise. Anxiety & Fear and its effects on Sports Performance. Motivation, its type & techniques. Understanding Stress & Coping Strategies.
12th(24 Dec.-31 Dec.)	Doping	Meaning and Concept of Doping. Prohibited Substances & Methods. Side Effects of Prohibited Substances.
13th(9 Jan.-14 Jan.)	Sports Medicine	First Aid – Definition, Aims & Objectives. Sports injuries: Classification, Causes & Prevention.Management of Injuries: Soft Tissue Injuries and Bone & Joint Injuries.
14th(16 Jan..-20 Jan).	Sports / Games	Following sub topics related to any one Game/Sport of choice of student out of: Athletics, Badminton, Basketball, Chess, Cricket, Kabaddi, Lawn Tennis, Swimming, Table Tennis, Volleyball, Yoga etc.History of the Game/Sport. Latest General Rules of the Game/Sport.Specifications of Play Fields and Related Sports Equipment. Important Tournaments and Venues. Sports Personalities. Proper Sports Gear and its Importance

*A.Pee*

*Saroop Chand*