Syllabus 2021 - 22

Class-11

பாடத்திட்டம் 2021–2022

வகுப்பு : 11 **பாடம் : பொதுத்தமிழ்**

இயல்	பாடப்பொருள்
1	செய்யுள் – யுகத்தின் பாடல் உரைநடை – பேச்சுமொழியும் கவிதை மொழியும் இலக்கணம் – மொழி முதல், இறுதி எழுத்துகள்
2	செய்யுள் – ஏதிலிக்குருவிகள் , காவியம் , திருமலை முருகன் பள்ளு துணைப்பாடம் – யானை டாக்டர் இலக்கணம் – புணர்ச்சி விதிகள்
3	உரைநடை – மலை இடப்பெயர்கள்: ஓர் ஆய்வு செய்யுள் – புறநானூறு துணைப்பாடம் – வாடிவாசல் வாழ்வியல் – திருக்குறள்
4	துணைப்பாடம் – இதழாளர் பாரதி
5	செய்யுள் – சீறாப்புராணம் வாழ்வியல் – திருக்குறள்
6	செய்யுள் – குற்றாலக் குறவஞ்சி செய்யுள் – திருச்சாழல் துணைப்பாடம் – இசைத்தமிழர் இருவர் இலக்கணம் – கலைச்சொல்லாக்கம்
7	உரைநடை – காற்றில் கலந்த பேரோசை செய்யுள் – புரட்சிக்கவி இலக்கணம் – ஆக்கப்பெயர்கள்
8	செய்யுள் – மனோன்மணீயம் துணைப்பாடம் – செவ்வி இலக்கணம் – மெய்ப்புத் திருத்தக் குறியீடுகள்

SYLLABUS 2021-2022

STANDARD: 11 SUBJECT: ENGLISH

UNIT	CONTENTS
1	Prose The Portrait of a Lady Poem Once Upon a Time Grammar Articles and Determiners Tenses
2	Prose The Queen of Boxing Poem Confessions of a Born Spectator Grammar Modals Prepositions
3	Supplementary The First Patient (Play) Grammar Concord
4	Prose Tight Corners Supplementary With the Photographer Grammar Conditional Clauses Framing Questions
5	Prose The Convocation Address Poem Everest is not the Only Peak Grammar Reported speech
6	Poem The Hollow Crown Grammar Transformation of sentences

SYLLABUS 2021–2022

CLASS: 11 SUBJECT: MATHEMATICS

UNIT	CONTENT
1. Sets, Relations and Functions	1.1. Introduction 1.2. Sets 1.2.1. Properties of Set Operations 1.4. Constants and Variables, Intervals and Neighbourhoods 1.4.1. Constants and Variables 1.4.2. Intervals and Neighbourhoods 1.5. Relations 1.5.1. Type of Relations 1.6. Functions 1.6.1. Ways of Representing Functions 1.6.2. Some Elementary Functions 1.6.5. Inverse of a Function 1.6.6. Algebra of Functions 1.6.7. Some Special Functions
2. Basic Algebra	2.1. Introduction 2.3. Absolute Value 2.3.1. Definition and Properties 2.3.2. Equations Involving Absolute Value 2.3.3. Some Results For Absolute Value 2.3.4. Inequalities Involving Absolute Value 2.4. Linear Inequalities 2.5. Quadratic Functions 2.5.1. Quadratic Formula 2.5.2. Quadratic Inequalities 2.7. Rational Functions 2.7.1. Rational Inequalities 2.7.2. Partial Fractions 2.8. Exponents and Radicals 2.8.1. Exponents 2.8.2. Radicals

	2.8.3. Exponential Function 2.9. Logarithm 2.9.1. Properties of Logarithm 2.10. Application of Algebra in Real Life
3. Trigonometry	3.1. Introduction 3.2. A recall of basic results 3.2.5. Coterminal angles 3.3. Radian Measure 3.3.1. Relationship between Degree and Radian Measures 3.4. Trigonometric functions and their properties 3.4.1. Trigonometric Functions of any angle in terms of Cartesian coordinates 3.4.2. Trigonometric Functions of real numbers 3.4.3. Allied Angles 3.4.4. Some Characteristics of Trigonometric Functions 3.5. Trigonometric Identities 3.5.1. Sum and difference identities or compound angles formulas 3.5.2. Multiple angle identities and submultiple angle identities 3.5.3. Product to Sum and Sum to Product Identities
4. Combinatorics and Mathematical Induction	4.1. Introduction 4.2. Fundamental principles of counting 4.3. Factorials 4.4. Permutations (Theorem 4.1-4.3 without proof) 4.4.1. Permutations of distinct objects 4.4.2. Properties of Permutations. (without proof) 4.4.3. Objects always together (String method) 4.4.4. No two things are together (Gap method) 4.4.5. Permutations of not all distinct objects 4.5. Combinations

	4.5.1. Properties of Combinations (without proof) 4.6. Mathematical induction
5. Binomial Theorem, Sequences and Series	5.1. Introduction (Theorem 5.2, 5.3 without proof) 5.4. Finite Sequences 5.4.1. Arithmetic and Geometric Progressions 5.5. Finite Series 5.5.2. Telescopic Summation for Finite Series 5.6. Infinite Sequences and Series 5.6.1. Fibonacci Sequence 5.6.2. Infinite Geometric Series 5.6.4. Telescopic Summation for Infinite Series 5.6.5. Binomial Series
6. Two Dimensional Analytical Geometry	6.1. Introduction 6.2. Locus of a point 6.3. Straight Lines 6.3.1. The relationship between the angle of inclination and slope 6.3.2. Intercepts of a Line 6.3.3. Different Forms of an equation of a straight line 6.3.4. General form to other forms 6.4. Angle between two straight lines 6.4.1. Condition for Parallel Lines 6.4.2. Condition for perpendicular Lines 6.4.3. Position of a point with respect to a straight line 6.4.4. Distance Formulas 6.4.5. Family of lines 6.4.6. One parameter families 6.4.7. Two parameters families 6.5. Pair of Straight Lines 6.5.1. Pair of Lines Passing through the Origin 6.5.2. Angle between Pair of Straight Lines 6.5.3. Equation of the bisectors of the angle between the lines $ax^2+2hxy+by^2=0$ 6.5.4. General form of Pair of Straight Lines

7. Matrices and Determinants	7.1. Introduction 7.2. Matrices 7.2.4. Properties of Matrix Addition, Scalar Multiplication and Product of Matrices 7.2.5. Operation of Transpose of a Matrix and its Properties 7.2.6. Symmetric and Skew-symmetric Matrices 7.3. Determinants 7.3.1. Determinants of Matrices of different order 7.3.2. Properties of Determinants (without proof) 7.3.3. Application of Factor Theorem to Determinants. 7.3.4. Product of Determinants 7.3.5. Relation between a Determinant and its Cofactor Determinant 7.3.6. Area of a Triangle 7.3.7. Singular and non Singular matrix
8. Vector Algebra-I	8.1. Introduction 8.2. Scalars and Vectors 8.3. Representation of a vector and types of vectors 8.4. Algebra of Vectors 8.4.1. Addition of Vectors 8.4.2. Difference between two Vectors 8.4.3. Scalar multiplication of a vector 8.4.4. Some properties and results 8.5. Position vectors 8.6. Resolution of Vectors 8.6.1. Resolution of a vector in two dimension 8.6.2. Resolution of a vector in three dimension 8.6.3. Matrix representation of a vector 8.7. Direction Cosines and Direction Ratios 8.8. Product of Vectors 8.8.1. Angle between two vectors 8.8.2. Scalar product

	8.8.3. Properties of Scalar Product (without proof) 8.8.4. Vector Product 8.8.5. Properties of vector product (without proof)
9. Differential Calculus- Limits and Continuity	9.1. Introduction (Theorem 9.4 and Results 9.1-9.4 without proof) 9.2. Limits 9.2.1. The calculation of limits 9.2.2. One sided limits 9.2.3. Theorems on limits 9.2.4. Infinite limits and limits at infinity 9.2.5. Limits at infinity 9.2.6. Limits of rational functions 9.2.7. Applications of limits 9.2.8. Sandwich Theorem 9.2.9. Two special Trigonometrical limits 9.2.10. Some important other limits 9.3. Continuity 9.3.1. Examples of functions Continuous at a point 9.3.2. Algebra of continuous functions 9.3.3. Removable and Jump Discontinuities
10. Differential Calculus- Differentiability and Methods of Differentiation	10.1. Introduction (Theorem 10.1-10.6 without proof) 10.2. The concept of derivative 10.2.1. The tangent line problem 10.2.2. Velocity of Rectilinear motion 10.2.3. The derivative of a Function 10.2.4. One sided derivatives (left hand and right hand derivatives) 10.3. Differentiability and Continuity 10.4. Differentiation Rules 10.4.1. Derivatives of basic elementary functions 10.4.2. Examples on Chain Rule 10.4.3. Implicit Differentiation

	10.4.4. Logarithmic Differentiation 10.4.5. Substitution method 10.4.6. Derivatives of variables defined by parametric equations 10.4.7. Differentiation of one function with respect to another function : 10.4.8. Higher order Derivatives
11. Integral Calculus	11.1. Introduction 11.2. Newton-Leibnitz Integral 11.3. Basic Rules of Integration 11.4. Integrals of the Form $\int f(ax+b)dx$ 11.5. Properties of Integrals (without proof) 11.6. Simple applications 11.7. Methods of Integration 11.7.1. Decomposition method 11.7.2. Decomposition by Partial Fractions 11.7.3. Method of substitution or change of variable 11.7.4. Important Results 11.7.5. Integration by parts 11.7.6. Bernoulli's formula for Integration by Parts 11.7.8. Integrals of the form (i)$\int e^{ax} \sin bx dx$ (ii) $\int e^{ax} \cos bx dx$ 11.7.9. Integration of Rational Algebraic Functions
12. Introduction to probability Theory	12.1. Introduction 12.2. Basic definitions 12.3. Finite sample space (Theorem 12.3-12.6,12.8,12.10,12.11 without proof) 12.4. Probability 12.4.3. ODDS 12.5. Some basic Theorems on Probability 12.6. Conditional Probability 12.6.1. Independent Events 12.7. Total Probability of an event 12.8. Bayes' Theorem
(*All examples and exercise problems for the content mentioned above)	

SYLLABUS 2021–2022

STANDARD: 11 SUBJECT: PHYSICS

UNIT	CONTENT	
1. Nature of Physical world and Measurement	1.1	Science - Introduction
	1.1.1	The Scientific Method
	1.2	Physics - Introduction
	1.2.1	Branches of physics
	1.2.2	Scope and Excitement of Physics
	1.3	Physics in Relation to technology and society
	1.5.1	(ii) Measurement of Large distance
	1.5.3	Measurement of Time intervals
	1.6	Theory of errors
	1.6.1	Accuracy and precision
	1.6.2	Errors in measurement
	1.6.3	Error Analysis
	1.6.4	Propagation of errors
	1.7	Significant Figures
	1.7.1	Definition and rules of significant figures
	1.7.2	Rounding off
	1.7.3	Arithmetical operations with significant figures
	1.8	Dimensional analysis
	1.8.1	Dimension of Physical Quantities
	1.8.2	Dimensional quantities, Dimensionless quantities, Principle of homogeneity
	1.8.3	Application and limitations of the method of Dimensional analysis
2. Kinematics	2.1	Introduction
	2.2	concept of Rest and Motion
	2.3.3	Addition of vectors
	2.3.4	Subtraction of vectors
	2.4	Components of a vector
	2.4.1	Vector addition using components
	2.5	Multiplication of vector by a scalar
	2.5.1	Scalar product of two vectors
	2.5.2	The vector product of two vector

	2.5.3	Properties of the components of vector
	2.10	Motion along one dimension
	2.10.1	Average velocity
	2.10.2	Relative velocity in one and two dimensional motion
	2.10.3	Equations of uniformly accelerated motion by calculus method
	2.11	Projectile Motion
	2.11.1	Introduction
	2.11.2	Projectile in horizontal projection
	2.11.3	Projectile under an angular projection
	2.11.4	Introduction to Degrees and radians
	2.11.5	Angular diplacement
	2.11.6	Cicular motion
3. Laws of motion	3.1	Introduction
	3.2	Newton's laws
	3.2.1	Newton's First Law
	3.2.2	Newton's Second Law
	3.2.3	Newton's Third Law
	3.3	Applications of Newton's laws
	3.3.1	Free body diagram
	3.3.2	Particle moving in an inclined plane
	3.3.3	Two bodies in contact on a Horizontal surface
	3.3.4	Motion of connected bodies
	3.3.5	Concurrent Forces and Lami's Theorem
	3.6	Friction
	3.6.1	Introduction
	3.6.2	Static friction
	3.6.3	Kinetic friction
	3.6.4	To move an object- push or pull? Which is easier?
	3.6.5	Angle of Friction
	3.6.6	Angle of repose
	3.6.7	Application of angle of repose
	3.6.8	Rolling Friction
	3.7	Dynamics of circular motion
	3.7.2	Vehicle on a leveled circular road
	3.7.3	Banking of tracks

4. Work, energy and power	4.1 Introduction 4.1.2 Workdone by a constant force 4.2 Energy 4.2.1 Kinetic Energy 4.2.2 Work- Kinetic Energy 4.2.3 Relation between Momentum and Kinetic energy 4.2.4 Potential Energy 4.3 Power 4.3.1 Definition of power 4.3.2 Unit of power 4.4 Collisions 4.4.1 Types of collisions 4.4.2 Elastic collisions in one dimension 4.4.4 Loss of kinetic energy in perfect inelastic collision
5. Motion of system of particles and rigid bodies	5.1 Introduction 5.1.1 Centre of mass 5.1.2 Center of Mass of a Rigid Body 5.1.3 Center of Mass for Distributed point masses 5.1.4 Center of Mass of Two point masses 5.1.5 Center of mass for uniform distribution of mass 5.2 Torque and Angular Momentum 5.2.1 Definition of Torque 5.2.2 Torque about an axis 5.2.3 Torque and Angular Acceleration 5.2.4 Angular Momentum 5.2.5 Angular Momentum and Angular Velocity 5.2.6 Torque and angular Momentum 5.3.2 Couple 5.3.3 Principle of moments 5.3.4 Center of Gravity 5.3.5 Bending of cyclist in curves 5.4 Moment of inertia 5.4.1 Moment of inertia of a uniform Rod

	5.5	Rotational Dynamics
	5.5.1	Effect of Torque on Rigid Bodies
	5.5.3	Work done by Torque
	5.5.4	Kinetic Energy in Rotation
	5.5.5	Power delivered by Torque
	5.5.6	Comparison of translational and rotational quantities
	5.6.3	Kinetic energy in pure rolling
	5.6.4	Rolling on Inclined plane
6. Gravitation	6.1	Introduction
	6.2.2	Superposition principle for gravitational field
	6.2.3	Gravitational potential energy
	6.2.4	Gravitational potential energy near the surface of the earth
	6.2.5	Gravitational potential v(r)
	6.3	Acceleration due to gravity of the earth
	6.3.1	Variation of g with altitude, depth and latitude
	6.4	Escape speed and orbital speed
	6.4.1	Satellites, orbital speed and time period
	6.4.2	Energy of an orbiting satellite
	6.4.3	Geo- stationary and polar satellite
	6.4.4	Weightlessness weight of an object
	6.5	Elementary ideas of astronomy
7. Properties of matter	7.1	Introduction
	7.2	Microscopic understanding of various states of matter
	7.2.1	Elastic behaviour of materials
	7.2.2	Stress and strain
	7.2.3	Hooke's law and its experimental verification
	7.2.5	Poisson's ratio
	7.2.6	Elastic energy
	7.2.7	Applications of elasticity
	7.4	Viscosity
	7.4.1	Introduction
	7.4.2	Streamlined flow

	7.4.3	Turbulent flow
	7.4.4	Reynold's number
	7.4.5	Terminal velocity
	7.4.6	Stoke's law and its applications
	7.4.7	Poiseuille's equation
	7.4.8	Applications of viscosity
	7.5.2	Factors affecting the surface tension of a liquid
	7.5.3	Surface energy (s.e.) and surface tension (s.t.)
	7.5.4	Angle of contact
	7.5.5	Excess of pressure inside a liquid drop, a soap bubble, and an air bubble
	7.5.6	Capillarity
	7.5.7	Surface tension by capillary rise method
	7.5.8	Applications of surface tension
	7.6	Bernoulli's theorem
	7.6.1	Equation of continuity
	7.6.3	Bernoulli's theorem and its applications
8. Heat and Thermodynamics	8.1	Heat and Temperature
	8.1.1	Introduction
	8.2.4	Anomalous expansion of water
	8.2.6	Calorimetry
	8.2.8	Newton's law of cooling
	8.3	Laws of Heat transfer
	8.3.1	Prevost theory of heat exchange
	8.3.2	Stefan Boltzman law
	8.3.3	Wien's displacement law
	8.4	Thermodynamics
	8.4.1	Introduction
	8.4.3	Thermodynamics state variables
	8.5	Zeroth law of thermodynamics
	8.6	Internal Energy (U)
	8.6.1	Joule's Mechanical equivalent of heat
	8.6.2	First law of Thermodynamics
	8.6.3	Quasi static process
	8.6.4	Work done in volume changes
	8.6.5	PV Diagram

	8.7.2	Meyer's relation
	8.8	Thermodynamic process
	8.8.1	Isothermal process
	8.8.2	Adiabatic process
	8.8.3	Isobaric process
	8.8.4	Isochoric process
	8.8.5	Cyclic process
	8.8.6	P. V Diagram for a cyclic process
	8.9	Heat engine
	8.9.1	Carnot's ideal heat engine
	8.9.2	Efficiency of a Carnot's engine
	8.9.3	Entropy & Second law of Thermodynamics
9. Kinetic theory of gases	9.1	Kinetic theory
	9.1.1	Introduction
	9.2	Pressure exerted by a gas
	9.2.1	Expression for pressure exerted by a gas
	9.2.2	Kinetic interpretation of temperature
	9.2.3	Relation between, Pressure & mean kinetic Energy
	9.3	Degrees of freedom
	9.3.1	Definition
	9.3.2	Mono atomic Molecule
	9.3.3	Diatomic Molecule
	9.3.4	Triatomic Molecule
	9.4	Laws of equi partition of energy
	9.4.1	Application of law of equipartition of energy in specific heat of gas
	9.5	Mean free path
10. Oscillation	10.1	Introduction
	10.1.1	Periodic and non-periodic motion
	10.1.2	Oscillatory motion
	10.2	Simple Harmonic motion (SHM)
	10.2.1	The Projection of uniform circular motion on a diameter of SHM

	10.2.2	Displacement, Velocity, acceleration and its graphical representation-SHM
	10.2.3	Time period, frequency, phase, phase difference and epoch in SHM
	10.4.1	Horizontal oscillations of a spring-mass system
	10.4.2	Vertical Oscillation of a spring
	10.4.3	Combination of springs
	10.4.4	Oscillation of a Simple pendulum in SHM and laws of simple pendulum
	10.5	Energy in SHM
11. Waves	11.1	Introduction
	11.1.1	Ripples and wave formation on the water surface
	11.1.2	Formation of waves on stretched strings
	11.1.3	Formation of waves in a tuning fork
	11.1.4	Characteristics of wave motion
	11.1.5	Mechanical wave motion and its types
	11.1.6	Transverse wave motion
	11.1.7	Longitudinal wave motion
	11.2	Terms and definition used in wave motion
	11.3	Velocity of waves in different media
	11.3.1	Velocity of transverse waves in a stretched string
	11.3.2	Velocity of longitudinal waves in an elastic medium
	11.4	Propagation of sound waves
	11.4.1	Newton's formula for speed of sound waves in air
	11.4.2	Laplace's correction
	11.6	Progressive waves or Travelling wave.
	11.6.1	Characteristics of progressive waves
	11.6.2	Equation of a plane progressive wave
	11.6.3	Graphical representation of wave
	11.6.4	Particle velocity and wave velocity
	11.7	Superposition principle
	11.7.1	Interference of waves
	11.7.2	Formation of beats

	11.8 Standing waves 11.8.1 Explanation of stationary waves 11.8.2 Characteristics of stationary waves 11.8.3 Stationary waves in Sonometer 11.8.4 Fundamental frequency and over tones 11.8.5 Laws of transverse vibrations in stretched strings 11.9 Intensity and loudness 11.9.1 Intensity of sound 11.9.2 Loudness of sound 11.9.3 Intensity and loudness of sound 11.10 Vibrations of air column

PRACTICAL

STANDARD: 11	SUBJECT: PHYSICS
Sl.No	**Topic**
1	Moment of inertia of a solid sphere of known mass using vernier callipers.
2	Spring constants of a spring
3	Acceleration due to gravity using simple pendulum.
4	Viscosity of a liquid by Stoke's method
5	Study of the relation between frequency and length of the given wire under constant tension using sonometer

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STANDARD: 11 SUBJECT : CHEMISTRY

UNIT	CONTENT	
1. Basic Concepts of Chemistry and Chemical Calculations	1.4	Mole Concept
	1.4.1	Avogadro Number
	1.4.2	Molar Mass
	1.4.3	Molar volume
	1.5	Gram Equivalent Concept
	1.5.1	Equivalent Mass of Acids, Bases,Salts, Oxidising Agents and Reducing Agents
	1.6	Empirical Formula and Molecular Formula
	1.6.1	Determination of Empirical Formula from Elemental Analysis Data
	1.6.2	Calculation of Molecular formula from Empirical Formula
	1.7	Stoichiometry
	1.7.1	Stoichiometric Calculations
		Calculations based on Stoichiometry
	1.7.2	Limiting Reagents
	1.8	Redox Reactions
	1.8.1	Oxidation Number
		Rules to calculate Oxidation Number
		Calculation of oxidation number using the above rules
		Redox reactions in terms of Oxidation Number
2. Quantum Mechanical Model of Atom	2.1	Introduction to atom model
	2.1.1	Bohr atom model
	2.1.2	Limitations of Bohr's atom model
	2.2	Wave particle duality of Matter
	2.2.1	Quantisation of angular momentum and de-Broglie Concept
	2.2.2	Davison and Germer Experiment
	2.3	Heisenberg's Uncertainty Principle

	2.5	Quantum numbers
		Principal quantum number (n)
		Azimuthal quantum number (l) or subsidiary quantum number
		Magnetic quantum number (m)
		Spin quantum number (s)
	2.5.2	Energies of orbitals
	2.6	Filling of orbitals
	2.6.1	Aufbau principle
	2.6.2	Pauli Exclusion Principle
	2.6.3	Hund's rule of maximum multiplicity
	2.6.4	Electronic Configuration of atoms
	2.6.5	Stability of half filled and completely filled orbitals
		Symmetrical distribution of electron
		Exchange energy
3. Periodic Classification of Elements	3.2.1	Modern Periodic Table
	3.3	Nomenclature of Elements with Atomic Number Greater than 100
	3.4	Grouping of Elements based on Electronic Configurations
	3.4.1	Variation of Electronic Configuration along the periods
	3.4.2	Variation of Electronic Configuration in the Groups
	3.5	Periodic Trends in Properties
	3.5.1	Atomic radius
	3.5.2	Ionic radius
	3.5.3	Ionisation energy
	3.5.4	Electron Affinity
	3.5.5	Electro negativity
	3.6	Periodic trends in chemical properties
	3.6.1	Anomalous properties of second period elements
		Diagonal Relationship
	3.6.2	Periodic Trends and Chemical Reactivity
4. Hydrogen	4.1	Introduction
	4.1.1	Position in Periodic Table
	4.1.2	Isotopes of Hydrogen
	4.1.3	Ortho and Para - Hydrogen
	4.2.3	Preparation of Deuterium
	4.2.4	Preparation of Tritium
	4.3.3.	Chemical properties of Deuterium
	4.3.4	Properties of Tritium

	4.5	Compounds of Hydrogen
	4.5.1	Water
	4.5.4	Hard and Soft Water Temporary Hardness and its removal: Permanent Hardness
	4.6	Heavy Water
	4.6.1	Chemical properties of heavy water
	4.6.2	Uses of heavy water
	4.8	Hydrides
		Ionic (Saline) hydrides
		Covalent (Molecular) hydrides
		Metallic (Interstitial) hydrides
5. Alkali and Alkaline earth metals	5.1	s-block elements
	5.2	Alkali metals
	5.2.1	General characteristics of alkali metals
	5.2.2	Distinctive behaviour of lithium
	5.2.3	Chemical properties of alkali metals
	5.2.4	Uses of alkali metals
	5.3	General characteristics of the compounds of alkali metals
	5.5	Alkaline earth metals
	5.5.1	General characteristics of alkaline earth metals
	5.5.2	Distinctive behavior of beryllium
	5.5.3	Chemical properties of alkaline earth metals
	5.5.4	Uses of alkaline earth metals such as Mg,Ca
	5.6	General characteristics of the compounds of the alkaline earth metals
	5.6.4	Plaster of paris
6. Gaseous State	6.1	Introduction
	6.2	The Gas Laws
	6.2.1	Boyle’s law (Pressure - volume relationship)
	6.2.2	Charle’s law (volume - temperature relationship)
	6.2.3	Gay - Lussac’s law (pressure - temperature relationship)
	6.2.4	Avogadro’s Hypothesis

	6.3	Ideal gas equation
	6.4	Mixture of gases - Dalton's law of partial pressure
	6.4.1	Graham's law of diffusion
7. Thermodynamics	7.1	Introduction
	7.2	System and Surroundings
	7.2.1	Types of System
	7.2.2	Properties of the System
	7.2.3	Thermodynamic Processes
	7.3	Zeroth law of Thermodynamics
	7.4	First Law of Thermodynamics
	7.4.1	Mathematical Statement of the First law
	7.5	Enthalpy
	7.5.1	Relation between enthalpy 'H' and Internal energy 'U'
	7.5.2	Enthalpy changes for different types of reactions and phase transitions
	7.6	Thermochemical equations (Up to heat of Combustion)
	7.8	Hess's law of constant heat summation
	7.9	Lattice energy
	7.10	Second law of Thermodynamics
	7.10.1	Spontaneity and Randomness
	7.10.1	Standard Entropy Change
	7.10.1	Standard Entropy of formation
	7.10.1	Entropy change accompanying change of phase
	7.11	Gibbs Free Energy
	7.11.1	Criteria for spontaneity of a process
	7.12	Third law of Thermodynamics
8. Physical and Chemical Equilibrium	8.3	Chemical equilibrium
	8.4	Dynamic nature of equilibrium
	8.5	Homogeneous and heterogeneous equilibria
	8.5.1	Homogeneous equilibrium
	8.5.2	Heterogeneous equlibrium

	8.6	Law of mass action
	8.6.1	Equilibrium constant (Kp and Kc)
	8.6.2	Relation between Kp and Kc
	8.6.3	Equilibrium constants for heterogeneous equilibrium
	8.7	Application of equilibrium constant
	8.7.1	Predicting the extent of a reaction
	8.7.2	Predicting the direction of a reaction
	8.7.3	Calculation of concentration of reactants and products at equilibrium
	8.8	Le-chatelier's principle
	8.8.1	Effect of concentration
	8.8.2	Effect of pressure
	8.8.3	Effect of temperature
	8.8.4	Effect of catalyst
	8.8.5	Effect of inert gas
9. Solutions	9.1	Introduction
	9.2	Types of Solutions
	9.3	Expressing Concentration of solutions
	9.3.1	Standard solutions and working standard
	9.3.2	Advantage of using standard solutions
	9.4	Solubility of the solutes
	9.4.1	Factors influencing the solubility
	9.5	Henry's Law
	9.5.1	Limitations of Henry's law
	9.6	Vapour pressure of Liquid
	9.7	Vapour pressure of Liquid Solutions
	9.7.1	Vapour pressure of binary solution of liquids in liquid
	9.7.2	Vapour pressure of binary solution of Solids in liquids
	9.8	Ideal and non ideal solutions
	9.8.1	Ideal solution
	9.8.2	Non-ideal Solutions

	9.9	Colligative properties
		Relative lowering of vapour pressure
		Elevation of boiling point
		Depression in freezing point
		Osmosis and Osmotic pressure
10. Chemical Bonding	10.1	Introduction
	10.1.1	Kossel - Lewis approach to chemical bonding & Octet rule
	10.2	Types of Chemical Bonds
	10.2.1	Covalent bonds
	10.2.2	Representing a covalent bond by Lewis dot structure
	10.2.3	Formal charge
	10.2.4	Lewis structure for exception to octet rule
	10.3	Ionic (or) Electrovalent bond
	10.5	Bond Parameters
	10.5.1	Bond length
	10.5.2	Bond order
	10.5.3	Bond angle
	10.5.4	Bond enthalpy
	10.5.5	Resonance
	10.5.6	Polarity of bonds
	10.6	VSEPR Theory
	10.7	Valence Bond Theory
	10.7.1	Salient features of VB Theory
	10.8	Orbital Overlap
	10.8.1	Sigma and pi bonds
	10.8.2	Formation of H_2, F_2, HF, O_2. molecules
	10.9	“Hybridisation
	10.9.1	Types of Hybridisation and geometry of molecule
	10.10	Molecular Orbital Theory
	10.10.1	Linear Combination of atomic orbitals
	10.10.2	Bonding in some Homonuclear diatomic molecules
	10.10.3	Bonding in some Heteronuclear diatomic molecules

11. Fundamentals of Organic Chemistry	11.1	Introduction
		Characters of organic compounds
	11.2	Classification of organic compounds
	11.2.1	Classification based on structure
	11.2.2	Classification based on Functional groups
	11.3	Nomenclature of organic compounds
	11.3.1	IUPAC Rules for Nomenclature of organic compounds (except Table 11.6 Rules for naming of alicyclic compounds)
	11.5	ISOMERISM in organic compounds
	11.5.1	Constitutional Isomerism
	11.5.2	Sterio Isomerism
	11.5.3	Geometrical Isomerism
	11.5.4	Optical Isomerism
12. Basic Concepts of Organic Reactions	12.1	Introduction
	12.1.1	Fundamental concepts or Organic reaction mechanism
	12.1.2	Fission of a covalent bond
	12.1.3	Nucleophiles and Electrophiles
	12.1.5	Electron displacement effects in covalent bonds
13. Hydrocarbons		Introduction
	13.1	Introduction and classification of alkanes
	13.2.1	Preparation of alkanes
	13.2.2	Physical properties
	13.2.4	Chemical properties
		Uses
	13.3.1	General method of preparation of Alkenes
	13.3.2	Physical properties of Alkenes
	13.3.3	Chemical properties of Alkenes - No Mechanisms (Except Recycling Plastics)
	13.3.4	Uses of Alkenes
	13.5	Aromatic Hydrocarbons
	13.5.2	Aromaticity
	13.5.3	Structure of Benzene

	13.5.4	Sources and preparation of Benzene
	13.5.5	Physical properties
	13.5.6	Chemical properties of Benzene compounds
	13.5.7	Directive influence of functional group and mono substituted Benzene
14. Haloalkanes and Haloarenes	14.1	Introduction
	14.2	Classification of organic Halogen compounds
	14.3	Haloalkanes
	14.3.1	Nomenclature
	14.3.2	Nature of C - X bond in haloalkane
	14.3.3	Haloalkanes preparation
	14.3.4	Physical Properties
	14.3.5	Chemical Properties of Haloalkanes
	14.3.6	Uses of Haloalkane
	14.4	Organo Metallic Compounds
	14.4.1	Preparation
	14.4.2	Uses of Grignard Reagents
	14.5	Haloarenes
	14.5.1	Nomenclature of Haloarenes
	14.5.2	Nature of C - X bond in haloarenes
	14.5.3	Methods of Preparation
	14.5.4	Physical Properties
	14.5.5	Chemical Properties
	14.5.6	Uses of chloro benzene

PRACTICAL

STANDARD: 11	SUBJECT : CHEMISTRY
Sl.No	**Topic**
Salt Analysis	
1	Lead Nitrate
2	Copper Sulphate
3	Ferric Chloride
4	Zinc Sulphide
5	Aluminium Nitrate
6	Calcium Carbonate
7	Ammonium Bromide
8	Magnesium Phosphate

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STANDARD: 11 SUBJECT: BOTANY (THEORY)

UNIT	CONTENT
1. Living world	1.2.6 Bacteriophage 1.2. 7 Multiplication or Lifecycle of Phages 1. 3 Classification of Living world 1.3.3 Five kingdom of classification 1.4. 4 Gram staining procedure 1.4. 5 Life processes in Bacteria 1.4. 6 Reproduction in Bacteria 1.4.8 Archaebacteria 1.4.9 Cyanobacteria (Blue Green Algae) 1.4.10 Mycoplasma 1.4.11 Actinomycetes 1.5.2 General characteristic features of fungi 1.5.4 Classification of fungi 1.5.5 Kingdom: Myceteae (Fungi) 1.5.7 Agaricus 1.5.8 Mycorrhizae 1.5.9 Lichen
2. Plant Kingdom	2. 2 Lifecycle patterns in plants 2.3.1 General characteristic features of algae 2.3.2 Classification of algae 2.3.4 Chara 2.4.1 General characteristic features of bryophytes 2.4.2 Classification of Bryophytes 2.4. 4 Marchantia 2.5.1 General characteristic features of Pteridophytes 2.5. 2 Classification of Pteridophytes 2.5. 4 Selaginella 2.5. 5 Types of Stele 2.6.1 General characteristic features of Gymnosperm 2.6. 2 Classification of Gymnosperm 2.6.3 Comparison of Gymnosperm with Angiosperm 2.6. 5 Cycas

3. Vegetative Morphology	3. 5	Root system
	3.5.1	Types of Root system
	3.5.2	Functions of root
	3.5.3	Modification of roots – Tap root Modification
	3. 6	Shoot system
	3.6.3	Modification of stem
	3.7	Leaf
	3.7.3	Phyllotaxy
	3.7. 5	Leaf types
	3.7. 6	Leaf modification
	3.7. 7	Leaf duration
4. Reproductive Morphology	4. 1	Inflorescence
	4.1.1	Types of inflorescence
	4.1.2	Based on branching pattern and other character
	4. 2	Flower
	4.2.1	Whorls of flower
	4.2.2	Flower sex
	4.2.3	Plant sex
	4. 4	Androecium
	4.4.1	Fusion of stamens
	4. 5	Gynoecium
	4.5.1	Number of carpels
	4.5.5	Ovary position
	4. 6	Construction of floral diagram and Formula
5. Taxonomy and Systematic Botany	5.1	Taxonomy and systematics
	5.2	Taxonomic Hierarchy
	5.3	Concept of species - Morphological, Biological and Phylogenetic
	5.4	International Code of Botanical Nomenclature (ICBN)
	5.5	Taxonomic Aids
	5.10	Types of Classification
	5.10.1	Artificial system of classification
	5.10.2	Natural system of classification
	5.10.3	Phylogenetic system of classification

	5.10.4	Angiosperm phylogeny group classification(APG)
	5.11	Modern Trends in Taxonomy
	5.11.1	Chemotaxonomy
	5.11.2	Biosystematics
	5.11.3	Karyotaxonomy
	5.11.4	Serotaxonomy
	5.11.5	Molecular taxonomy
	5.11.6	DNA Barcoding
	5.12	Cladistics
	5.13	Selected families of Angiosperms
	5.13.1	Fabaceae
	5.13.2	Apocynaceae
	5.13.3	Solanaceae
	5.13.4	Euphorbiaceae
	5.13.5	Musaceae
	5.13.6	Liliaceae
6. Cell: The Unit of Life	6. 2	Microscopy
	6.2.1	Bright field microscope
	6.2.2	Electron Microscope
	6. 3	Cell theory
	6.3.1	Exception to cell theory
	6.3.2	Protoplasm theory
	6.3.3	Cell sizes and shapes
	6. 5	Plant and Animal cell
	6.5.1	Ultrastructure of an Eukaryotic cell
	6.5.2	Protoplasm
	6.5.3	Cellwall
	6.5.4	Cell membrane
	6. 7	Nucleus
	6.7.1	Chromosome
	6. 8	Flagella
	6.8.1	Prokaryotic flagellum
	6.8.2	Eukaryotic flagellum
	6.8.3	Cilia

7. Cell Cycle	7. 2	Cell cycle
	7.2.1	Duration of cell cycle
	7.2.2	Interphase
	7.2.3	G1 phase
	7.2.4	G0 phase
	7.2.5	S phase
	7.2.6	G2 - The second gap phase
	7. 3	Cell division
	7.3.1	Amitosis (Direct Cell Division)
	7.3.2	Mitosis
	7.3.3	Closed and Open Mitosis
	7.3.4	Cytokinesis
	7.3. 6	Meiosis
8. Biomolecules	8. 3	Carbohydrates and Classification
	8.3.1	Monosaccharides
	8.3.2	Disaccharides
	8.3.3	Polysaccharides
	8.3.4	Starch
	8.3.5	Test for starch
	8.3.6	Cellulose
	8.3.7	Chitin
	8.3.8	Test for reducing sugar
	8. 5	Proteins
	8.5.1	Classification of Aminoacids
	8.5.2	Structure of protein
	8.5.3	Protein Denaturation
	8.5.4	Protein binding
	8.5.5	Test for proteins
	8. 6	Enzymes
	8.6.1	Properties of enzyme
	8.6.2	Lock and Key mechanism of enzyme
	8.6.3	Enzyme cofactors
	8.6.4	Classification of enzymes
	8.6.5	Uses of enzymes
	8. 7	Nucleic acids
	8.7.1	Formation of Dinucleotide and Polynucleotide
	8.7.2	Structure of DNA
	8.7.3	Features of DNA
	8.7.4	Ribonucleic Acid (RNA)
	8.7.5	Types of RNA

9. Tissue and Tissue system	9. 1	Meristematic Tissue and Theories of Meristem
	9. 3	The Tissue System
	9. 4	Epidermal Tissue system
	9. 6	Vascular Tissue system
10. Secondary growth	10. 1	Secondary growth in Dicot Stem
	10. 2	Secondary growth in Dicot Root
11. Transport in Plants	11. 3	Plant water relations
	11.3.1	Imbibition
	11.3.2	Water potential
	11.3.3	Osmotic pressure and osmotic potential
	11.3.4	Turgor pressure and wall pressure
	11.3.5	Diffusion pressure deficit (DPD)
	11.3.6	Osmosis
	11. 5	Ascent of sap
	11.5.1	The path of ascent of sap
	11.5.2	Vital force theories
	11.5.3	Root pressure theory
	11.5.4	Physical force theory
	11. 6	Transpiration
	11.6.1	Types of transpiration
	11.6.2	Structure of stomata
	11.6.3	Mechanism of stomatal transpiration
	11.6.4	Factor affecting rate of transpiration
	11.6.5	Plant Antitranspirants
	11.6.6	Guttation
	11.6.7	Measurement of transpiration
	11.6.8	Significance of transpiration
	11. 7	Translocation of organic sloutes
	11.7.1	Path of translocation
	11.7.2	Ringing or girdling experiment
	11.7.3	Direction of translocation
	11.7.4	Source and sink
	11.7.5	Phloem loading
	11.7.6	Phloem unloading
	11.7.7	Mechanism of translocation
	11. 8	Mineral absorption
	11.8.1	Passive absorption
	11.8.2	Active absorption
	11.8.3	Donnan equilibrium

12. Mineral Nutrition	12. 1	Classification of Minerals
	12.1.1	Classification of minerals based on their quantity requirements
	12.1.2	Classification of minerals based on mobility
	12.1.3	Classification of minerals based on their functions
	12.2	Functions, mode of absorption and deficiency symptoms of macronutrients
	12. 3	Functions, mode of absorption and deficiency symptoms of micronutrients
	12. 5	Critical concentration and toxicity of minerals
	12.5.1	Critical concentration
	12.5.2	Mineral toxicity
	12.7	Nitrogen fixation
	12.7.1	Non-Biological fixation
	12.7.2	Biological nitrogen fixation
	12.8	Nitrogen Cycle and Nitrogen Metabolism
	12.8.1	Nitrogen cycle
	12.8.2	Nitrogen Metabolism Ammonium Assimilation
13. Photosynthesis	13.2	Photosynthetic pigments
	13.2.1	Chlorophyll
	13.2.2	Carotenoids
	13.2.3	Phycobilins
	13.4.	Photosynthetic Unit (Quantasome)
	13.5.	Absorption spectrum and Action spectrum
	13.5.1	Absorption spectrum
	13.5.2	Action spectrum
	13.6.	Emerson’s Experiments and Hill’s Reaction
	13.6.1	Red drop or Emerson’s First Effect
	13.6.2	Emerson’s enhancement effect
	13.6.3	Hill’s Reaction
	13.7.	Modern concepts of photosysthesis
	13.8.	Photo-Oxidation phase of light Reaction
	13.8.1	Photosystem and Reaction centre
	13.9.	Photo chemical phase of light reaction
	13.9.1	Photolysis of water
	13.9.2	Electron Transport chain of Chloroplast

	13.10. Photophosphorylation 13.10.1 Cyclic photophosphorylation 13.10.2 Non-cyclic Photophosphorylation 13.10.3 Bio energetics of light reaction 13.10.4 Chemiosmotic theory 13.11 Dark Reaction or C3 cycle 13.12. Hatch & Slack pathway or C4 cycle 13.12.1 Stage:I Mesophyll cells 13.12.2 Stage:II Bundle sheath cells 13.12.3 Significance of C4 cycle 13.13. CAM Cycle 13.14. Photorespiration or C2 Cycle 13.14.1 Significance of Photorespiration
14. Respiration	14. 1 Gaseous exchange 14.1.1 Respiration 14.1.2 Compensation point 14. 5 Stages of Respiration 14.5.1 Glycolysis 14.5.2 Pyruvate Oxidation 14.5.3 Kreb's cycle 14.5.4 Electron Transport Chain 14. 7 Anaerobic Respiration 14.7.1 Fermentation 14. 9 Pentose phosphate pathway
15. Plant growth and development	15. 2 Plant Growth Regulators 15.2.1 Auxins 15.2.2 Gibberellins 15.2.3 Cytokinin 15.2.4 Ethylene 15.2.5 Abscisic acid 15. 3 Plant movements 15. 4 Photoperiodism 15. 5 Vernalization 15. 8 Stress Physiology

PRACTICAL

STANDARD: 11	SUBJECT: BOTANY
Sl.No	**Topic**
Preparation and Demonstration of Slides	
1	Mitotic cell division stages
2	Anatomical structure – Dicot & Monocot (Root, Stem &Leaf)
3	Plasmolysis and Deplasmolysis
4	Stomatal distribution
Fresh or preserved specimens	
5	Phylloclade – Opuntia
6	Special inflorescence – Cyathium
Model/ Photograph/ Pictures	
7	Types of Stele
8	Types of Inflorescence
9	Cell cycle stages
10	Nitrogen bases
Taxonomy - Flower Dissection	
11	Fabaceae – Clitoria ternatea
12	Apocynaceae - Catharanthus roseus
13	Solanaceae – Datura metal
14	Euphorbiaceae – Ricinus communis
15	Musaceae – Musa paradisiaca
Bio molecules – Nutrient test	
16	Test for reducing sugar-Benedict test
17	Starch – Iodine test
18	Protein –Biuret test
19	Lipid –Saponification test
Plant Physiology Experiments	
20	Paper Chromatography
21	Wilmott's Bubbler
22	Demonstration of production of CO_2 during respiration

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STANDARD: 11 SUBJECT: ZOOLOGY

UNITS	CONTENT
1. The Living world	Introduction 1.1 Diversity in the living world 1.3 Taxonomy and systematics 1.4 Three domains of life 1.7 Concept of species 1.8 Tools for study of Taxonomy
2. Kingdom Animalia	Introduction 2.1 Basis of classification 2.1.1 Levels of organization 2.1.2 Diploblastic and Triploblastic organization 2.1.3 Patterns of symmetry 2.1.4 Coelom 2.1.5 Segmentation and Notochord 2.2 Classification of Kingdom – Animalia 2.3 Non – Chordates 2.3.2 Phylum – Cnidaria 2.3.3 Phylum-Ctenophora 2.3.6 Phylum Annelida 2.3.7 Phylum Arthropoda 2.4 Phylum – Chordata 2.4.3 Subphylum – Vertebrata 2.4.4 Class – Cyclostomata 2.4.5 Class – Chondrichthyes 2.4.6 Class - Osteichthyess
3. Tissue level of organization	Introduction 3.1 Animal Tissues 3.2 Epithelial Tissues 3.3 Connective Tissues
4. Organ and Organ System of Animal	Introduction 4.1 Earth worm 4.3 Frog

5. Digestion and Absorption	Introduction 5.1 Digestive System 5.1.1 Structure and alimentary canal 5.1.2 Histology of the Gut 5.1.3 Digestive glands 5.2 Digestion of food and role of digestive enzymes 5.3 Absorption and assimilation of proteins, carbohydrates and fats 5.4 Egestion 5.7 Nutritional and digestive Disorders
6. Respiration	Introduction 6.1 Respiratory functions 6.3 Mechanism of breathing 6.3.1 Respiratory volumes and capacities 6.4 Exchange of gases 6.5 transport of gases 6.5.1 Transport of oxygen 6.5.2 Transport of Carbon-dioxide 6.6 Regulation of Respiration 6.7 Problems in oxygen Transport 6.9 Effects of Smoking
7. Body fluids and circulation	Introduction 7.1 Body Fluids 7.1.1 Plasma 7.1.2 Formed elements 7.1.3 Blood groups 7.1.4 Coagulation of blood 7.1.5 Composition of lymph and its function 7.4 Human Circulatory System 7.4.1 Origin and conduction of heart beat 7.4.2 Cardiac cycle 7.4.3 Cardiac output 7.4.4 Electrocardiogram (ECG) 7.6 Regulation of Cardiac activity 7.7 Disorders of the circulatory system 7.8 Diagnosis and treatment

8. Excretion	Introduction 8.1 Mode of Excretion 8.2 Human Excretory system 8.2.1 Structure of Kidney 8.2.2 Structure of Nephron 8.3 Mechanism of urine formation in human 8.4 Regulation of kidney functions 8.6 Role of other organs in Excretion 8.7 Disorder related to the Excretory system
9. Locomotion and movement	Introduction 9.1 Types of movement 9.2 Types of muscles 9.3 Skeletal muscles 9.3.1 Structure of a skeletal muscle fiber 9.4 Structure of contractile proteins 9.5 Mechanism of muscle contraction 9.6 Types of Skeletal muscle contraction 9.7 Properties of Skeletal muscles 9.11 Types of joints 9.14 Bone fracture 9.14.1 Mechanism and healing of a bone fracture 9.15 Dislocation of joints and treatments
10. Neural control and coordination	Introduction 10.1 Neural System 10.4 Central Nervous System 10.4.1 Brain 10.4.2 Spinal cord 10.6 Sensory reception and processing 10.6.1 Photoreceptor – Eye 10.6.2 Phono receptor 10.6.3 Olfactory receptors
11. Chemical coordination and Integration	Introduction 11.1 Endocrine glands and Hormones 11.2 Human Endocrine system 11.2.1 Hypothalamus 11.2.2 Pituitary gland or Hypophysis

	11.2.3 Pineal gland 11.2.4 Thyroid gland 11.2.5 Parathyroid gland 11.2.6 Thymus gland 11.2.7 Adrenal gland 11.2.10 Hormones of heart, kidney & gastro-intestinal tract 11.4 Mechanism of hormone action
12. Basic Medical Instruments and Techniques	Introduction 12.2 Imaging instruments 12.3 Therapeutic instruments 12.4 Biomedical Techniques
13. Trends in Economic Zoology	Introduction 13.1 Scope of Zoology 13.3 Sericulture 13.5 Lac Culture 13.7 Aquaculture 13.7.1 Fish culture 13.7.2 Prawn culture 13.7.3 Pearl culture 13.8 Animal husbandry and management (Cattle & Poultry)

PRACTICAL

STANDARD: 11	SUBJECT: ZOOLOGY
Sl.No	**Topic**
1	Pleurobrachia
2	Tapeworm
3	Cockroach
4	Pila
5	Squamous epithelium
6	Columnar epithelium
7	Rib cage
8	Ball and Socket joint
9	Stethoscope
10	Sphygmomanometer
11	Glucometer
12	Test for Ammonia
13	Test for Urea
14	Test for Salivary Amylase
15	Kangeyam bull
16	Honey Bee
17	Bombyx mori

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STANDARD: 11 SUBJECT: BIO-BOTANY (THEORY)

CHAPTER	CONTENT
1. Living world	1.2.6 Bacteriophage 1.2. 7 Multiplication or Lifecycle of Phages 1.3 Classification of Living world 1.3.3 Five kingdom of classification 1.4.4 Gram staining procedure 1.4.5 Life processes in Bacteria 1.4.6 Reproduction in Bacteria 1.4.8. Archaebacteria 1.4.9. Cyanobacteria (Blue Green Algae) 1.4.10. Mycoplasma or Mollicutes 1.4.11. Actinomycetes 1.5.2 General characteristic features 1.5.4 Classification of fungi 1.5.6 Mycorrhizae 1.5.7 Lichen
2. Plant Kingdom	2.2 Lifecycle patterns in plants 2.3.1 General characteristic features of algae 2.3.2 Classification of algae 2.4.1 General characteristic features of bryophytes 2.5.1 General characteristic features of Pteridophytes 2.5.3 Types of Stele 2.6.1 General characteristic features of Gymnosperm 2.6.2 Comparison of Gymnosperm with Angiosperm
3. Vegetative Morphology	3. 5 Root system 3.5.1 Types of Root system 3.5.2 Functions of root 3.5.3 Modification of roots – Tap root Modification

	3. 6	Shoot system
	3.6.3	Modification of stem
	3.7	Leaf
	3.7.3	Phyllotaxy
	3.7. 5	Leaf types
	3.7. 6	Leaf modification
	3.7. 7	Leaf duration
4. Reproductive Morphology	4. 1	Inflorescence
	4.1.1	Types of inflorescence
	4.1.2	Based on branching pattern and other character
	4. 2	Flower
	4.2.1	Whorls of flower
	4.2.2	Flower sex
	4.2.3	Plant sex
	4. 4	Androecium
	4.4.1	Fusion of stamens
	4. 5	Gynoecium
	4.5.1	Number of carpels
	4.5.5	Ovary position
	4. 6	Construction of floral diagram and Formula
5. Taxonomy and Systematic Botany	5.1	Taxonomy and systematics
	5.2	Taxonomic Hierarchy
	5.3	Concept of species - Morphological, Biological and Phylogenetic
	5.4	International Code of Botanical Nomenclature (ICBN)
	5.5	Taxonomic Aids
	5.10	Types of Classification
	5.10.1	Artificial system of classification
	5.10.2	Natural system of classification
	5.10.3	Phylogenetic system of classification

	5.10.4	Angiosperm phylogeny group classification(APG)
	5.11	Modern Trends in Taxonomy
	5.11.1	Chemotaxonomy
	5.11.2	Biosystematics
	5.11.3	Karyotaxonomy
	5.11.4	Serotaxonomy
	5.11.5	Molecular taxonomy
	5.11.6	DNA Barcoding
	5.12	Cladistics
	5.13	Selected families of Angiosperms
	5.13.1	Fabaceae
	5.13.2	Solanaceae
	5.13.3	Liliaceae
6. Cell: The Unit of Life	6. 2	Microscopy
	6.2.1	Bright field microscope
	6.2.2	Electron Microscope
	6. 3	Cell theory
	6.3.1	Exception to cell theory
	6.3.2	Protoplasm theory
	6.3.3	Cell sizes and shapes
	6. 5	Plant and Animal cell
	6.5.1	Ultrastructure of an Eukaryotic cell
	6.5.2	Protoplasm
	6.5.3	Cellwall
	6.5.4	Cell membrane
	6. 7	Nucleus
	6.7.1	Chromosome
	6. 8	Flagella
	6.8.1	Prokaryotic flagellum
	6.8.2	Eukaryotic flagellum
	6.8.3	Cilia

7. Cell Cycle	7. 2	Cell cycle
	7.2.1	Duration of cell cycle
	7.2.2	Interphase
	7.2.3	G_1 phase
	7.2.4	G_0 phase
	7.2.5	S phase
	7.2.6	G_2 - The second gap phase
	7. 3	Cell division
	7.3.1	Amitosis (Direct Cell Division)
	7.3.2	Mitosis
	7.3.3	Closed and Open Mitosis
	7.3.4	Cytokinesis
	7.3. 6	Meiosis
8. Biomolecules	8. 3	Carbohydrates and Classification
	8.3.1	Monosaccharides
	8.3.2	Disaccharides
	8.3.3	Polysaccharides
	8.3.4	Starch
	8.3.5	Test for starch
	8.3.6	Cellulose
	8.3.7	Chitin
	8.3.8	Test for reducing sugar
	8. 5	Proteins
	8.5.1	Classification of Aminoacids
	8.5.2	Structure of protein
	8.5.3	Protein Denaturation
	8.5.4	Protein binding
	8.5.5	Test for proteins
	8. 6	Enzymes
	8.6.1	Properties of enzyme
	8.6.2	Lock and Key mechanism of enzyme
	8.6.3	Enzyme cofactors
	8.6.4	Classification of enzymes
	8.6.5	Uses of enzymes
	8. 7	Nucleic acids
	8.7.1	Formation of Dinucleotide ad Polynucleotide
	8.7.2	Structure of DNA
	8.7.3	Features of DNA
	8.7.4	Ribonucleic acid (RNA)
	8.7.5	Types of RNA

9. Tissue and Tissue system	9. 1	Meristematic Tissue and Theories of Meristem
	9. 3	Tissue System
	9. 4	Epidermal Tissue system
	9. 6	Vascular Tissue system
10. Secondary growth	10.1	Secondary growth in Dicot Stem
11. Transport in Plants	11. 3	Plant water relation
	11.3.1	Imbibition
	11.3.2	Water potential
	11.3.3	Osmotic pressure and osmotic potential
	11.3.4	Turgor pressure and wall pressure
	11.3.5	Diffusion pressure deficit (DPD)
	11.3.6	Osmosis
	11. 5	Ascent of sap
	11.5.1	The path of ascent of sap
	11.5.2	Vital force theories
	11.5.3	Root pressure theory
	11.5.4	Physical force theory
	11. 6	Transpiration
	11.6.1	Types of transpiration
	11.6.2	Structure of stomata
	11.6.3	Mechanism of stomatal transpiration
	11.6.4	Factor affecting rate of transpiration
	11.6.5	Plant Antitranspirants
	11.6.6	Guttation
	11.6.7	Measurement of transpiration
	11.6.8	Significance of transpiration
	11. 7	Translocation of organic sloutes
	11.7.1	Path of translocation
	11.7.2	Ringing or girdling experiment
	11.7.3	Direction of translocation
	11.7.4	Source and sink
	11.7.5	Phloem loading
	11.7.6	Phloem unloading
	11.7.7	Mechanism of translocation
	11. 8	Mineral absorption
	11.8.1	Passive absorption
	11.8.2	Active absorption
	11.8.3	Donnan equilibrium

12. Mineral Nutrition	12. 1	Classification of Minerals
	12.1.1	Classification of minerals based on their quantity requirements
	12.1.2	Classification of minerals based on mobility
	12.1.3	Classification of minerals based on their functions
	12.2	Functions, mode of absorption and deficiency symptoms of macronutrients
	12. 3	Functions, mode of absorption and deficiency symptoms of micronutrients
	12. 5	Critical concentration and toxicity of minerals
	12.5.1	Critical concentration
	12.5.2	Mineral toxicity
	12.7	Nitrogen fixation
	12.7.1	Non-Biological fixation
	12.7.2	Biological nitrogen fixation
	12.8	Nitrogen Cycle and Nitrogen Metabolism
	12.8.1	Nitrogen cycle
	12.8.2	Nitrogen Metabolism Ammonium Assimilation
13. Photosynthesis	13.2	Photosynthetic pigments
	13.2.1	Chlorophyll
	13.2.2	Carotenoids
	13.2.3	Phycobilins
	13.4.	Photosynthetic Unit (Quantasome)
	13.5.	Absorption spectrum and Action spectrum
	13.5.1	Absorption spectrum
	13.5.2	Action spectrum
	13.6.	Emerson's Experiments and Hill's Reaction
	13.6.1	Red drop or Emerson's First Effect
	13.6.2	Emerson's enhancement effect
	13.6.3	Hill's Reaction
	13.7.	Modern concepts of photosysthesis
	13.8.	Photo-Oxidation phase of light Reaction
	13.8.1	Photosystem and Reaction centre
	13.9.	Photo chemical phase of light reaction
	13.9.1	Photolysis of water
	13.9.2	Electron Transport chain of Chloroplast

	13.10. Photophosphorylation 13.10.1 Cyclic photophosphorylation 13.10.2 Non-cyclic Photophosphorylation 13.10.3 Bio energetics of light reaction 13.10.4 Chemiosmotic theory 13.11 Dark Reaction or C3 cycle 13.12. Hatch & Slack pathway or C4 cycle 13.12.1 Stage:I Mesophyll cells 13.12.2 Stage:II Bundle sheath cells 13.12.3 Significance of C4 cycle 13.13. CAM Cycle 13.14. Photorespiration or C2 Cycle 13.14.1 Significance of Photorespiration
14. Respiration	14. 1 Gaseous exchange 14.1.1 Respiration 14.1.2 Compensation point 14. 5 Stages of Respiration 14.5.1 Glycolysis 14.5.2 Pyruvate Oxidation 14.5.3 Kreb's cycle 14.5.4 Electron Transport Chain 14. 7 Anaerobic Respiration 14.7.1 Fermentation 14. 9 Pentose phosphate pathway
15. Plant growth and development	15. 2 Plant Growth Regulators 15.2.1 Auxins 15.2.2 Gibberellins 15.2.3 Cytokinin 15.2.4 Ethylene 15.2.5 Abscisic acid 15. 3 Photoperiodism 15. 4 Vernalization

PRACTICAL

STANDARD: 11	SUBJECT: BIO-BOTANY
Sl.No	**Topic**
Preparation and Demonstration of Slides	
1	Mitotic cell division stages
2	Anatomical structure – Dicot& Monocot (Root, Stem &Leaf)
3	Plasmolysis and Deplasmolysis
Fresh or preserved specimens	
4	Phylloclade – Opuntia
5	Special inflorescence – Cyathium
Taxonomy - Flower Dissection	
6	Fabaceae – Clitoria ternatea
7	Solanaceae – Datura metal
Bio molecules – Nutrient test	
8	Test for reducing sugar-Benedict test
9	Starch – Iodine test
10	Protein –Biuret test
11	Lipid –Saponification test
Plant Physiology Experiments	
12	Paper Chromatography
13	Wilmott's Bubbler
14	Demonstration of production of CO_2 during respiration

SYLLABUS 2021-2022

CLASS: 11 SUBJECT: BIO_ZOOLOGY (THEORY)

UNITS	CONTENT
1. The Living world	Introduction 1.1 Diversity in the living world 1.3 Taxonomy and systematic 1.4 Three domains of life 1.7 Concept of species 1.8 Tools for study of Taxonomy
2. Kingdom Animalia	Introduction 2.1 Basis of classification 2.1.1 Levels of organization 2.1.2 Diploblastic and Triploblastic organization 2.1.3 Patterns of symmetry 2.1.4 Coelom 2.1.5 Segmentation and Notochord 2.2 Classification of Kingdom – Animalia 2.3 Non – Chordates 2.3.2 Phylum – Cnidaria 2.3.3 Phylum - Ctenophora 2.3.6 Phylum Annelida 2.3.7 Phylum Arthropoda 2.4 Phylum – Chordata 2.4.3 Subphylum – Vertebrata 2.4.4 Class – Cyclostomata 2.4.5 Class – Chondrichthyes 2.4.6 Class - Osteichthyess
3. Tissue level of organization	3.1 Animal Tissues 3.2 Epithelial Tissues 3.3 Connective Tissues
4. Organ and Organ System of Animal	Introduction 4.1 Earth worm 4.3 Frog

5. Digestion and Absorption	Introduction 5.1 Digestive System 5.1.1 Structure and alimentary canal 5.1.2 Histology of the Gut 5.1.3 Digestive glands 5.2 Digestion of food and role of digestive enzymes 5.3 Absorption and assimilation of proteins, carbohydrates and fats 5.4 Egestion 5.6 Nutritional and digestive Disorders
6. Respiration	Introduction 6.1 Respiratory functions 6.3 Mechanism of breathing 6.3.1 Respiratory volumes and capacities 6.4 Exchange of gases 6.5 transport of gases 6.5.1 Transport of oxygen 6.5.2 Transport of Carbon-dioxide 6.6 Regulation of Respiration 6.7 Problems in oxygen Transport 6.9 Effects of Smoking
7. Body fluids and circulation	Introduction 7.1 Body Fluids 7.1.1 Plasma 7.1.2 Formed elements 7.1.3 Blood groups 7.1.4 Coagulation of blood 7.1.5 Composition of lymph and its functions 7.4 Human Circulatory System 7.4.1 Origin and conduction of heart beat 7.4.2 Cardiac cycle 7.4.3 Cardiac output 7.4.4 Electrocardiogram (ECG) 7.6 Regulation of Cardiac activity 7.7 Disorders of the circulatory system

8. Excretion	Introduction 8.2 Human Excretory system 8.2.1 Structure of Kidney 8.2.2. Structure of Nephron 8.3 Mechanism of urine formation in human 8.4 Regulation of kidney functions 8.6 Role of other organs in Excretion
9. Locomotion and movement	Introduction 9.1 Types of movement 9.2 Types of muscles 9.3 Skeletal muscles 9.3.1 Structure of a skeletal muscle fiber 9.4 Structure of contractile proteins 9.5 Mechanism of muscle contraction 9.6 Types of Skeletal muscle contraction 9.10 Types of joints
10. Neural control and coordination	Introduction 10.1 Neural System 10.4 Central Nervous System 10.4.1 Brain 10.4.2 Spinal cord 10.5 Reflex action and Reflex arc 10.6 Sensory reception and processing 10.6.1 Photoreceptor – Eye 10.6.2 Phonoreceptor 10.6.3 Olfactory receptors
11. Chemical coordination and Integration	Introduction 11.1 Endocrine glands and Hormones 11.2 Human Endocrine system 11.2.1 Hypothalamus 11.2.2 Pituitary gland or Hypophysis 11.2.3 Pineal gland 11.2.4 Thyroid gland

	11.2.5 Parathyroid gland 11.2.6 Thymus gland 11.2.7 Adrenal gland 11.2.10 Hormones of heart, kidney & gastro-intestinal tract 11.4 Mechanism of hormone action
12. Trends in Economic Zoology	Introduction 12.1 Scope of Zoology 12.3 Sericulture 12.5 Lac Culture 12.7 Aquaculture 12.7.1 Fish culture 12.7.2 Prawn culture 12.7.3 Pearl culture 12.8 Animal husbandry and management (Cattle & Poultry)

PRACTICAL

CLASS: 11	SUBJECT: BIO_ZOOLOGY
Sl.No	**Topic**
1	Pleurobrachia
2	Tapeworm
3	Cockroach
4	Pila
5	Squamous epithelium
6	Columnar epithelium
7	Rib cage
8	Ball and Socket joint
9	Test for Ammonia
10	Test for Urea
11	Test for Salivary Amylase
12	Kangeyam bull
13	Honey Bee
14	Bombyx mori

SYLLABUS 2021-2022

CLASS: 11 SUBJECT: BIO CHEMISTRY

UNIT	CONTENT
1. Basic Concepts of Biochemistry and Cell Biology	Introduction 1.1. The unit of biological organisation: The Cell 1.2. Two Major classes of cells:prokaryotic and eukaryotic 1.3. Shape and Structure of cell 1.3.1. Cell and solute levels 1.4. Subcellular organelles 1.4.1. Cell Membrane 1.4.2. Cell Wall 1.4.3. Nucleus
2. Biomolecules	Introduction 2.1. Carbohydrates 2.1.1. Importance 2.2. Proteins 2.2.1 Definition 2.2.2 Classification 2.2.3 Functional diversity of proteins 2.3. Lipids 2.3.1 Definition 2.3.2 Classification 2.3.3 Function of lipids 2.4. Nucleic Acid 2.4.1 Definition 2.4.2 Structure of Nucleic acids 2.4.3 Classification 2.4.4 Functions of DNA and RNA
3. Proteins	Introduction 3.1. Dietary Source of Proteins 3.2. Amino Acids 3.2.1 Amino acids with Non polar side chains 3.2.2 Amino acids with uncharged polar side chains 3.2.3 Amino acids with basic side chains

	3.2.4 Stereo isomerism in amino acids 3.2.5 Acid –base properties of amino acids 3.2.6 Reaction with Ninhydrin 3.2.7 Essential amino acids 3.4. Properties of Proteins 3.5. Haemoglobin - An Example for Globular protein 3.6. Collagen - An Example for Fibrous protein
4. Enzymes	Introduction 4.1. Nature and properties of Enzymes 4.2. Nomenclature and Classification of Enzymes 4.3. Coenzyme 4.4. Factors influencing Enzyme activity 4.4.1 Effect of pH 4.4.2 Effect of Temperature on enzyme activity 4.4.3 Concentration of Substrate 4.4.4 Concentration of Enzyme 4.4.5 Activators
5. Carbohydrates	Introduction 5.1. A Primary source of Energy 5.3. Structures of Glucose, Fructose & Galactose 5.3.1 Glucose 5.3.2 Fructose 5.3.3 Galactose 5.4. Properties of Glucose, Fructose and Galactose (chemical properties) 5.4.1 Glucose 5.4.2 Fructose 5.4.3 Galactose 5.5. Haworth's Projection 5.6. Disaccharides 5.6.1 Maltose 5.6.2 Lactose 5.6.3 Sucrose

6. Lipids	Introduction 6.2. Fatty acids 6.2.1 Classification of fatty acids 6.3. Triacylglycerols or Triglycerides 6.3.1 Properties 6.4. Quantitation of fat 6.5. Derived lipids 6.5.1 Steroids 6.5.2 Sterol
7. Nucleic Acid	Introduction 7.1. Significance of Nucleic Acid 7.6. Denaturation of DNA 7.7. Griffith's Experiment to Identify the Genetic Material 7.8. Ribonucleic Acid 7.8.1. Types of RNA 7.9. Difference between DNA & RNA
8. Vitamins	8.1. Fat Soluble Vitamins 8.1.1. Vitamin A (Retinol) 8.1.2. Vitamin D 8.1.3. Vitamin E 8.1.4. Vitamin K 8.2.1. B- Complex Vitamins (B_1,B_2,B_3, B_5,B_6,B_7, B_9,B_{12}) 8.3. Vitamin C
9. Minerals	9.2. Macro Elements 9.2.1 Calcium 9.2.2 Phosphorus 9.2.3 Sodium 9.2.4 Potassium 9.2.5 Chlorine 9.2.6 Magnesium 9.2.7 Sulphur 9.3. Micro Elements 9.3.1 Iron 9.3.2 Copper 9.3.3 Iodine

	9.3.4 Fluorine 9.3.5 Zinc 9.3.6 Cobalt 9.3.7 Manganese 9.3.8 Chromium 9.3.9 Molybdenum 9.3.10 Selenium
10. Biochemical Techniques	10.1. Chromatography 10.2. Principle of Chromatography 10.4. Electrophoresis 10.4.1 Paper Electrophoresis 10.4.2 Gel Electrophoresis 10.5. Centrifugation Techniques 10.5.1 Principle 10.5.2 Types of Rotors 10.5.3 Types of centrifugation 10.5.4 Analytical Ultra Centrifugation 10.7. Biosensor

PRACTICAL

CLASS: 11	**SUBJECT: BIO CHEMISTRY**
Sl.No	**Topic**
1.	Carbohydrate Glucose
2.	Starch
3.	Amino acids
4.	Methionine
5.	Tyrosine
6.	Cystine

SYLLABUS 2021–2022

STANDARD: 11 SUBJECT: MICROBIOLOGY

UNIT	CONTENT
1. Introduction to Microbiology	1.1 Groups of Microorganisms 1.2.2 Louis Pasteur 1.2.4 Robert Koch
2. Microscopy	2.1 Historical Background 2.2 Principles of Microscopy 2.2.1 Properties of light 2.2.2 Lenses and its properties 2.4 Dark field Microscope
3. Stains and staining methods	3.2 Purpose of staining 3.3 Stains 3.3.1 Classification of stains 3.4 Principle of staining 3.5 Preparation of materials for staining 3.5.1 Preparation of smear 3.5.2 Fixation 3.5.3 Bacterial staining methods 3.6 Simple staining method 3.7 Differential staining 3.7.1 Gram's staining method 3.7.2 Procedure of Gram's staining 3.7.3 Principle of Gram's staining 3.8 Special staining-endospore staining
4. Sterilization	4.4 Sterilization by heat 4.4.1 Sterilization by Dry heat 4.4.2 Sterilization by moist heat 4.5 Radiation 4.6 Filtration
5. Cultivation of Microorganisms	5.2 Bacteriological media and its types 5.2.1 Physical nature of agar medium 5.2.2 Chemical nature of medium 5.2.3 Special purpose medium 5.3 Pure culture 5.3.1 Methods employed in the isolation of microorganisms

6. Microbial nutrition and growth	6.1 Microbial nutrition 6.2 Nutrient requirement of Microorganisms 6.5 Microbial growth 6.6 Measurement of growth
7. Morphology of Bacteria	7.2 Structure external to cell wall of Bacteria 7.2.1 Appendages 7.3 Cell envelope of Bacteria 7.3.1 Structure of prokaryotic cell wall 7.3.2 Structure of outer membrane 7.3.3 Structure of cytoplasmic membrane
8. Microbial Taxonomy	8.3 Whittaker system of classification 8.4 Taxonomy systems 8.6 The past and present state of Bacterial Taxonomy
9. Environmental Microbiology	9.2 Air Microbiology 9.2.1 Layers of Atmosphere 9.2.2 composition of air 9.2.3 Microflora of air 9.2.4 sources of microorganisms in air 9.2.5 Air borne disease 9.2.6 Enumeration of microorganisms in air 9.3 Microbiology of water 9.3.1 Salt water microflora 9.3.2 Estuaries 9.3.4 Eutrophication 9.5 Sewage treatment 9.7 Composting
10. Soil Microbiology	10.5 Microbial interactions 10.5.1 Beneficial Interaction 10.5.2 Harmful microbial interaction 10.6 Rhizosphere 10.7 Phyllosphere 10.8 Spermosphere
11. Agricultural Microbiology	11.1 Biochemical cycle 11.1.1 Carbon cycle 11.1.3 Phosphorus cycle 11.1.4 Sulphur cycle 11.2.2 Phosphate solubilizer

	11.2.3 VAM 11.2.4 BGA 11.3 Bio pesticides 11.3.1 Bacterial biopesticides
12. Medical Microbiology	12.1.2 Types of infections 12.1.3 Types of infectious diseases 12.4 Gastrointestinal tract infections 12.4.1 Microbial flora of gastrointestinal tract 12.4.2 Terms used in GIT infections 12.5 Ocular infections 12.6 Urinary tract infections 12.6.1 Predisposing factors for UTI 12.6.2 Urinary tract infections caused by Escherichia coli 12.8 Infections of the nervous system 12.8.1 Structure of nervous system 12.8.2 Barriers of CNS 12.8.3 Routes through which microorganisms enter nervous system 12.8.4 Clinical manifestation of Nervous system infection 12.8.5 Infections of nervous system
13. Immunology	13.2 Organs of the Immune system 13.2.1 Primary lymphoid organs 13.2.2 Secondary lymphoid organs 13.4 Immunity 13.4.3 Acquired Immunity 13.4.4 Humoral and cellular Immunity 13.4.5 Types of specific Immunity 13.5 Antigens 13.5.3 Epitope 13.5.4 Haptens and the study of Antigenicity 13.5.5 Cross Reactivity 13.6 Antibodies 13.6.1 Structure of Immunoglobulin 13.7 Antigen – Antibody reactions 13.7.1 Three stages of Antigen – Antibody reactions

	13.7.2 General features of antigen-antibody reaction 13.7.3 Measurement of antigen and antibody
14. Microbial Genetics	14.1.1 Griffith experiment 14.2.2 Erwin Chargaff rule 14.3 DNA replication 14.3.2 Enzymes involved in DNA replication 14.3.3 DNA replication in E. *coli*

PRACTICAL

STANDARD: 11	**SUBJECT: MICROBIOLOGY**
Sl.No	**Topic**
1	**Major practical** Good laboratory practices and laboratory precautions (4, 5)
2	Cleaning of glass wares (5, 6)
3	Microscope and its parts (6 to 8)
4	Sterilization by moist heat – Autoclave (9, 10)
5	Sterilization by dry heat – Hot air oven (10)
6	Lacto phenol cotton blue mount of Fungi (11 to 13)
7	Algal wet mount (14, 15)
8	Simple staining (16 to 18)
9	Methylene blue Reduction Test (MBRT) (19, 20)
10	MEDIA preparation – Nutrient agar (21, 22)
Spotters **I Identification of lab wares**	
11	Petri plate (22)
12	Inoculation loop (22)
13	L – rod
II Identification of equipment	
14	Incubator (25)

SYLLABUS 2021-2022

STANDARD: 11 SUBJECT: GENERAL NURSING

UNIT	CONTENT	
1. Nursing – Origin and its Development	1.1	Introduction
	1.2	Definition of Nursing
	1.3	Scope of Nursing in India
	1.4	Evolution of Nursing
2. Health Care Delivery system in India	2.1	Introduction
	2.2	Health Care Delivery System In India
	2.3	Primary Care
	2.4	Short Term Care and Long Term Care
3. Hospital and its Environment	3.1	Introduction
	3.4	Hospital Economy
	3.5	Admission Procedure
	3.6	Safety and Comfortable Environment
	3.7	Discharging the Patient
4. Communication Skill in Nursing	4.1	Introduction
	4.2	Concepts and Types of Communication: Concepts
	4.3	Importance of Communication
	4.4	Essential elements of communication process
	4.7	Interpersonal Relationship (IPR)
5. Health Assessment and Physical Examination	5.1	Introduction
	5.2	Definition
	5.3	Assessment Techniques
	5.5	Procedure and Recording Of Temperature
	5.6	Pulse
	5.7	Respiration
	5.8	Blood Pressure
6. Infection Control	6.1	Introduction
	6.2	Immunity
	6.3	Microorganisms
	6.4	Terminologies

	6.5	Infection Process
	6.9	Central Sterile Service Department(CSSD)
7. Hygiene–Patient and their Environment	7.1	Introduction
	7.2	Factors Influencing Personal Hygiene Practices
	7.3	Bed Making
	7.11	Care of Patient with Retention Of Urine
	7.14	Individual Catheter Care
8. Nursing Procedures	8.1	Introduction
	8.5	Helping in Bathing the Patient
	8.6	Pressure Ulcer
	8.7	Back Care
9. First Aid	9.1	Introduction
	9.2	Golden Rules of First Aid
	9.3	First Aid for Patients with Wound, Haemorrhage and Shock
	9.4	Frost Bite
	9.5	Shock
	9.6	Fracture
	9.7	Insect Bites
	9.8	Cardio Pulmonary Resuscitation
10. Health Education and Audio Visual Aids	10.1	Introduction
	10.2	Objectives of Health Education
	10.3	Principles of Health Education
	10.4	Methods and Approaches of Health Education
	10.5	Role and Responsibility of Health Educator
11. Pharmacology	11.1	Introduction
	11.2	Definition
	11.3	Sources of Drugs
	11.6	Importance for Pharmacology For Nurses
	11.7	Types of Order
	11.8	Preventing Medication Error
	11.9	Systems of Medication Measurement
	11.10	Routes of Medication Administration

	11.11 Pharmacodynamics 11.12 Mechanism of Drug Action 11.13 Pharmacokinetics
12. Alternative Medicine and Practices in Nursing	Entire unit
13. Documentation	13.1 Introduction 13.2 Definition 13.3 Purpose of Documentation 13.4 Principles of Documentation 13.5 Documentation Format

PRACTICAL

STANDARD: 11	**SUBJECT: GENERAL NURSING**
Sl.No	**Topic**
1	Health Care Delivery Systems in India
2	Health Assessment
3	Medical and Surgical Asepsis
4	Public Health Procedures
5	Elimination Need
6	Application of Bandages

SYLLABUS 2021-2022

CLASS: 11 SUBJECT: NUTRITION AND DIETETICS

UNIT	CONTENT
1. Introduction To Food	1.2. Functions of food 1.2.1. Physiological functions of food 1.2.2. Psychological Functions of food 1.2.3. Social functions of Food 1.7. Cooking 1.7.1. Objectives of cooking 1.7.2 Classification of Cooking Methods 1.7.2a Moist Heat Methods 1.7.2b Dry heat methods. 1.7.2c Combination of cooking methods. 1.7.3. Other Methods of Cooking
2. Cereals And Pulses	2.3. Specific cereals and millets 2.3.1. Rice 2.3.2. Wheat 2.3.3. Oats 2.3.4. Barley 2.3.5 Millets 2.3.5.a. Health benefits of millets 2.5. Processing of cereals 2.5.1. Milling 2.5.2. Parboiling 2.5.3. Malting of cereals 2.6. Cereal cookery 2.6.1. Gelatinisation 2.6.2. Gluten formation 2.6.3. Dextrinisation 2.7. Fermented cereal products 2.9. Health benefits of cereals 2.10. Pulses 2.10.1. Nutritive value of pulses 2.10.2. Germination 2.10.3. Toxic constituents in pulses 2.10.7. Health benefits of pulses

3. Vegetables And Fruits	3.3. Nutritive value of vegetables) 3.4. Purchase of vegetables and fruits 3.5. Vegetable Cookery 3.5.1 Methods to reduce loss of nutrients while cooking vegetables 3.5.2. Role of vegetables in cookery 3.6. Fruits 3.6.1. Nutritive value of fruits 3.6.2. Classification of fruits 3.7. Pigments in vegetables and fruits 3.9. Browning in vegetables and fruits. 3.9.1. Measures to prevent enzymatic browning.
4 Flesh Foods, Milk And Milk Products	4.1. Meat 4.1.1. Classes of meat and related products 4.1.2. Structure of meat 4.1.5. Meat Cookery 4.1.6. Changes that occur during cooking 4.2.3. Composition and nutritive value 4.2.4. Selection of poultry 4.3.2. Composition and nutritive value 4.3.3. Selection of Fish 4.4.2. The value of eggs in the diet 4.4.5. Uses of egg in cookery 4.5. Milk And Milk Products 4.5.1. Nutritive value of milk 4.5.2. Types of processed milk 4.5.3. Pasteurisation of milk
5. Nuts, Oil Seeds And Sugar	5.1. Nuts 5.1.1. Groundnuts 5.1.2. Cashew nuts 5.1.3. Coconut 5.1.4. Almonds 5.2. Oil seeds and their importance 5.2.1. Mustard Seeds 5.2.2. Corn oil 5.2.3. Castor Seeds 5.2.4. Sunflower Seeds

	5.2.5. Sesame Seeds 5.2.6. Palm Oil Seeds 5.2.7. Olive Oil Seeds 5. 3. Fats and oils 5.3.1. Nutritional significance 5.3.2. Refined oils 5.3.3. Hydrogenation – vanaspathi and margarine 5.4. Rancidity
6. Spices, Food Additives And Food Adulteration.	6.1. Spices 6.1.3. List of Indian Spices and its uses 6.2. Food additives 6.2.1. Need for food additives 6.2.2. Classification of food additives 6.2.3. Harmful effects of food additives 6.3.3. Methods to detect Food Adulteration 6.4. Food laws in our country
7. Recent Concepts In Nutrition	7.2. Nutraceuticals 7.2.1. Dietary supplements 7.2.2. Functional foods 7.6. Functional components of Fruits and vegetables 7.6.1. Red fruits and vegetables 7.6.2. Orange fruits and vegetables 7.6.3. Yellow fruits and vegetables 7.6.4. Green fruits and vegetables 7.6.5. Greenish / White fruits and vegetables 7.6.6. Blue/ Indigo/ Violet fruits and vegetables 7.7. Organic foods 7.7.1. Guidelines in Raising Organic Farms 7.7.2. Tips to grow kitchen garden at home
8. Introduction To Nutrition Science	8.1. The Origin of Nutrition 8.2. Importance of Nutrients 8.3. Importance of Nutrition

9. Carbohydrates And Energy	9.3. Functions of carbohydrates. 9.4. Food sources of carbohydrates 9.7. Energy 9.7.1. Energy yielding food factors 9.7.2. Units of energy-Calorie and Joule 9.7.3. Energy value of foods 9.7.4. Gross energy value of foods 9.7.5. Physiological energy value of foods 9.7.6. Coefficient of digestibility
10 Proteins And Lipids	10.4. Food sources of proteins 10.5. Functions of proteins. 10.6. Protein requirements. 10.7. Effects of protein deficiency 10.7.1. Protein energy malnutrition 10.7.2. Classification of PEM 10.7.3. Causes of PEM 10.7.4. Clinical signs and symptoms of PEM 10.7.5. Difference between Kwashiorkor and Marasmus 10.7.6. Treatment of PEM 10.10.3. On the basis of requirement 10.10.4. On the basis of sources 10.12 Functions of Fats 10.12.1. Functions of essential fatty acids 10.13. Fat requirements 10.14. Deficiency and excess of fat in the diet
11 Vitamins, Minerals And Water	11.1. Classification of Vitamins 11.2. Fat Soluble Vitamins 11.2.1. Vitamin A 11.2.2. Vitamin D 11.2.3. Vitamin E 11.2.4. Vitamin K 11.3. Water Soluble Vitamins 11.3.1. Vitamin B1 11.3.2. Vitamin B2

	11.3.3. Vitamin B3 11.3.4. Vitamin B6 11.3.5. Vitamin B9 11.3.6. Vitamin B12 11.3.7. Vitamin C 11.4. Minerals 11.4.1. Iron 11.4.2. Iodine 11.4.3. Calcium 11.4.4. Zinc 11.4.5. Sodium 11.5.5. Requirements 11.5.6. Dehydration 11.5.7. ORT 11.5.8. Water intoxication
12. Nutrition Intervention Programmes And Policies	12.1. Nutrition intervention programmes 12.1.1. ICDS 12.1.2. MDMP 12.1.3. Prevention and control of anemia 12.1.4. Prevention and control of vitamin A deficiency
PRACTICAL	
CLASS: 11	**SUBJECT: NUTRITION AND DIETETICS**
Sl.No	**Topic**
1	Measuring Techniques
2	Cooking Methods
3	Cereal Cookery
4	Pulse Cookery
5	Fruits And Vegetables Cookery
6	Milk Cookery
7	Test For Adulterants

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STANDARD: 11 SUBJECT: HOME SCIENCE

UNIT	CONTENT
1. Concepts and Scope of Home Science	1.1 Introduction 1.2 Evolution of the Discipline of Home Science 1.2.1 Diploma courses in Home Science 1.3 Components of Home Science 1.3.1 Foods and Nutrition 1.3.2 Family resource Management 1.3.3 Textile and Clothing 1.3.4 Human Development 1.3.5 Communication and Extension 1.4 Relevance of Home Science in improving quality of life 1.5 Educational and Vocational scope of Home Science 1.5.1 Clinical Dietician 1.5.2 Public Health Nutritionists 1.5.3 Academicians and Research Scholars 1.5.4 Consultant/Private practice 1.5.5 Business and Industry 1.5.6 National and International Food organizations
2. Human Development and its Challenges	Entire Unit
3. Food Science	3.1 Introduction 3.2 Functions of food 3.2.1 Physiological Functions of Food 3.2.2 Psychological Functions of Food 3.2.3 Social Functions of Food 3.3 Basic four food groups and its significance 3.3.1 Types and Importance of Millets 3.4 Food pyramid 3.6 Steps in minimizing loss of nutrients during cooking 3.7 Fortification and Enrichment 3.8 Kitchen equipment 3.9 Basic rules of Kitchen Safety

4. Food Preservation Methods	4.1	Introduction
	4.2	Preservation methods
	4.2.1	Preservation of foods with low temperature
	4.2.1.1	Chill Storage
	4.2.1.2	Freezing
	4.2.2	Preservation by high temperature
	4.2.2.1	Pasteurization
	4.2.2.2	Blanching
	4.2.2.3	Canning
	4.2.3	Preservation by Dehydration
	4.2.3.1	Drying
	4.2.3.2	Types of Driers
	4.2.4	Smoking of foods
	4.2.5	Preservation by chemical preservatives
	4.2.6	Preservation by high osmotic pressure
	4.2.6.1	High concentration of sugar
	4.2.6.2	High concentration of salt
	4.2.7	Food irradiation
	4.2.8	Vacuum packing
5. Nutrition	5.1	Introduction
	5.1.1	Introduction to Nutrition science
	5.3	Micro nutrients
	5.3.1	Minerals
		Calcium, Phosphorus, Iron
		Iodine,Zinc
	5.3.2	Vitamins
	5.3.2.1	Fat soluble vitamins A,D,E and K
	5.3.2.2	Water soluble vitamins, Thiamine, Riboflavin, Niacin, Pyridoxine, Folic acid, Cyanocobalamin, Vitamin C
	5.4	Water
	5.5	Malnutrition

6. Family Meal Management	6.1	Introduction
	6.1.1	Balanced diet
	6.1.2	Recommended Dietary Allowance (RDA)
	6.1.3	Steps in planning Balanced Diets
	6.7	Nutritional requirement of pregnant and lactating women
	6.7.1	Nutritional needs during pregnancy
	6.8	Nutritional needs and challenges during old age
	6.9	Dietary modification during old age
7. Family Resource Management	7.1	Introduction
	7.1.1	Definition and concept of family resource Management
	7.2	Values, Goals and Standards
	7.2.1	Values
	7.2.1.1	Classification of Values
	7.2.2	Goals
	7.2.2.1	Types of Goals
	7.2.3	Standards
	7.6	Work simplification
	7.7	Money management
	7.7.1	Concept of Income
	7.7.2	Factors Affecting Income of a family
	7.8	Expenditure and Budget Management
	7.8.1	Factors Affecting expenditure of a family
	7.8.2	Budgeting
	7.8.2.1	Importance of budgeting
	7.8.2.2	The list of budget Items
	7.9	Savings and investment
	7.9.1	Important of Avenues of Investment
	7.9.1.1	Banks
	7.9.1.2	Post office
	7.9.1.3	Provident fund

	7.9.1.4	Insurance
	7.9.1.5	Shares
	7.9.1.6	Units
	7.9.1.7	Bonds
	7.9.1.8	Chit funds
8. Communication	8.1	Introduction & Definition of communication
	8.1.1	Functions of communication
	8.2	Principles of communication
	8.2.1	Process of Communication
	8.6	Teaching aids
	8.6.1	Characteristics of good teaching aids
	8.6.2	Classification of teaching aids
	8.7	Recent trends in Communication Website, E-Mail, Multimedia , E-Learning
9. Personality Development and Life Coping Skills	9.1	Introduction
	9.1.1	Definition of Personality
	9.2	Determinants of personality
	9.2.1	Biological factors
	9.2.2	Sociological factors
	9.2.3	Psychological factors
	9.3	Self awareness
	9.3.1	Why is self-awareness important?
	9.3.2	How can you become more self aware?
	9.4	Self Esteem
	9.4.1	Definition
	9.4.2	Factors influencing self-Esteem
	9.4.3	Types of self-esteem
	9.4.4	Motivation
	9.4.4.1	Principles of Motivation
	9.6	Problem Solving
	9.6.1	Definition
	9.6.2	Factors affecting problem solving
	9.6.3	Steps in problem solving
	9.6.4	Tips to increase our problem solving skills
	9.7	Decision - making
	9.7.1	Definition
	9.7.2	Decision making process
	9.7.3	factors affecting decision making
	9.7.4	Qualities of good decision makers
	9.7.5	Practical tips to help in decision making

PRACTICAL

STANDARD: 11	SUBJECT: HOME SCIENCE
Sl.No	**Topic**
1.	Cereal cookery: To determine the best method of cooking of rice and preparing a dish by selecting any one of the cereal.
2.	Pulse cookery: To study the factors affecting the cooking quality of whole grams and red gram and prepare a recipe based on any one pulse.
3.	Vegetable and fruit cookery: To study the effect of cooking and factors affecting chlorophyll pigment in green leafy vegetables and preparing a dish using any one green leafy vegetable (Ragi Soya Drumstick adai).
4.	a) To use sugar as a preservative in preserving food (Banana Jam). b) To use salt and oil as preservative in preserving food (Pickles)
5.	Plan a day's menu for a 4 year old boy belonging to low income group suffering from Marasmic / Kwashiorkor. Prepare and serve one main item for his lunch. Calculate protein and energy for the prepared item.

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CLASS: 11 SUBJECT: COMPUTER SCIENCE

UNIT	CONTENT
Unit-I **1. Introduction to Computers**	1.1. Introduction to Computers 1.2. Generation of Computers 1.4 Data and information
2. Number System	2.1. Introduction 2.2. Data Representation 2.3. Different Types of Number System 2.4. Number System Conversion 2.5 Binary Representation for signed Numbers
3. Computer Organisation	3.1. Introduction to Computer Organization 3.2 Basics of Microprocessor 3.4 Types of Microprocessor 3.5 Memory Devices
4. Theoretical Concepts of Operating System	4.1 Introduction to Software 4.2 Introduction to Operating System 4.3 Types of Operating System 4.5 Prominent Operating System
5. Working with Windows Operating System	5.1 Introduction to Operating System 5.2 Introduction to Windows Operating System 5.5 Windows Desktop 5.6 The Window 5.7 Application Window 5.8 Document Window 5.9 Elements of Window 5.11 Managing Files and Folders
UNIT - II **6 Specification and Abstraction**	6.1 Algorithms 6.2 Algorithmic Problems 6.3 Building Blocks of Algorithms 6.4 Algorithm Design Techniques 6.5 Specification 6.6 Abstraction

7. Composition and Decomposition	7.1 Notations for Algorithms 7.2 Composition 7.3Decomposition
8. Iteration and Recursion	8.1 Invariants 8.2 Loop Invariants
Unit - III **9 Introduction to C++**	9.1 Introduction 9.2 Character Set 9.3 Lexical Unit 9.4 Input/Output Operators 9.5 Sample Program in C++ 9.6 Execution of C++ 9.8 Types of errors 9.10 Introduction to datatypes, variables and Expressions 9.11 Concept of Datatype 9.12 C++ data types 9.13 Variables
Unit - III **10 Flow of Control**	10.1 Introduction 10.2 Statements 10.4 Selection Statements 10.5 Iteration statements
Unit - III **11. Functions**	11.1 Introduction 11.2 Need for functions 11.3 Types of functions 11.5 User defined functions 11.6 Methods of calling functions 11.8 Returning from function 11.9 Recursive function 11.10 Scope Rules of variables
Unit - III **12. Arrays and Structures**	12.1 Introduction 12.2 Types of Arrays 12.3 Two dimensional Array 12.4 Array of Strings

Unit - IV **13. Introduction to Object Oriented Programming Techniques**	13.1 Introduction 13.3 Basic Concepts of OOP 13.4 Advantages of OOP 13.5 Disadvantages of OOP
Unit - IV **14. Classes and Objects**	14.1 Introduction to Classes 14.2 Creating Objects 14.3 Memory allocation of objects 14.4 Referencing class members
Unit - IV **15. Polymorphism**	15.1 Introduction 15.2 Function overloading 15.4 Operator overloading
Unit - IV **16. Inheritance**	16.1 Introduction to Inheritance (page no.260) 16.2 Need for Inheritance 16.3 Types of Inheritance 16.4 Derived Class and Base class
Unit - V **17. Computer Ethics and Cyber Security**	17.1 Introduction 17.2 Ethical Issues
Unit - V **18. Tamil Computing**	Entire Unit

PRACTICAL

CLASS: 11	**SUBJECT: COMPUTER SCIENCE**
Sl.No	**Topic**
1	Gross Salary
2	Percentage
3	Palindrome
4	Number Conversion
5	Fibonacci Prime Series

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CLASS: 11 SUBJECT: COMMERCE

UNIT	CONTENT	
1.Historical Background of Commerce in the Sub-Continent	1.01	Introduction
	1.02	Barter System
	1.03	Hindrances of Commerce
	1.04	Elimination of Hindrances of Commerce
2.Objectives of Business	2.01	Introduction
	2.02	Types of Economic Activities
	2.03	Characteristics of Business
	2.04	Objectives of Business
3.Classification of Business Activities	3.01	Industry
	3.02	Commerce
	3.03	Trade
4.Sole Proprietorship	4.01	Introduction
	4.02	Definition of Sole Trader
	4.03	Characteristics
	4.04	Advantages and Disadvantages
5.Hindu Undivided Family and Partnership	5.01	Introduction to HUF
	5.02	Meaning and Definition of Partnership
	5.03	Partnership Deed and its Contents
	5.04	Rights and Duties of Partners
	5.05	Types of Partners
	5.06	Procedure for Registration
	5.07	Drawbacks of Non-Registration of Partnership
	5.08	Dissolution of Partnership
6.Joint Stock Company	6.01	Meaning & Definition of a Company
	6.02	Types of Companies
	6.03	Memorandum of Association
	6.04	Articles of Association
	6.05	Prospectus

7.Cooperative Organization	7.01	Meaning and Definition
	7.02	Principles of Cooperation
	7.03	Features of Cooperatives
	7.04	Advantages and Disadvantages
	7.05	Types of Cooperatives
9.Government Organizations	9.01	Meaning and Features of Departmental Undertaking
	9.02	Advantages and Disadvantages
	9.03	Meaning and Features of Public Corporation
	9.04	Advantages and Disadvantages
	9.05	Meaning and Features of Government Company
	9.06	Advantages and Disadvantages
10.Reserve Bank of India	10.04	Bank Definition
	10.05	Definition of Central Bank
	10.06	Origin of RBI
	10.07	Organizational Structure of RBI
	10.08	Functions of RBI
12.Functions of Commercial Bank	12.01	Primary Functions
	12.02	Secondary Functions
	12.03	Diversified Banking Functions
	12.04	Electronic Banking Functions
	12.05	Functions of All Commercial Banks in Totality
13.Warehousing	13.01	Meaning of Warehouse and Warehousing
	13.02	Difference between Warehouse and Warehousing
	13.03	Types of Warehouses
	13.04	Functions of Warehouse
	13.05	Advantages and DrawBacks of Warehouse
	13.06	Warehousing Documents
	13.07	Warehousing in India

15.Insurance	15.01	Meaning and Definition of Insurance
	15.02	Principles of Insurance
	15.03	Types of Insurance
	15.04	Insurance Regulatory Development Authority of India (IRDAI)
16. Emerging Service Business in India	16.04	Outsourcing
	16.05	E-Commerce
19.Sources of Business Finance	19.01	Meaning and Nature of Business Finance
	19.02	Sources of Business Finance
	19.03	Factors Influencing Choice of Business Finance
	19.04	Savings-Importance of Savings
	19.05	Personal Investment Avenue
21.Micro, Small and Medium Enterprises (MSMEs) and Self Help Groups (SHGs)	21.01	Micro, Small and Medium enterprises
	21.02	Roll and Significance of MSMEs
	21.03	Contribution of MSMEs to Indian Economy
	21.04	MSME Sector in Tamil Nadu
	21.05	Self Help Groups
22.Types of Trade	22.01	Trade-Meaning
	22.02	Features of International Trade
	22.03	Foreign Trade
23.Channels of Distribution	23.01	Meaning
	23.02	Types of Channels of Distribution
	23.03	Factors Influencing Channels of Distribution
	23.04	Middle Men
	23.05	Kinds of Mercantile Agent or Agent Middle men
	23.06	Wholesaler
	23.07	The Characteristics of Wholesaler
	23.08	Retail Trade - Meaning
	23.09	The Characteristics of Retailer
	23.10	Distinction between Wholesaler and Retailer
24.Retailing	24.01	Introduction
	24.02	Types of Retailers

25.International Business	25.01	Nature of International Business
	25.02	Concept, Meaning and Definition of International Business
	25.03	Method of Conducting International Business
	25.04	Features of International Business
	25.05	Rationale Behind International Business
	25.06	Differences Between Domestic Business and International Business
29.Elements of Contract	29.01	Meaning and Definition of Contract
	29.02	Essential of a Valid Contract
	29.03	Classification of Contract
31.Discharge and Breach of a Contract	31.01	Discharge of Contract
	31.02	Remedies for Breach of Contract
32.Direct Taxes	32.01	Meaning of Tax
	32.02	Income Tax
33.Indirect Taxation	33.01	Meaning of Indirect Tax
	33.02	Goods and service Tax(GST)
	33.03	GST Council

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STANDARD: 11 SUBJECT: ACCOUNTANCY

UNIT	CONTENT
1. Introduction to Accounting	1.1 Introduction to accounting 1.2 Evolution of accounting 1.3 Meaning and definition of accounting 1.4 Accounting cycle 1.5 Objectives of accounting 1.6 Functions of accounting 1.7 Importance of accounting 1.8 Basic accounting terminologies 1.9 Branches of accounting 1.10 Bases of accounting 1.11 Users of accounting information 1.12 Role of an accountant
2. Conceptual Frame Work of Accounting	2.1 Book keeping - an introduction 2.1.1 Meaning of Book Keeping 2.1.2 Definition of Book Keeping 2.1.3 Features of Book Keeping 2.1.4 Objectives of Book Keeping 2.1.5 Advantages of Book Keeping 2.1.6 Limitation of Book Keeping 2.2 Book keeping vs Accounting 2.3 Relationship among Book-keeping, Accounting & Accountancy 2.4 Accounting Principles
3. Books of Prime Entry	3.1. Introduction 3.2 Source documents 3.3 Double entry system 3.3.1 Definition 3.3.2 Principles of double entry system 3.3.3 Advantages of double entry system 3.4 Transaction -(i) Cash transaction (ii) Bank transaction 3.6 Approaches of recording transactions

	3.6.2 Traditional Approach (only) 3.6.2.1 Classification of accounts 3.7 Accounting rules 3.8 Journal entries 3.8.1 Meaning 3.8.2 Format of journal 3.8.3 Steps in journalising 3.8.4 Different types of journal entries 3.8.5 Application of rules of double entry system 3.8.6 Analysis of transactions
4. Ledger	4.1 Introduction 4.2 Utilities of ledger 4.3 Format of ledger account 4.4 Distinction between journal and ledger 4.5 Procedure for posting 4.5.1 Posting of opening Journal Entry 4.5.2 Posting of Compound Journal Entry 4.6 Balancing of ledger accounts 4.6.1 Procedure for balancing an account
5. Trial Balance	5.1 Introduction 5.2 Need for preparing trial balance 5.3 Definition of trial balance 5.5 Objectives of preparing trial balance 5.7 Methods of preparing Trial Balance 5.7.1 Balance Method 5.8 Suspense Account
6. Subsidiary Book-1	6.1 Introduction 6.2 Meaning of subsidiary books 6.3 Types of subsidiary books 6.5 Purchases book 6.5.1 Invoice 6.5.2 Trade discount 6.5.3 Posting from purchase book 6.6 Purchases returns book 6.6.1 Posting from the purchases returns book

	6.6.2 Debit - note- the source document for relation outward 6.7 Sales book 6.7.1 Posting from sales book 6.8 Sales return book 6.8.1 Posting from the sales return book 6.8.2 Credit - note - the source document for relation inward
7. Subsidiary Book -II (Cash Book)	7.1 Introduction 7.2 Meaning of cash book 7.3 Cash book- A subsidiary book and principle book of accounts 7.4 Importance of cash book 7.5 Types of cash book 7.6 Single column cash book 7.6.1 Balancing of single column cash book 7.6.2 Posting from single column cash book 7.7 Cash discount and trade discount 7.7.1 Differences between cash discount and trade discount 7.9 Three column Cash book (Cash Book with Cash discount and Bank Column) 7.9.2 Contra Entry
8. Bank Reconciliation Statement	8.1 Introduction 8.1.1 Bank Statement or Bank Pass Book 8.1.2 Bank Overdraft 8.1.3 Differences between bank column of cash book and bank statement 8.2. Bank Reconciliation Statement -BRS 8.2.1. Need for bank reconciliation Statement
9. RECTIFICATION OF ERRORS	9.1 Introduction 9.2 Meaning of errors 9.3 Errors at different stages of accounting 9.4 Classification of errors 9.4.1 Errors of ommission 9.4.2 Errors of commission 9.4.3 Errors of principle 9..4.4 Compensating errors

	9.5 Errors disclosed by the trial balance and errors not disclosed by the trial balance 9.5.1 Errors disclosed by the trial balance 9.5.2 Errors not disclosed by the trial balance 9.6 Steps to locate errors 9.6.1 Location of errors before preparation of trial balance 9.6.2 Location of errors after preparation of trial balance
10. Depreciation Accounting	10.1 Introduction 10.2 Depreciation meaning and definition 10.2.1 Useful life of the asset 10.2.2 Depreciable Assets 10.3 Objectives of providing depreciation 10.4 Causes of depreciation 10.5 Characteristics of depreciation 10.6 Factors determining the amount of depreciation 10.7 Methods of providing Depreciation 10.7.1 Straight method / Fixed Instalment method / original cost method 10.7.2 Written value / Diminishing balance method 10.7.2.1 Difference between straight line method and written down value method
11. Capital and Revenue Transactions	Entire Unit
12. Final Accounts of Sole Proprietors -1	12.1 Introduction to final accounts 12.3 Trading account 12.3.1 Need for preparation of trading account 12.3.2 Preparation of trading account 12.3.3 Closing of trading account 12.3.4 Format of trading account 12.4 Profit and Loss Account 12.4.1 Need for preparing profit account and loss account 12.4.2 Preparation of profit and loss account

	12.4.3 closing of Profit and loss account 12.4.4 Format of Profit and Loss Account 12.5 Balance sheet 12.5.1 Need for preparing a balance sheet 12.5.2 Characteristics of balance sheet 12.5.5 Preparation of Balance Sheet 12.5.6 Classification of assets and liabilities (a) Classification of assets (b) Classification of liabilities 12.6 Differences between trial balance and balance sheet
13. Final Accounts of Sole Proprietors - II	13.1 Introduction 13.1.1 Rationale of making adjustments at the time of preparing final accounts 13.2 Adjustment entries and accounting treatment of adjustments 13.2.1 Meaning of adjustment entries 13.2.2 Purpose of adjustment entries
	13.2.3 Need for adjustment entries 13.2.4 Adjustments and adjustment entries (i) Closing stock (ii) Outstanding expenses (iii)Prepaid expenses (iv)Accrued income (v)Income received in advance 13.4 Final Accounts with the above adjustments
14. Computerised Accounting	14.1 Introduction to computers 14.2 Computerised Accounting System 14.2.1 Features of Computerised Accounting System 14.2.2 Components of Computerised Accounting System 14.3 Advantages of Computerised Accounting System 14.4 Limitations of Computerised Accounting System 14.6 Accounting software 14.7 Grouping and codification of accounts 14.7.1 Grouping of accounts 14.7.2 Codification of accounts 14.7.3 Methods of codification

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CLASS: 11 SUBJECT: ECONOMICS

UNIT	CONTENT
1 Introduction to Micro Economics	1.1. Introduction 1.2. Economics - Meaning 1.3. Economics : Its nature 1.3.1. Wealth Definition : Adam Smith 1.3.2. Welfare Definition : Alfred Marshall 1.3.3. Scarcity Definition : Lionel Robbins 1.3.4. Growth Definition : Samuelson 1.4. Scope of Economics 1.5. Basic concepts in Economics 1.5.1. Goods and services 1.5.2. Utility 1.5.3. Price 1.5.4. Market 1.5.5. Cost 1.5.6. Revenue 1.5.7. Equilibrium 1.5.8. Income 1.7.1. Consumption 1.7.2. Production 1.7.3. Exchange 1.7.4. Distribution 1.8. Economics : Its types 1.8.1. Micro Economics 1.8.2. Macro Economics 1.8.3. International Economics 1.8.4. Public Economics 1.8.5. Developmental Economics 1.8.6. Health Economics 1.8.7. Environmental Economics

2. Consumption Analysis	2.1. Introduction 2.2. Human Wants 2.3. Characteristics of Human wants 2.4. Classification of Goods 2.5. Cardinal Utility Analysis 2.5.1. The Law of Diminishing Marginal Utility (DMU) 2.6. The Law of Equi-Marginal Utility 2.7. Consumer's Surplus 2.8. Law of Demand 2.8.1. Characteristics of Demand 2.8.2. Demand function 2.8.3. Law of demand 2.8.4. Determinants of demand 2.8.8. Movement along demand curve 2.8.9. Shift in the demand curve 2.9. Elasticity of demand 2.9.1. Types of Elasticity of demand 2.9.2. Levels or degrees of price Elasticity of demand 2.10. Ordinal Analysis (or) Ordinal utility Approach (or) Hicks and Allen Approach (or) Indifference curve analysis 2.11. An Indifference curve 2.12. An Indifference map 2.13. Diminishing Marginal Rate of Substitution 2.14. Properties of the Indifference curves 2.15. Priceline or budget line 2.16. Consumer Equilibrium 2.17. Conclusion
3. Production Analysis	3.1. Introduction 3.2.1. Land 3.2.2. Labour 3.2.3. Capital 3.2.4. Organization 3.3. Production function

	3.4. Law of Variable Proportions 3.5. Law of Returns to Scale 3.6. Economies of Scale 3.8. Iso-quants 3.8.1. Definition of Iso-quant 3.8.2. Iso-quant curve 3.8.3. Iso-quant map 3.8.4. Properties of Iso-quant curve 3.12.1. Supply function 3.12.2. Supply curve 3.12.3. Factors determining supply 3.13. Conclusion
4. Cost and Revenue Analysis	4.1. Introduction 4.3 Cost Concepts 4.3.1. Money Cost 4.3.2. Real Cost 4.3.3. Explicit Cost 4.3.4. Implicit Cost 4.3.5. Economic Cost 4.3.6. Social Cost 4.3.7. Opportunity Cost 4.3.8. Sunk Cost 4.3.9. Floating Cost 4.3.10. Prime Cost 4.3.11. Fixed Cost 4.3.12. Variable Cost 4.4. Short run Cost Curves 4.4.1. Total Fixed Cost (TFC) 4.4.2. Total Variable Cost (TVC) 4.4.3. Total Cost Curves 4.4.4. Average Fixed Cost (AFC) 4.4.5. Average Variable Cost (AVC) 4.4.6. Average Total Cost (ATC) or Average Cost (AC) 4.4.7. Marginal Cost (MC)

	4.4.8. The relationship between Average Cost and Marginal cost 4.5. Long Run Cost Curve: 4.6. Revenue Analysis 4.6.1. Revenue Concepts 4.6.2. Relationship between AR and MR Curves 4.6.3. Relationship among TR, AR and MR Curves 4.6.4. TR, AR, MR and Elasticity of Demand 4.7. Conclusion
5. Market Structure and Pricing	5.1. Introduction 5.2. Meaning of Market 5.3. Classification of Market 5.4. Equilibrium Conditions for a Firm 5.4.1. Total curve approach 5.4.2. Marginal curve Approach 5.5. Perfect Competition 5.5.1. Features of the Perfect Competition 5.5.2. Perfect Competition: Firm's Equilibrium in the Short Run 5.5.3. Perfect Competition: Firm's Equilibrium in the Long Run (Normal Profit) 5.8. Monopolistic Competition 5.8.1. Features of Monoplistic competition 5.8.2. Price and Output Determination under Monoplistic Competition
6. Distribution Analysis	6.1. Introduction 6.2. Meaning of Distribution 6.3. Kinds of Distribution of income 6.4. Marginal Productivity theory of distribution 6.6. Wages 6.6.1. Meaning 6.6.2. Kinds of Wages 6.7. Theories of Wages 6.7.3. Wage Fund Theory of Wages 6.7.5. Marginal Productivity Theory of Wages

	6.8. Interest 6.8.1. Meaning 6.8.2. Kinds of Interest 6.10 Profit 6.10.1. Meaning of profit 6.10.2. Kinds of Profit
7. Indian Economy	7.1. Meaning of Growth and Development 7.2. Indian Economy 7.3. Features of Indian Economy 7.3.1. Strengths of Indian Economy 7.3.2. Weakness of Indian Economy 7.3.3. Demographic trends in India 7.8 Contributions of Indian Economic Thinkers 7.8.1. Thiruvalluvar 7.8.2. Mahatma Gandhi 7.8.3. Jawaharlal Nehru 7.8.4. B.R.Ambedkar 7.8.5. J.C.Kumarappa 7.8.6. V.K.R.V.Rao 7.8.7. Amartya Kumar Sen 7.9. Conclusion
8. Indian Economy Before and After Independence	8.1. Introduction 8.2. Indian Economy during the British period 8.3 The land tenure Systems in India 8.3.1. Zamindari system or the landlord - tenant system 8.3.2. Mahalwari system or communal system of Farming 8.3.3. Ryotwari system or the owner – cultivator system 8.7. Green Revolution 8.8. Large Scale Industries 8.9. Small Scale Industries

	8.10. Micro, Small and Medium Enterprises (MSMEs) 8.11. Public Sector and Private Sector Bank 8.12. Nationalisation of Banks 8.13. Performance of India's Five Year Plans 8.14. Development Indicators 8.14.1. Human Development Index (HDI) 8.14.2. Physical Quality of Life Index (PGLI) 8.15. Conclusion
9. Development Experiences in India	9.1. Introduction 9.2. Meaning of Liberalization, Privatization and Globalization (LPG) 9.5. Relative position of an Indian Economy 9.6. Industrial Sector Reforms 9.7. Impact of LPG on Agricultural Sector Reforms 9.7.4. Agricultural Produce Market Committee 9.8. Trade Reforms 9.8.1. Export and Import Policy 9.8.2. Special Economic Zones 9.9. Fiscal Reforms 9.9.1. Goods and Services Tax (GST
10. Rural Economy	10.1. Introduction 10.3. Meaning of Rural Development 10.4. Need for Rural Development 10.5. Problems of Rural Economy 10.8. Rural Industries 10.9. Rural Indebtedness 10.9.1. Features of Rural indebtedness 10.9.2. Causes for Rural indebtedness 10.9.3. Measures to remove Rural indebtedness 10.11. Rural Infrastructure 10.12. Requirement for Rural Development 10.13. Conclusion

11. Tamil Nadu Economy	11.1. Introduction 11.2. Highlights of Tamil Nadu Economy 11.3. Performance of Tamil Nadu Economy 11.4. Natural Resources 11.4.1. Water Resources 11.4.2. Mineral Resources 11.5. Population 11.5.1. Density 11.5.2. Urbanization 11.5.3. Sex ratio (No. of female per 1000 males) 11.5.4. Infant Mortality Rate 11.5.5. Maternal Mortality Rate (MMR) 11.5.6. Life Expectancey at birth 11.5.7. Literacy 11.6. Gross State Domestic Product (GSDP) 11.6.1. Sectoral Contribution 11.6.2. Per Capita Income 11.7. Agriculture 11.7.1. Food grains production 11.7.2. Productivity position of Tamil Nadu and India 11.8 Industry 11.8.1. Textiles 11.8.2. Leather 11.8.3. Electronics 11.8.4. Automotives 11.8.5. Cement Industry 11.8.6. Fire works 11.8.7. Other Industries 11.8.8. MSMEs 11.9. Energy 11.9.1. Nuclear Energy 11.9.2. Thermal power 11.9.3. Hydel Energy 11.9.4. Solar Energy 11.9.5. Wind Energy 11.10 Services

	11.10.1. Banking 11.10.2. Education 11.10.3. Educational loans 11.10.4. Health 11.10.5. Communication 11.10.6. Transport 11.11. Tourism 11.12. Unemployment and Poverty 11.13. Conclusion
12. Mathematical Methods for Economics	12.1 Introduction 12.1.1 Why study Mathematics? 12.1.2. Mathematics in Economics 12.1.3. Uses of mathematical methods in Economics 12.2. Functions 12.2.1 Definition 12.3.2. Determinants 12.4. Differential calculus 12.4.1. Meaning 12.4.2. Some standard forms of differentiation 12.4.3. Application of differential calculus 12.4.4. Marginal concepts 12.4.5. Marginal product 12.4.6. Marginal cost 12.4.7. Marginal Revenue 12.4.8. Elasticity of Demand 12.5. Integral calculus 12.5.1. Integration 12.5.2. Meaning 12.5.3. Basic rule of integration 12.5.4. Application of integration 12.5.5. Consumer's surplus 12.6 Information and Communication Technology 12.6.1. MS word 12.6.2. Microsoft Office Excel 12.6.3. Microsoft Power Point 12.7 Conclusion

SYLLABUS 2021–2022

CLASS: 11 SUBJECT: HISTORY

UNIT	CONTENT
1. Early India: From the Beginnings to the Indus Civilisation	Entire Unit
2. Early India: The Chalcolithic, Megalithic, Iron Age and Vedic Cultures	Introduction 2.1. Pre-Aryan, Late Harappan and Chalcolithic Cultures of India 2.2. Iron Age in North India 2.3. Megalithic/ Iron Age in Tamil Nadu 2.4. Megalithic Sites in Tamil Nadu 2.5. The Aryans and Rig Vedic Society 2.6 Rig Vedic Culture 2.7 Later Vedic Culture
3. Rise of Territorial Kingdoms and New Religious Sects	Introduction 3.1. Developments in the Gangetic Plain 3.2 Janapadas to Mahajanapadas 3.3 Emergence of Heterodox Thinkers 3.4 Ajivikas 3.5 Jainism 3.6 Buddhism
4. Emergence of State and Empire	Introduction 4.1. Rise of Magadha under the Haryanka Dynasty 4.2. Nandas: The First Empire Builders of India
5. Evolution of Society in South India	Entire Unit
6. Polity and Society in Post-Mauryan Period	6.3. The Tamil Kingdoms 6.4. Trade Between Tamizhagam and Rome
7. The Guptas	Introduction 7.1. Chandragupta I and Empire Building 7.2. Samudragupta 7.3. Chandragupta II 7.4. Gupta's Administrative System

8. Harsha and Rise of Regional Kingdoms	Introduction
9. Cultural Development in South India	Introduction 9.2. Pallavas 9.5. Mamallapuram 9.6. Tamil Devotionalism 9.7. Azhwars and Nayanmars 9.8. Adi Sankara (788-820) 9.9. Sri Ramanujar (1017-1138)
11. Later Cholas and Pandyas	Entire Unit
12. Bahmani and Vijayanagar Kingdoms	Introduction 12.1. Bahmani Kingdom 12.2. Vijayanagar Empire 12.5. Literature 12.6 Art and Architecture
13. Cultural Syncretism: Bhakti Movement in India	Entire Unit
14. The Mughal Empire	Introduction 14.1. Zahiruddin Muhammad Babur (1526–1530) 14.2. Humayun (1530- 1540 & 1555-1556) 14.3. Sher Shah and Sur Dynasty 14.5. Emperor Akbar (1556–1605) 14.7. Shah Jahan (1627-1658) 14.8. Aurangzeb (1658–1707)
15. The Marathas	Introduction 15.1. Causes of the Rise of the Marathas 15.2. Shivaji (1627–1680) 15.8. Maratha Rule in Tamilnadu

17. Effects of British Rule	Introduction 17.1. Establishment of British Raj 17.2. Land Tenures: Permanent Settlement and Ryotwari Settlement 17.3. Subsidiary Alliance and Doctrine of Lapse 17.4. Native States and British Paramountcy 17.5. Reforms in Civil and Judicial Administration
18. Early Resistance to British Rule	Entire Unit
19. Towards Modernity	Introduction 19.1. Emergence of Reform Movements 19.2. Satya Shodhak Samaj (1873) 19.3. Islamic Reform Movements 19.4 Parsi Reform Movements 19.5 Sikh Reform Movements 19.6. Reform Movements in Tamilnadu 19.7. Christian Missionaries 19.8. Significance of the Reform Movements

SYLLABUS 2021–2022

CLASS: 11 SUBJECT: POLITICAL SCIENCE

UNIT	CONTENT
1. Introduction of Political Science	1.1. Meaning, Definition and origin of political science 1.2. Nature of Political science 1.3. scope of Political science
2. State	2. Introduction 2.1. Meaning and Definition of State 2.2. Essential Elements of State 2.3. Society, State and Government 2.5. Concept of Welfare State 2.6. Concept of soft state 2.7. Concept of over Developed State
3. Basic concept of political science Part - I	Entire Unit
4. Basic Concept of Political Science Part - II	4.1. Law 4.1.1. Introduction 4.1.2. Meaning of Law 4.1.3. Classification of Laws 4.1.4. The sources of law 4.1.5. How Law is Related to state and Morality ? 4.1.6. How Law and Public opinion are related to each other? 4.2. Citizenship 4.2.1. Introduction 4.2.2. Citizenship and the City - State 4.2.4. Citizenship In India 4.2.5. Global citizenship and National citizenship 4.3. Rights and Duties 4.3.1. Introduction 4.4. Political obligation 4.4.1. Political obligation and Political Authority

5. Democracy	5.1. Definition and types of democracy 5.4. Achievement of Indian Democracy 5.5. Challenges to Indian Democracy
6. Forms of Governments	6.1. Introduction 6.2. Meaning , Definition and Nature of Government 6.3. Unitary form of Government 6.4. Federal form of Government 6.5. Parliamentary form of Government 6.8. How to evaluate the performance of a Government
7. Political Thought	7.1. Plato 7.2. Aristotle 7.4. Niccolo Machiavelli 7.9. Karl Marx
8. Political Ideologies - part I	8.1. Liberalism 8.2. Communism (Vladimir Lenin) 8.3. Socialism 8.4. Nationalism
9. Political Ideologies - part II	9.2. Feminism 9.4. Postmodernism 9.5. Environmentalism
10. Public opinion and party system	10.1. Defining public opinion 10.3. Definition of Political parties 10.4. Functions of Political parties 10.5. Role of Political parties in a Democracy 10.7. Role of Political parties in a Democracy
11. Election and Representation	Entire Unit
12. Local Government	12.1. Meaning , Nature and importance of Local Government 12.2. Classification of Local Government Institutions 12.4. Origin and development of local Government in India 12.5. 73rd Constitution Amendment - Implementation and implications (Panchayat Raj Act)

	12.6. 74th Constitutional Amendment Implementation and Implications (Nagarpalika Bill) 12.7. The Case of Tamilnadu 12.8. Contemporary Issues
13. Social Justice	13.1. What do you mean by social justice 13.2. Equality is essential for social justice 13.3. Just Distribution 13.4. Distributive Justice and Retributive Justice 13.6. Socio – cultural equality 13.7. Discrimination -social basis theory 13.9. Status in Madras Presidency
14. Political Developments in Tamil Nadu	Entire Unit
15. Tamil Nadu Political thought	Entire Unit

SYLLABUS 2021–2022

CLASS: 11 SUBJECT: GEOGRAPHY

UNIT	CONTENT
1 Fundamentals of Geography	1.1. Introduction 1.2. Defining Geography 1.3. Evolution of Geography 1.7. Branches of Geography
2 The solar system and the earth	2.1. Introduction 2.2. Theories of the Earth's origin 2.3. Modern theories of the origin of the Universe 2.14. Motions of the earth Seasons 2.16. Time Zones of the World
3 Lithosphere: Endogenic Processes	3.1. Introduction 3.3. Continental Drift Theory 3.4. Plate Tectonics 3.5. Plate boundaries 3.11. Rocks 3.11.1 Rocks types 3.12. Rock Cycle
4 Lithosphere: Exogenic Processes	4.1. Introduction 4.6. The River 4.7. Glacier 4.9. Wind 4.10. Waves
5 Hydrosphere	5.1. Introduction 5.4. Cryosphere 5.5. Oceans and Seas 5.7. Maritime zones 5.10. Salinity of the ocean 5.11. Ocean movements

6 Atmosphere	6.1. Introduction 6.2. Composition of the Atmosphere 6.2.1. Layers of the Atmosphere 6.3. Temperature and Heat Budget 6.4. Atmospheric Pressure and Wind systems 6.7. Atmospheric Disturbances
7 Biosphere	7.1. Introduction 7.4. Biomes 7.5. Biodiversity 7.7. Conservation of biodiversity
8 Natural Disasters: Public awareness for disaster risk reduction	8.1. Introduction 8.2. Public awareness for disaster risk reduction 8.3. Disasters and rules of action for disasters 8.3.1. Earthquake 8.3.3 Cyclone 8.3.6. Lightning
PRACTICALS	
10 Representation of relief features and Climatic Data	10.1. Introduction 10.2. Methods of Representing Relief Features 10.3. Climatic Diagrams 10.4. Wind Rose Diagram
12 Weather maps	12.1. Introduction 12.2. Instruments for Measuring Weather Elements 12.3. Advancement in Measuring Weather Elements 12.4. Weather Symbols 12.5. Station Model 12.6. Reading Weather Map 12.7. Weather Map Interpretation 12.8. Weather Forecasting 12.9. Tracking of Cyclones

SYLLABUS 2021-2022

CLASS: 11 SUBJECT: STATISTICS

UNIT	CONTENT
1. Scope of Statistics and Types of the data	Introduction 1.2 Definitions 1.3 Functions of Statistics 1.4 Scope and Applications 1.4.1 Statistics and actuarial science 1.4.2 Statistics and Commerce 1.4.3 Statistics and Economics 1.4.4 Statistics and Medicine 1.4.5 Statistics and Agriculture 1.4.6 Statistics and Industry 1.4.7 Statistics and Information Technology 1.4.8 Statistics and Government 1.5 Big Data 1.6 Variable and Types of data 1.7 Measurement scales 1.7.1 Nominal scales 1.7.2 Ordinal scales 1.7.3 Interval scales 1.7.4 Ratio scales
2. Collection of data and Sampling methods	Introduction 2.2 Methods of Collecting Primary Data 2.2.1 Direct Method 2.2.2 Indirect Method 2.2.3 Questionnaire Method 2.2.4 Local correspondents Method 2.2.5 Enumeration Method 2.3 Secondary Data 2.4 Population 2.5 Census Method 2.6 Sampling method 2.7 Probability sampling 2.7.1 Simple random sampling 2.7.2 Stratified random sampling

3. Classification and tabulation of data	Introduction 3.1 Classification of data and Objectives of Classification 3.2 Types of classifications 3.2.1 Classification by Time or Chronological Classification 3.2.2 Classification by Space (Spatial) or Geographical Classification 3.2.3 Classification by Attributes or Qualitative Classification 3.2.4 Classification by Size or Qualitative Classification 3.3 Tabulation 3.5 Components of Table 3.6 Frequency Distribution 3.6.1 Discrete Frequency Distribution 3.6.2 Continuities Frequency Distribution 3.6.3 Inclusive and Exclusive Methods of Forming Frequency Distribution 3.6.4 Guidelines on Compilation of Continuities Frequency Distribution 3.7 Cumulative Frequency Distribution 3.9 Stem and Leaf Plot
4. Diagrammatic and Graphical Representation of Data	Introduction 4.1 Meaning and significance of diagrams and graphs 4.2 Rules for constructing diagrams 4.3 Types of Diagrams 4.3.1 Simple Bar Diagrams 4.3.2 Pareto Diagrams 4.3.3 Multiple Bar Diagrams 4.3.4 Component Bar Diagrams (Sub-divided Bar Diagram) 4.3.5 Percentage Bar Diagrams 4.3.6 Pie Diagrams 4.3.7 Pictogram 4.4 Types of Graphs 4.4.1 Histogram 4.4.2 Frequency Polygon 4.4.3 Frequency Curve 4.4.4 Cumulative Frequency Curve (Ogive)

5. Measures of Central Tendency	Introduction 5.1 Definitions of Measures of Central Tendency 5.2 Characteristics for a good Statistical average 5.3 Various Measures of Central Tendency 5.3.2 Geometric Mean 5.3.3 Harmonic Mean 5.3.4 Median 5.3.5 Mode 5.4 Empirical relationship among mean, median and mode
6. Measures of Dispersion	Introduction 6.1 Characteristics of Good Measures of Dispersion 6.2 Types of Measures of Dispersion 6.3 Absolute Measures 6.3.2. Inter Quartile Range and Quartile Deviation 6.5. Relative measures 6.5.1 Coefficient of Variation 6.7 Skewness & Kurtosis 6.7.1 Skewness 6.7.2 Kurtosis 6.8 Box Plot 6.8.1 Description of box plot
7. Mathematical Methods	Introduction 7.1 Fundamental principles of Counting 7.2 Permutations 7.3 Combinations 7.5 Introduction to Elementary Calculus 7.5.1. Differentiation 7.5.2. Integration

8. Elementary Probability Theory	Introduction 8.3 Axioms of Probability 8.3.1 Axiomatic approach probability 8.3.2 Basic Theorems probability 8.4 Addition theorem of probability 8.5 Conditional probability 8.5.1 Definition of conditional probability 8.6 Independent events 8.8 Baye's Theorem & Its Applications
9. Random Variable & Mathematical Expectation	Introduction 9.1 Definition of Random Variables 9.2 Discrete & Continuous Random Variables 9.2.1 Discrete Random Variables 9.2.2 Continuous Random Variables 9.3 Probability Mass Function & Probability Density Function. 9.3.1 Probability Mass function 9.3.2 Probability Density function 9.4 Distribution Function & its Properties 9.4.1 Distribution Function for discrete random variable 9.4.2 Properties 9.4.3 Distribution Function for continuous random variable 9.6 Mathematical Expectation 9.6.1 Expectation of Discrete random variable 9.6.2 Expectation of Continuous random variable 9.6.3 Independent random variable 9.8 Moments 9.8.1 Moments about the origin 9.8.2 Moments about the Mean (Central moments) 9.8.3 Moments generating function (M.G.F) 9.8.4 Characteristic function
10. Probability Distributions	Introduction 10.1. Discrete Distribution 10.1.1 Bernoulli's Distribution 10.1.2 Binomial Distribution 10.1.3 Poisson Distribution 10.2 Continuous Distributions 10.2.1. Uniform Distribution 10.2.2. Normal Distribution

SYLLABUS 2021-2022

STANDARD: 11 SUBJECT: BUSINESS MATHEMATICS & STATISTICS

UNIT	CONTENTS
1. Matrices and Determinants	Introduction 1.1 Determinants : [Definition - matrix and determinants] 1.1.2 Minors 1.1.3 Cofactors 1.1.4 Properties of determinants (without proof) 1.2 Inverse of a Matrix 1.2.1 Singular Matrix 1.2.2 Non – singular Matrix 1.2.3 Adjoint of a Matrix 1.2.4 Inverse of a Matrix 1.3 Input and Output Analysis 1.3.1 The Hawkins – Simon conditions
2. Algebra	Introduction 2.1 Partial Fractions: 2.1.1 Denominator contains non – repeated linear factors 2.2 Permutations 2.2.1 Factorial 2.2.2 Fundamental principal of counting 2.2.3 Additional Fundamental principal of counting 2.2.4 Permutation 2.2.5 Circular permutation 2.3 Combinations 2.4 Mathematical Induction
3. Analytical Geometry	Introduction 3.1 Locus 3.1.1 Equations of locus 3.2 System of Straight Lines 3.2.1 Recall 3.2.2 Angle between two straight lines 3.2.3 Distance of a point from a line 3.2.4 Concurrence of three lines

	3.4 Circle 3.4.1 The equation of a circle when the centre and radius are given 3.4.2 Equation of a circle when the end points of a diameter are given 3.4.3 General equation of a circle 3.4.4 parametric form of a circle 3.4.5 Tangents
4. Trigonometry	Introduction 4.1 Trigonometric Ratios 4.1.1 Quadrants 4.1.2 Signs of the trigonometric ratios of an angle as it varies from 0° to 306° 4.1.3 Trigonometric ratios of allied angles 4.2 Trigonometric Ratios of Compound Angles: 4.2.1 Compound angles 4.2.2 Sum and difference formulae of sine, cosine and tangent 4.2.3 Trigonometric ratios of multiple angles 4.3 Transformation formulae: 4.3.1 Transformation of the products into sum or difference 4.3.2 Transformation of sum or difference into product
5. Differential Calculus	Introduction 5.1 Functions and their Graphs 5.1.1 Quantity 5.1.2 Constant 5.1.3 Variable 5.1.4 Intervals 5.1.5 Neighbourhood of a point 5.1.6 Function 5.1.7 Classification of functions 5.1.8 Even and odd functions 5.1.9 Explicit and implicit functions 5.1.10 Constant function 5.1.11 Identify function 5.1.12 Modulus function

	5.1.13 Signum function 5.1.14 Step function 5.1.15 Rational Function 5.1.16 Polynomial function 5.1.17 Linear function 5.1.18 Quadratic function 5.1.19 Exponential Function 5.1.20 Logarithmic function 5.1.21 Sum, difference, product and quotient of two functions 5.2 Limits and Derivatives 5.2.1 Existence of limit 5.2.2 Algorithm of left hand limit 5.2.3 Algorithm of right hand limit 5.2.4 Some results of limits 5.2.5 Indeterminate forms and evaluation of limits 5.2.6 Methods of evaluation of algebraic limits 5.2.7 Some standard limits 5.2.8 Continuous function 5.2.9 Some properties of continuous functions 5.2.10 Differentiability at a point 5.2.11 Left hand derivative and right hand derivative 5.3 Differentiation Techniques 5.3.1 Some standard results [formulae] 5.3.2 General rules for differentiation 5.3.5 Differentiation of parametric functions 5.3.6 Differentiation of a function with respect to another function 5.3.7 Successive differentiation
6. Applications of Differentiation	6.1 Applications of Differentiation in Business and Economics 6.1.1 Demand, supply, cost, revenue and profit functions 6.1.2 Elasticity 6.2 Maxima and Minima 6.2.1 Increasing and decreasing functions

	6.2.2 Stationary Value of a function 6.2.3 Local and Global (Absolute) Maxima and Minima 6.3 Applications of Maxima and Minima 6.3.1 Problems on profit maximization and minimization of cost function 6.3.2 Inventory control 6.3.3 Economic Order Quantity (EOQ)
7. Financial Mathematics	7.2 Stocks, Shares, Debentures and Brokerage 7.2.1 Types of shares 7.2.2 Definitions
8. Descriptive Statistics and Probability	8.2 Measures of Dispersion 8.2.1 Quartile Deviation 8.2.2 Mean deviation 8.3 Probability 8.3.1 Basic concepts of Probability 8.3.2 Independent and Dependent events 8.3.3 Conditional Probability 8.3.4 Baye's Theorem
9. Correlation and Regression	9.1 Correlation 9.1.1 Meaning of Correlation 9.1.2 Types of correlation 9.1.3 Scatter Diagram 9.1.4 Karl Pearson's Correlation Coefficient 9.2 Rank Correlation 9.2.1 Spearman's Rank Correlation Coefficient
10.Operations Research	10.2 Network Analysis 10.2.1 Construction of network 10.2.2 Critical path analysis

பாடத்திட்டம் 2021–2022

வகுப்பு : 11 **பாடம் : சிறப்புத்தமிழ்**

இயல்	பாடப்பொருள்
1. கவிதையியல்	பாடம் முழுவதும்
2. கதையியல்	தமிழ்ச் சிறுகதை வளர்ச்சியும் தோற்றமும் சிறுகதை வாசிப்பும் திறனாய்வும் சிறுகதை எழுதும் கலை இறுக மூடிய கதவுகள் நசுக்கம் அயலகத் தமிழ் எழுத்தாளர் சிறுகதை- பேபி குட்டி குறுங்கதை - ரப்பர் பந்து நுண்கதைகள் - பனித்துளியின் பேச்சு, ஒற்றைக்குரல்
3. அரங்கவியல்	நாடகக் கலை தெருக்கூத்தில் கட்டியங்காரன் நாடகவியல் ஆளுமைகள்
4. இலக்கணவியல்	இலக்கண வரலாறு தொடரியல்
5. ஊடகவியல்	இதழ்களின் அமைப்பு முறை ஊடகவியலில் தமிழ் ஆளுமைகள்
6. கணித்தமிழியல்	இணையக்களம் இணையம் கற்போம் உலகை அறிவோம் உள்ளீட்டுக்களம் தமிழ் உள்ளீட்டுத் தொழில்நுட்பம்

SYLLABUS 2021–2022

CLASS: 11 SUBJECT: COMMUNICATIVE ENGLISH

UNIT	CONTENT
1. I would like to Rise and Go!	Travel and Tourism - Packing as an Art (Prose) Grammar- Framing Questions Informal Letter and E-mail Brochures Itinerary Practical Speaking Skill : Dialogue / Role Play /Short Speech
2. Think Globally! Act Locally!	Think Globally (Prose) Growth of English Language study Specialisation in the field of medicine Time expression : Since or For Report writing : Sports day English for computers English for hospitality Message writing Resume and CV Covering letter Filling up forms Facing interviews
3. Dare The Waves!	Dare the waves (Prose) A passage on Disaster Management Language Study Polysemy, Homophones, Antigrams, Homonyms, Contranyms Article Writing Practicals Speaking Skill: Talk Show

4. You Can Make A Difference	On The Face of it (Play) The Fog (Poem) Language Study a) Idioms b) Euphemism c) Phrasal Verb" Writing Note – Making Factual Description Designing Poster Practical Group Discussion
5. Reaching Beyond The Horizon	My Television and I Television Addiction (Prose) Language Study Kangaroo Word Media Professionals" Note - Taking Debate Advertisement Report Writing Animation Practicals Speaking Skill: Debate

6. Spare A Thought	Humming Bird (Prose) Extinction of Birds Homeless House Sparrow Language Study Culture, Phobia, Mania Grammar Punctuation Finite and Non – Finite Verb Notice Writing Writing Speech Encoding and Decoding Writing Advertisement Practicals Speaking Skill: Speech Story Telling

பாடத்திட்டம் 2021–2022

வகுப்பு : 11 **பாடம் : அறவியலும் இந்தியப் பண்பாடும்**

அலகு	பாடப்பொருள்
1. தமிழகப் பண்பாடு – ஓர் அறிமுகம்	பாடம் முழுவதும்
2. சிந்துவெளி நாகரிகம்	நுழைவு வாயில் சான்றுகள் சிந்துவெளி நாகரிகமும் தமிழர் நாகரிகமும் நகர அமைப்பும் கட்டடங்களும் கட்டடக்கலை நீச்சல் குளம் தானியக் களஞ்சியம் சமுதாய நிலை பெண்களின் நிலை உணவு வகைகள் உடைகள் நகர நாகரிகம் சமயம் மற்றும் வழிபாடு கலைகள் எழுத்துகள் முத்திரைகள் சிந்துவெளி நாகரிகத்தின் அழிவு இந்தியப் பண்பாட்டு வளர்ச்சிக்குச் சிந்துவெளி நாகரிகத்தின் கொடை நிறைவுரை
3. தமிழ் இலக்கியங்கள் உணர்த்தும் வாழ்வியல் நெறிகள்	பாடம் முழுவதும்
4. தமிழர் கலைகள்	நுழைவு வாயில் கட்டடக்கலை சங்க காலம் சிற்பங்கள் பிரதிமைகள் பல்லவர் காலம் சோழர் காலம் செப்புத் திருமேனிகள் விஜயநகர மற்றும் நாயக்கர் காலம் ஓவியக்கலை இசைக்கலை பக்தி இயக்கமும் இசையும்

5. திருவிழாக்கள்	பாடம் முழுவதும்
6. தொல்குடி விழுமியங்கள்	பாடம் முழுவதும்
7. அறவியலின் இயல்பும் அறச்செயல்களும்	நுழைவு வாயில் அறவியல் சொல் விளக்கம் அறவியல் வரையறை அறிஞர்களின் கருத்து அறவியலின் இயல்பும் பணியும் அறவியல் ஓர் அறிவியல்
8. அறநெறி வாழ்வு	நுழைவு வாயில் தனிமனிதனும் சமுதாயமும் சமுதாயமும் அறவாழ்வும் சமுதாய நலன் தனி மனிதனும் நாடும் மூன்று நலக் கொள்கைகள் குடும்பவாழ்வும் அறநெறியும் குடும்பத்தின் செயற்பாடுகள் உரிமைகள்மற்றும் கடமைகள் உரிமையும் சமூகமும் மனிதனின் உரிமைகள் கடமை என்பதன் பொருள் நல்லொழுக்கம் நற்பண்புகளின் வகைகள் ஆளுமைப்பண்பு
9. தொழில்சார் அறங்கள்	நுழைவு வாயில் தொழில்சார் அறம் சொற்பொருள் விளக்கம் தொழில்சார் அறங்களின் தேவை தொழில்சார் அறப்பண்புகள் கல்வி அறம் வணிக அறங்கள் நுகர்வோர் உரிமைகள் சட்ட அறம் தொழில் நுட்ப அறம் அரசியல் அறம், திருக்குறளில் அரசியல் அறம், நிறைவுரை
10. அண்மைக்கால அறநெறிப் போக்குகள்	நுழைவு வாயில் காந்திய அறம் உண்மை அகிம்சை

	சத்யாகிரகம் சத்தியாகிரகத்தின் பண்புகள் சர்வோதயம் காந்தியடிகளின் சமுதாய அறங்கள் காந்தியடிகளின் சமய நெறி மகாத்மா காந்தியடிகளின் மணிமொழிகள் சமய நல்லிணக்கம் மனிதநேயம் மனிதநேயம் வரையறை சுயமரியாதை அறம் வைக்கம் வீரர் சுயமரியாதை இயக்கம் சுயமரியாதை இயக்கத்தின் நோக்கம் சுயமரியாதை இயக்கத்தின் நல்விளைவுகள் சூழலியல் அறம் விலங்குநல அறம் இந்திய அரசியல் அமைப்புச் சட்டம் வழங்கியுள்ள விலங்கு உரிமைகள் பெண்ணிய அறம் சமயஞ் சாரா அறம் நிறைவுரை

SYLLABUS 2021-2022

CLASS: 11 SUBJECT: COMPUTER APPLICATIONS

UNIT	CONTENT
1. Introduction to Computers	1.1. Introduction to Computers 1.2. Generation of Computers 1.5. Components of a Computer
2. Number System	2.1. Introduction 2.2. Data Representation 2.3. Different Types Of Number System 2.4. Number System Conversion
3. Computer Organisation	3.1. Introduction 3.3. Data Communication Between CPU And Memory 3.5. Memory Devices
4. Theoretical Concepts of Operating System	4.1. Introduction To Software 4.2. Introduction To Operating System 4.4. Key Features Of The Operating System
5. Working With Windows Operating System	5.1. Introduction To Os 5.2. Introduction To Windows Os 5.5. Windows Desktop 5.9. Elements Of A Window 5.11. Managing Files And Folders
6. Introduction to Word Processor	6.1. Introduction To Word Processor 6.2. An Introduction To Open office Writer 6.3. Tamil Typing Interface 6.4. Editing A Document 6.5. Select, Move And Copy Text 6.10. Working With Header And Footer 6.11. Find And Replace 6.12. Spell Check 6.13. Working With Tables 6.15. Enhancing And Printing Document 6.16. Page Preview, Setting The Printer And Printing A Document

7. Working With Open office Calc	7.1. Introduction To Spreadsheet 7.2. Working With Openoffice Calc 7.3. Creating A New Worksheet 7.4. Entering Data 7.8. Autofill Feature 7.9. Inserting Columns, Rows And Cells 7.10. Deleting Columns, Rows And Cell 7.12. Functions
8. Presentation Basis	8.1. Presentation Software Meaning 8.6. Window Elements Of Impress 8.8. Formatting Presentation 8.9. Running The Slide Show 8.11. Master Slide 8.12. Creating Graphic Object 8.14. Inserting Audio And Video
9. Introduction to Internet and Email	9.1. Necessity Of Internet 9.2. Internet And Www 9.3. Types Of Internet Services 9.5. Email 9.6. Internet Threats 9.8. Webpage, Website -Difference 9.9. Static And Dynamic Webpages
10. HTML Structured Tags	10.1. Introduction To Html 10.2. Writing Html Documents 10.4. Headings 10.7. Container And Empty Elements
11. Formatting Text, Creating Tables, List and Link	11.1. Text Formatting Tags Of Html 11.3. Section Break 11.4. Tables In Html List In Html
12. HTML - Adding Multimedia Elements and Forms	12.1. Inserting Images 12.2. Scrolling Text Using <Marquee> 12.3. Adding Video And Sound 12. 4 Working With Forms

13. CSS - Cascading Style Sheets	Introduction Site wide Style Sheets CSS- Style Definition Rules Linking CSS With Html
14. Introduction to Javascript	14.1. Introduction To Java script 14.2. Advantages Of Java script Programming Language 14.3. Using Java script In Html Page With <Script> Tag 14.4. Lexical Structure Of Java script Program 14.5. Java Script Variables 14.6. Java script Operators And Expression 14.7. Java script Popup Or Dialog Boxes 14.8. Comments In Java script
15. Control Structure in Java Script	15.1. Conditional Statements In Java script 15.2. Looping Repetitive
16. Java Script Functions	16.1. Introduction 16.2. Some Common Pre Defined Functions 16.3. User Defined Functions
17. **Computer Ethics and Cyber Security**	17.1. Introduction 17.2. Ethical Issues
18. Tamil Computing	18.1. Introduction 18.2. Tamil In Internet 18.3. Search Engines In Tamil 18.6. Tamil Typing And Interface Software 18.7 Tamil Office Automation Application 18.8 Tamil Translation Application 18.9 Tamil Programming language 18.10 Tamil Information Interchange Coding System 18.11 Operating System 18.12 Organisation and Project to Develop Tamil

PRACTICAL

Sl.No	Topic
1.	Open office Writer - Formatting Invoice
2.	Open office Calc - Interest Calculations
3.	HTML - Form Design
4.	CSS - Formatting Web page
5.	Java Script - Display Text
6.	Java Script - Login Forms

SYLLABUS 2021-2022

STANDARD: 11 SUBJECT: BASIC MECHANICAL ENGINEERING

UNIT	CONTENT
1. Workshop Engineering -Safety Precautions	1.1. Introduction 1.2. Machinist 1.3. Duties of Machinist 1.4. Role of a Machinist in the growth of the Country 1.6. Safety- Safety Precautions 1.7. General Workshop Safety Precautions 1.8. Safety Precautions regarding Hand tools 1.11. First Aid
2. Hand Tools	2.1 Introduction 2.2 Important Hand Tools 2.5 Cut of teeth 2.6 Hacksaw frame- Types of Hack Saw frame 2.10 Marking Tools 2.13 V-Block 2.14 Angle Plate 2.15 Tap- Types of Taps 2.16 Dies - Types of Dies
3. Measuring Instruments and Gauges	3.1. Introduction 3.3. Calipers 3.4. Vernier Caliper 3.5. Micrometre 3.6. Combination Set 3.7. Sine Bar 3.8. Gauges
4. Engineering Materials	4.1 Introduction 4.3. Properties of Materials
5. Heat Treatment	5.1. Introduction 5.2. Purpose of Heat Treatment 5.3. Lower and Higher Critical temperature 5.4. Method of Heat Treatment Process 5.6. Heat Treatment Furnaces

6. Foundry	6.1	Introduction
	6.2	Pattern
	6.3	Pattern Materials
	6.4	Factors for Selecting Pattern materials
	6.5	Types of patterns
	6.6	Pattern Making Allowances
7. Fasteners, Jigs & Fixtures	7.1	Introduction
	7.3	Thread
	7.4	Keys and Key Ways
	7.5	Jigs & Fixtures
	7.8	Advantages of Jigs & Fixtures
8. Standardisation	8.1	Introduction
	8.2	Standardization
	8.5	Basic Terminology in Interchangeable System
	8.6	Fits- Types of fit
9. Transmission of Power	9.1	Introduction
	9.2	Power Transmission
	9.5	Gears
	9.6	Gear Train
10. Electricity	10.1	Introduction
	10.3	Magnetism
	10.4	Faraday's Laws
	10.6	Electrical Equipment
	10.7	Motors
	10.8	Starters for Induction Motors
11. Industrial Management	11.1	Introduction
	11.2	Plant Location
	11.3	Important Factors to be considered in Selecting a plant Location
	11.4	Plant Layout
	11.5	Work Study
	11.6	Production and Productivity
	11.8	Production Planning and Control (PPC)
	11.10	Quality Control
	11.11	Principles of Management

12. Cost Estimation	12.1	Introduction
	12.2	Cost of Raw materials
	12.3	Machining charges
	12.4	Wages for the workers
	12.5	Cost for making accessories like jigs & fixtures

PRACTICAL		
STANDARD: 11		**SUBJECT: BASIC MECHANICAL ENGINEERING**
Part No	**Sl.No**	**Topic**
PART - I	**1**	Engineering Drawing Isometric / View
PART - II	**1**	Marking, Punching and Filing
	2	Hacksaw Cutting
	3	'L'- Cutting
	4	'T'- Cutting

SYLLABUS 2021–2022

STANDARD: 11 SUBJECT: BASIC ELECTRICAL ENGINEERING

UNIT	CONTENT	
1. Introduction to Electrical Engineering	1.1	Introduction about electricity and methods of power generation
	1.2	Introduction of LT/HT lines
	1.3	Electrical safety and precautions
	1.4	Electric shock
2. Electrical Fundamental terms	2.4	Electrical terms (factors)
	2.5	Ohms law
	2.6	Types of electrical circuits
	2.7	Capacitor – Types – Uses
3. Electro magnetism	3.3	Magnetic materials, Magnetic terms and Properties
	3.5	Electro magnetic induction
	3.6	Hysteresis loop
	3.7	Rules and laws related to magnetism
4. Batteries	4.4	Secondary cell
	4.5	Lithium ion battery
	4.6	Seven features about disparity between Lead acid battery and Lithium ion battery
	4.8	Maintenance of Battery
5. AC circuits	5.2	AC wave form and its characteristics
	5.4	RLC circuits
	5.5	Three phase Star / Delta connections
6. Transformer	6.1	Introduction
	6.2	Construction and types of Transformer core
	6.3	Working principle (or) operation of a Transformer
	6.4	EMF equation
	6.5	Types of Transformer
	6.7	Testing method of transformer
	6.8	Protective devices of Transformer
7. DC Generator & DC motor	7.1	Introduction
	7.2	Basic principle of operation of DC Generator

	7.3	Construction of DC machines
	7.4	Types of DC Generator
	7.5	EMF equations of a DC Generator
	7.6	Applications of DC Generator
	7.7	DC Motor
	7.8	Back EMF of DC Motor
8. AC Generator & AC motor	8.1	Alternator (AC Generator) Introduction
	8.2	Basic principle
	8.3	Construction
	8.4	Single phase AC motor
	8.6	Stepper motor
9. Engineering materials	9.1	Introduction
	9.4	Mechanical properties
	9.7	Optical materials
10. Electronics	10.3	Filter circuits
	10.4	Zener Diode
	10.5	Transistor NPN & PNP

PRACTICAL

STANDARD: 11		**SUBJECT: BASIC ELECTRICAL ENGINEERING**
Sl.No	**Unit No**	**Topic**
1.	**1.**	Study of hand tools for wiring
2.	**2.**	House wiring and Electrical safety rules
3.	**3.**	Verification of ohms law
4.	**4.**	Preparation of Appliance test board
5.	**5.**	One lamp controlled by a regulator
6.	**8.**	Go-down wiring
7.	**10.**	Testing of Resistor, Diode, Transistor and Capacitor

SYLLABUS 2021-2022

STANDARD: 11 SUBJECT: BASIC ELECTRONICS ENGINEERING

UNIT	CONTENT
1. Basic Electrical Principles	1.1 Introduction 1.2 Types of Electricity 1.3 Electrical Properties 1.4 ohm's Law 1.8 Classification of Resistors 1.9 Colour coding of Rasistors 1.11 Capacitors
2. Electrical Devices	2.1 Introduction Cells 2.2 Inductor or coil 2.3 Transformers 2.4 Microphones and Loud speakers 2.8 Electronic Servicing safety precautions
3. Basic Principles of Electronics	Introduction 3.1 Atomic structure 3.3 Electron Emission 3.6 Semiconductor 3.7 Intrinsic Semiconductor 3.8 N-type Semiconductor 3.10 PN Junction
4. Power Supply	4.1 Introduction 4.2 Power Supply Basics 4.3 Rectifier 4.4 Types of Rectifiers 4.6 Full wave Bridge Rectifier 4.7 Filter circuits 4.8 Voltage Regulator
5. Transistors and Amplifiers	5.1 Introduction 5.2 Transistor 5.3 Bipolar Junction Transistor 5.4 Some facts about the Transistor 5.5 Transistor Testing 5.7 Working of NPN & PNP Transistor

	5.8	Operating modes of Transistors
	5.9	Transistor configurations
	5.11	Voltage Amplifier and Power Amplifier
	5.13	Feedback in Amplifiers
	5.14	Distrortion in Amplifiers
	5.15	Applications of a Transistor
6. Special Type Semiconductor Devices	6.1	Lighting Emitting
	6.2	Seven segment LED
	6.3	Light Dependent Resistor
	6.4	Liquid crystal display
	6.5	Photo diode
	6.6	Photo Transistor
	6.7	Solar Cell
	6.8	Unipolar Junction Transistor
	6.9	Field Effect Transistor
	6.11	Silicon controlled Rectifier
	6.14	Insulated Gate Bipolar Transistor (IGBT)
	6.15	Integrated circuit (IC)
7. Oscillators	7.1	Classification of oscillators
	7.2	Types of Sinusoidal
	7.3	Essential parts of an oscillator
	7.5	Types of oscillator
	7.6	Multivibrators
8. Digital Electronics	8.1	Analog and digital signals
	8.2	Digital circuits
	8.3	Number system
	8.6	Binary codes
	8.7	Logic Gates
	8.8	Boolean Algebra
	8.9	Advantages and disadvantages of Digital Electronics
9. Fundamentals of Digital computer	9.1	History of Computer
	9.3	Languages
	9.4	Major parts of computer
	9.5	Hardware and software parts of computer
	9.7	Compliers and Interpreter
	9.8	Operating system

10. Electronic Measuring Instruments	10.1 Testing and measuring Instruments 10.2 Multimeter 10.3 Cathode Ray Oscilloscope 10.6 Spectrum Analyser 10.7 Logic Probe 10.8 IC Tester 10.9 Digital Energy Meter

PRACTICAL

STANDARD: 11		**SUBJECT: BASIC ELECTRONICS ENGINEERING**
Sl.No	**Unit No**	**Topic**
1	**1.**	Soldering and its techniques
2	**2.**	Applications of Multimeter
3	**3.**	Measuring of AC, DC voltage and DC current using Multimeter
4	**5.**	Testing of Resistors – series of Parallel
5	**7.**	Testing of Diodes and Transistors
6	**8.**	Construction of 6V Power supply (Bridge Rectifier)
7	**10.**	Construction of Common Emitter (CE-NPN) amplifier circuit
8	**12.**	Verification of Basic Logic Gates

SYLLABUS 2021–2022

STANDARD: 11 SUBJECT: BASIC CIVIL ENGINEERING

UNIT	CONTENT
1. Basic Engineering Drawing	1.1 Drawing Instruments and their uses
2. AutoCAD	Entire Unit
3. Building Materials	3.1 Stones 3.2 Bricks 3.3 Sand
4. Building Materials	4.1 Cement 4.2 Mortar 4.3 Concrete
5. Building Materials	5.1 Timber 5.3 Tiles
6. Building Construction	6.1 Foundation 6.3 Brick Masonry
7. Building Construction	7.1 Lintels 7.2 Doors and windows
8. Building Construction	8.1 Stairs and lift 8.2 Roof 8.3 Flooring

PRACTICAL

STANDARD: 11		SUBJECT: BASIC CIVIL ENGINEERING
Sl.No	**Unit No**	**Topic**
1	1.	Lettering, Numbering, Dimensioning Practice
2	3.	Symbols for Building Materials and Doors
3	4.	Symbols for Electrical and Sanitary Fittings
4	5.	Foundation Cross Section i. Load Bearing Wall Foundation ii. Isolated Footing
5	7.	Determine the Normal consistency for the given sample of Cement
6	9.	Determine the Fineness value for the given Sample of cement
7	10.	Determine the voids ratio for the given Sand sample
8	11.	Determine the Porosity for the given Sand sample
9	12.	Determine the Bulk Density for the given Sand sample
10	14.	Construct a Brick Masonry (1 Brick thickness) in English Bond

SYLLABUS 2021 – 2022

STANDARD: 11 SUBJECT: BASIC AUTOMOBILE ENGINEERING

UNIT	CONTENT	
1. Safety Rules	1.0	Introduction
	1.1	Workshop Safety Rules
	1.2	Self Safety
	1.3	Safety Precautions in Machines
	1.4	Safety precautions in using tools
	1.6	Vehicle safety
	1.7	Safety Device
2. Instruments and measurements	2.0	Introduction
	2.2	Power Tools
	2.3	Garage Tools
3. Fuels and their Types	3.0	Introduction
	3.1	Fossils Fuels
	3.2	Alternative Fuels
4. History of Automobiles	4.0	Introduction
	4.2	Engine
	4.3	Technical Specification of Engine
	4.4	Royal Automotive club Rating
	4.5	Society of Automotive Engineers Rating
5. Engine	5.0	Introduction
	5.1	Petrol Engine
	5.2	Diesel Engine
	5.3	Parts of IC Engine
	5.4	Four Stroke Petrol Engine
	5.5	Two Stroke Petrol Engine
	5.7	Four Stroke Diesel Engine
	5.8	Two stroke Diesel Engine
6. Intake, Exhaust system and combustion chamber	6.0	Introduction
	6.1	Effect of pollutants
	6.2	Fuel Tank
	6.3	Fuel Filter
	6.5	Fuel Pump
	6.6	Feed Pump

	6.8	Carburettor
	6.9	Fuel Injector
	6.10	Nozzle
	6.11	Combustion Chambers
	6.12	Exhaust system
7. Cooling system	7.0	Aim
	7.1	Air Cooling System
	7.2	Water Cooling System
	7.3	Parts of water cooling system
	7.8	Anti Freezing solution
8. Engine Lubrication system	8.0	Introduction
	8.1	Advantage of Lubrication
	8.3	Types of Lubrication
	8.4	Types of Lubrication system
	8.5	Parts of Lubrication system
9. Fuel Supply system	9.0	Introduction
	9.1	Fuels Supply system in petrol Engine
	9.2	Types of Fuel Supply system
	9.4	Air Fuel Ratio
	9.7	Comparison between MPFI and carburettor
	9.9	Fuel Injection Pump
	9.10	Governor
	9.12	Common Rail Direct Injection
10. Engine Trouble Shooting and Remedies	10.0	Introduction
	10.1	Types of inspection
	10.2	Maintenance of Records
	10.3	Log Book

PRACTICAL

STANDARD: 11		SUBJECT: BASIC AUTOMOBILE ENGINEERING
Sl.No	**Unit No**	**Topic**
1	3.	Decarburizing
2	4.	Carburetor
3	6.	Ac mechanical pump
4	8.	Piston Assemble
5	9.	Water Pump
6	10.	Diesel Injector

பாடத்திட்டம் 2021 – 2022

வகுப்பு : 11 **பாடம்: நெசவியல் தொழில் நுட்பம்**

அலகு	பாடப்பொருள்
1. இழை அறிவியல்	1.1.1 நெசவியல் இழை 1.1.2 நெசவியல் இழைகளுக்கு தேவையான முக்கிய பண்புகள் (அ)அத்தியாவசிய பண்புகள் மட்டும் 1.1.3 நெசவியல் இழை வகைகள் 1.2.1 பருத்தி பயிரிடுதல் 1.2.2 பருத்தி விளையும் நாடுகள் 1.2.3 பருத்தியின் வகைகள் 1.3.1 சணல்பயிரிடுதல் 1.3.2 ரெட்டிங் (ஊறவைத்தல்) (ரெட்டிங் முறைகள் மட்டும்) 1.3.3 சணல் இழைகளை பிரித்தெடுத்தல் 1.3.5 சணல் இழையின் பயன்கள் 1.4.1 கம்பளி இழையின் வகைகள் (அ) ஆட்டின் அடிப்படையில் கம்பளி வகைகள் மட்டும் 1.4.2 கம்பளி நூல் நூற்பு முறைகள் 1.4.3 கம்பளி இழை தயாரிப்பு மற்றும் தூய்மைப்படுத்துதல் 1.4.5 கம்பளி இழையின் பயன்கள் 1.5.1 பட்டு இழைகளின் வகைகள் 1.5.2 பட்டுப்புழுவின் வாழ்க்கை சுழற்சி 1.5.3 பட்டுநூல் தயாரித்தல் 1.6.1 விஸ்கோஸ் ரேயான் இழை தயாரிப்பு 1.7.2 நைலான்6 இழை தயாரிப்பு 1.7.3 நைலான் தயாரிப்பு முறை அட்டவணை 1.7.5 நைலான் இழையின் பயன்கள் 1.8.1 பாலியெஸ்டர் இழை தயாரிப்பு 1.8.3 பாலியெஸ்டர் இழையின் பயன்கள் 1.9 பிற இழைகள் 1.9.1 ஆஸ்பெஸ்டாஸ் 1.9.2 கண்ணாடி இழைகள் 1.9.3 ஸ்பான்டெக்ஸ் 1.9.4 உலோக இழைகள் 1.9.5 கார்பன் இழைகள்

2. நூல் நூற்பு	2.1 ஜின்னிங் 2.1.1 ஜின்னிங் முறைகள் 2.2 பருத்தி நூற்பு 2.2.1 நூல் தயாரிப்பு முறை 2.2.2 பிளண்டிங் 2.2.3 மிக்ஸிங் 2.3 புளோ ரூம் 2.3.1 புளோ ரூம் இயந்திரங்களின் வரிசை 2.3.2 (அ) பஞ்சு பிரிக்கும் தூய்மை செய்யும் இயந்திரங்கள் 2.3.2 (ஆ) (1) ஸ்டெப் கீளினர் (5) ஆட்டோ பீடர் (6) கண்டென்சர் (7)ஸ்கட்சர் 2.4.1 கார்டிங் (அ) ரிவால்விங் பிளாட் கார்டு – இயந்திரத்தில் இழை செல்லும் முறை 2.4.2 டிராபிரேம் நோக்கங்கள் மட்டும் டிரஃப்டிங் முறைகள் டிராபிரேம் வகைகள் டிராபிரேமில் பஞ்சு செல்லும் முறை அட்டவணை 2.4.3 கோம்பர் – கோம்பர் செயல் முறைகள் 2.5 சிம்ப்ளெக்ஸ் 2.6 ரிங் பிரேம் 2.7 நூற்புக்குப் பின் செயல்பாடுகள் 2.8 நூல் பரிசோதனை 2.8.1 நூல் நம்பர் சோதித்தல் 2.8.2 நூலின் முறுக்கம் சோதித்தல் 2.8.3 நூலின் வலிமையை சோதித்தல் 2.8.4 நூலின் சீர்தன்மையை சோதித்தல் மேல் உள்ள வற்றில் கருவிகளின் பெயர்கள் மட்டும் 2.9.1 நூல் நெம்பர் கணக்கீடும் முறைகள் 2.9.2 எதிர்முறை 2.9.3 நேர் முறை 2.9.4 முறுக்கு நூல்களின் இறுதி நம்பர்
3. சாயமிடுதல்	3.1 நீர் (முழுவதும்) 3.2.1 நூல் மற்றும் துணி பதனிடுதல் தொடர் வரிசை 3.2.2 சிஞ்ஜிங் 3.2.3 கஞ்சி நீக்குதல் முறைகள் மட்டும் 3.3 ஸ்கவரிங் முழுவதும்

	3.4 சலவை செய்தல் 3.4.1 ஹைபோகுளோரைட் முறை 3.5.1 சாயங்களின் வகைகள் 3.5.2 சாயமிடுதல் உப வேதிப் பொருட்களின் பெயர்கள் மட்டும் 3.6.1 டைரக்ட் சாயத்தின் பண்புகள் வகைகள் 3.6.2 பருத்தி நூலிற்கு டைரக்ட் சாயமிடுதல் 3.6.5 பட்டு நூலிற்கு டைரக்ட் சாயமிடுதல் 3.6.6 டைரக்ட் சாயத்தின் பயன்கள் மற்றும் குறைபாடுகள் 3.7 நேப்தால் சாயம் பாடம் முழுவதும் 3.8.1 அமிலச் சாயத்தின் பண்புகள், வகைகள் 3.8.3 பட்டு நூலிற்கு அமிலச் சாயமிடுதல் 3.9.1 பேசிக் சாயத்தின் பண்புகள் 3.9.2 பட்டு நூலிற்கு பேசிக் சாயமிடுதல் 3.9.5 பேசிக் சாயத்தின் பயன்கள் மற்றும் குறைபாடுகள் 3.10.1 சல்பர் சாயத்தின் பண்புகள், சாயமேற்றும் படிநிலைகள் 3.10.2 பருத்தி நூலிற்கு சல்பர் சாயமிடுதல் 3.11 சிட்ட நூல் சாயமிடும் இயந்திரங்கள் 3.11.3 கேபினெட் சிட்ட நூல் சாயமிடும் இயந்திரம்
4. நெசவுத்துணி தயாரித்தல்	4.1.1 முன்று வகை துணி வகைகள் 4.1.2 நெசவுத்துணி 4.1.3 தறியின் இயக்கங்கள் மற்றும் பாகங்கள் 4.1.5 துணியின் வகைகள் மட்டும் 4.1.6 தறியின் வகைகள் அட்டவணை மட்டும் 4.2.1 பாவு தயாரித்தல் அடிப்படைகள் 4.2.2 பாவு தயாரித்தலில் பயன்படும் சாதனங்களும், இயந்திரங்களும் 4.2.6 கிடைமட்டப் பகுதிப் பாவு இயந்திரம் 4.2.8 ஊடை தயார் செய்தல் 4.3 அடிப்படை நெசவுகள் முழுவதும் 4.4 டாபி இயக்கம் 4.4.2 லாட்டிஸ் டாபி 4.5 நெசவியல் வடிவமைப்பில் M S Paint இன் பயன்பாடு முழுவதும்
5. நெசவியல் மேலாண்மை	5.1 மேலாண்மை – நிர்வாகம் வேறுபாடுகள் மேலாளரின் பணிகள் நிர்வாக அமைப்பின் வரைபடம் 5.2 உற்பத்தி செய்ய மூன்று அடிப்படை தேவைகள், உற்பத்தி, வேலை முறையைக் கணக்கிடுதல்

செய்முறை		
வகுப்பு : 11		பாடம்: நெசவியல் தொழில் நுட்பம்
பகுதி	செய்முறை பயிற்சி எண்	தலைப்பு
பகுதி – I	1	சாதா நெசவு
	2	சீரான பாவு ரிப் நெசவு
	3	சீரற்றபாவுரிப் நெசவு
	4	சீரான ஊடை ரிப் நெசவு
	5	சீரற்ற ஊடை ரிப் நெசவு
	6	சீரான மேட் நெசவு
	7	சீரற்ற மேட் நெசவு
	8	சமமுகப்புடுவில்நெசவு
	9	சமமற்ற முகப்புடுவில்நெசவு
பகுதி –II	1	1% டைரக்ட் சாயமிடுதல்
	3	3% டைரக்ட் சாயமிடுதல்
		MS– Paint ல் வரைக
	1	2/2 டுவில் நெசவு 60 * 60 என்ற அளவில்
	2	3/1 டுவில் நெசவு 60 * 60 என்ற அளவில்
	3	1/3 டுவில் நெசவு 60 * 60 என்ற அளவில்
	6	3/3 மேட் நெசவு 60 * 60 என்ற அளவில்

SYLLABUS 2021–2022

CLASS: 11 SUBJECT: TEXTILES AND DRESS DESIGNING

UNIT	CONTENT
1. Introduction to Clothing	1.1 Introduction 1.2 Origin of sewing and Fabric 1.3 Purposes-Need for Clothing 1.4 Theories of clothing
2. Natural Fibres	2.1. Introduction 2.2. Cotton 2.4. wool
3. Man – Made Fibres	3.1. Introduction 3.2. Rayon 3.3. Acetate
4. Yarn Production	4.1. Introduction 4.2. Yarn formation 4.3. Types of yarn
5. Fabric Production	5.1. Introduction 5.2. Difference Between warp and weft
6. Tools for Clothing Construction	6.1. Introduction 6.2. Measuring Tools
7. Basic Stitches	7.1. Introduction 7.2. Temporary stitches 7.3. Permanent Stitches 7.4. Decorative stitches
8. Sewing Machine	8.1. Introduction 8.2. Parts of sewing machine
9. Body measurements	9.1. Introduction 9.2. Points to Remember while taking measurements
10. Patterns	10.1. Introduction 10.2. Types of patterns on paper
11. Fabric Preparation for Sewing	11.1. Introduction paper 11.2. Grain 11.3. Shrinkage 11.4. Fabric straightening 11.7. Pattern layout

12. Basic sewing	12.1. Seam And Seam Finishes 12.2. Fullness 12.3. Neck line And Collars 12.4. Plackets And Fasteners
13 Sewing Garment Details	Introduction 13.1. Sleeves 13.2. Skirts 13.3. Pockets 13.4. Yokes
14. Garments Decoration And Trimming	14.1. Introduction 14.2. Principles to be followed while planning a Decoration or Trimming
15. Introduction To Fashion	15.1. Introduction

PRACTICAL

CLASS: 11		**SUBJECT: TEXTILES AND DRESS DESIGNING**
Sl.No	**Unit No**	**Topic**
1	**1.**	Jabla, panty
2	**2.**	Petticoat
3	**4.**	Baby frock
4	**5.**	Plain blouse
5	**7.**	One piece shirt

SYLLABUS 2021 – 2022

STANDARD: 11 SUBJECT: AUDITING PRACTICAL

UNIT	CONTENT
1. Introduction to Audit	1.1 Introduction 1.2 Meaning of auditing 1.3 Definition of auditing 1.4 Characteristics of auditing 1.5 Book keeping, accounting and auditing 1.6 Difference between accounting and auditing 1.7 Relationship of auditing with other deceptions 1.8 Auditor 1.9 Objectives of Auditing 1.10 Advantages of auditing 1.14 Auditing in computer based Environment
2. Classification of Audit I	2.1 Introduction 2.2 Classification of audit 2.3 Continuous audit 2.4 Periodical audit 2.5 Interim audit 2.6 Occasional audit 2.7 Standard audit 2.8 Balance sheet audit 2.9 Post and vouch audit 2.10 Difference between Continuous audit and annual audit 2.11 Difference between Continuous audit and Interim audit
3. Classification of Audit II	3.3 Audit of accounts of partnership firm 3.4 Audit of accounts of Joint stock company 3.5 Audit of Trusts
4. Audit Planning	4.1 Audit planning 4.2 Audit program 4.3 Auditing in dept 4.4 Test checking

5. Documentation	5.2	Audit note book
	5.3	Audit working papers
6. Vouching of Cash Transactions	6.2	Voucher
	6.3	Missing vouchers
	6.4	Vouching of cash transactions
	6.5	Vouching of debit side of cash book or cash receipts
7. Vouching of Cash Transactions – II	7.2	Auditors duty in vouching cash payment
	7.3	Cash paid to creditors
	7.4	Wages
	7.5	Capital expenditure
	7.6	Bills payable
	7.7	Bills receivable discounted and dishonoured
8. Vouching of Trade Transactions	8.1	Vouching of Trading Transactions – Introduction
	8.2	Vouching of credit purchases
	8.3	Vouching of purchase returns
	8.4	Vouching of credit sales
	8.5	Vouching of sales returns
	8.6	Goods on sale or return basis

SYLLABUS 2021–2022

CLASS: 11 SUBJECT: OFFICE MANAGEMENT AND SECRETARYSHIP

UNIT	CONTENT
1. Modern Office And Functions	1.1.1. Meaning of modern office 1.1.2. Definition of modern office 1.2. Changing Office Scenario 1.3. Importance of Office 1.4. Functions of Modern Office 1.5. Types of Office 1.6. Office manager
2. Office Automation	2.1. Automation 2.1.1. Meaning 2.1.2. Definition 2.1.3. Objectives of Automation 2.1.5. Demerits of Automation 2.2. Modern Equipment used in an office 2.3. Factors to be considered for selecting equipment 2.4. Office Furniture, Fittings and Accessories 2.4.1. Office Furniture 2.4.2. Fittings and Accessories 2.4.3. Types of Furniture used in office
3. Office Accommodation And Layout	3.1. Office Accommodation 3.1.1. Principles of Office Accommodation 3.1.2. Factors to be considered while selecting Office Accommodation 3.2. Office Location 3.2.1. Factors in selecting Office Location 3.3. Office Layout 3.3.1. Definition of Office Layout 3.3.3. Importance of Office Layout 3.4. Open Office and Private Office 3.4.1. Open Office

	3.4.2. Advantages of Open Office 3.4.3. Drawbacks 3.4.4. Private Office 3.4.5. Advantages of Private Office 3.4.6. Drawbacks 3.4.7. New Trends in Office Layout 3.5. Office Environment 3.5.1. Lighting 3.5.2. Ventilation 3.5.3. Cleanliness 3.5.4. Safety Measures
4. Office Stationeries And Forms	4.1. Need for Office Stationery and Supplies 4.2. Factors to be considered for selecting office stationery 4.3. Forms 4.3.1. Meaning of Office Form 4.3.2. Definition 4.3.3. Types of forms 4.3.5. Advantages of Office Forms 4.4. Form sets 4.5. Loose Leaf Ledger
5. Filing And Indexing	5.1. Meaning of Records 5.2. Types of Records 5.3. Records Management 5.4. Filing 5.4.1. Advantages of Filing 5.5. Indexing 5.5.1. Objectives of Indexing 5.5.2. Essentials of a good system of Indexing 5.5.4. Systems or Methods or Types of Indexing

6. Electronic Data Processing	6.1. Meaning 6.2. Types of Data 6.3. Data Processing - Meaning 6.6. Components of EDP 6.8. Computer Network – LAN, WAN, PAN, MAN 6.9. Internet and Intranet and Internet Terms 6.10. Connections 6.10.1. Wired Technologies – Twisted pair Cable, Coaxial Cable, Optical Fibre 6.10.2. Wireless Technologies 6.11. Cybercrimes
7. Office Systems And Procedures	7.1. Office Systems and Procedure 7.1.1. Meaning of Office systems 7.1.2. Definition of system 7.1.4. Meaning of Procedure 7.1.5. Definition 7.1.6. Importance of systems and Procedures 7.2. Flow of Work 7.3.1. Meaning of Office Manual 7.3.2. Definition of Office Manual 7.3.4. Types of Office Manual 7.3.6. Steps in Preparation and Writing of Office Manuals 7.3.7. Advantages of Office Manual 7.3.8. Disadvantages of Office Manual
8. Secretarial Correspondence	8.1. Meaning 8.2. Kinds of Secretaries 8.2.1. Functions of a Secretary 8.4. Secretarial Correspondence 8.4.1. Meaning of Business Letters 8.4.2. Structure of Business Letter 8.5. Procedure for Handling Inward Mail and Outward Mail

	8.5.1. Meaning of Mail 8.5.2. Definitions 8.5.3. Procedure for Mail Handling 8.6. Procedure for Handling outward mail or outgoing mail 8.7. PIN Code 8.8. Postal Services 8.10. E-Mail services 8.10.1. Post Information Follow up e-mail 8.10.2. Live Video Call Live Chat 8.10.3. Video Chat 8.10.4. Auto Call Backup 8.10.5. Website
9. Banking Services	9.1. Meaning 9.2. Definition 9.5. Procedure for Opening Bank Accounts 9.6. Bank Pass Book 9.7. Different Forms used in Banks
10. Meeting And Report	10.1.1. Meaning of Meeting 10.1.2. Definition 10.2. Documents to be prepared Before and After Meetings 10.2.1. Notice Calling the Meeting 10.2.2. Agenda 10.2.3. Minutes 10.3. Report Writing 10.3.1. Meaning of Report 10.3.2. Definition 10.3.3. Types of Report
11. Public Relations	11.1. Definitions 11.2. Importance of Public Relations 11.5. Public Relation Manager 11.6. Functions of Public Relation Office

PRACTICAL

CLASS: 11	SUBJECT: TYPOGRAPHY AND COMPUTER APPLICATIONS	
Sl.No	**Unit No**	**Topic**
1	**1.**	TYPOGRAPHY An Introduction
2	**2.**	Key Board
3	**3.**	Fingering Chart
4	**4.**	Exercise
5	**5.**	Practice
6	**6.**	Abbreviations
7	**7.**	Speed Practice
8	**8.**	Invoice short notes on subject topics Resume/Bio-Data Business Letter
9	**9.**	Question and Answer
10	**10.**	Open Office Writer HTML – Form Design HTML – Height and Weight Table

SYLLABUS 2021–2022

CLASS: 11 SUBJECT: FOOD SERVICE MANAGEMENT

UNIT	CONTENT
1. Food Service Operation	1.1 Introduction to Food Service Management 1.2 Scope of Food Service Management
2. Basics of Food	2.5 Preparation of suitable food for customer in Food Service
3. Selection of Foods and Methods of cooking	3.1 Selection, purchase and storage of foods 3.3 Effects of cooking on Nutrients
4. Food Service Equipment	4.1 Definition and Types of Equipment 4.6 Care, maintenance and sanitation of Equipment
6. Food Preservation	6.1 Significance ad Principles of Food Preservation
7. Menus and Cuisines	7.1 Menu planning 7.2 Types of menus 7.3 Preparation of menu card 7.4 Types of cuisines
8. Food Micro-biology	Entire Unit

PRACTICAL

CLASS: 11		SUBJECT: FOOD SERVICE MANAGEMENT
Sl.No	**Unit No**	**Topic**
1	2	Assessing student's daily diet Planning balanced menu for a student Different types of cutting
2	3	Methods of measuring ingredients Methods of cooking Stages of sugar cookery
3	5	Preparation of Yeast Solution Preparation of Biscuits and Cookies
4	6	Drying Preparation of Tomato and lime pickles
5	7	Preparation of a North Indian cuisine Preparation of a South Indian cuisine Preparation of a Traditional Tamil Nadu cuisine

SYLLABUS 2021-2022

CLASS: 11 SUBJECT: NURSING (VOCATIONAL)

UNIT	CONTENT
1. Nurse and Nursing as a profession	1.1. Introduction 1.2. Definition of Health 1.3. Illness 1.4. Hospital 1.4.1 Types of hospital 1.4.2 Functions of the hospitals 1.5. Nurse and Nursing 1.5.1 Qualities of a Nurse 1.5.2 Function Of Nurse 1.5.3 Fundamental Rules For Nursing
3. Introduction to Psychology and Sociology	3.1. Introduction 3.2. Definitions 3.2.1 Physiology 3.4. Importance of psychology in Nursing 3.11. Sociology 3.11.1 Definition Of Sociology 3.11.2 Importance Of Sociology 3.11.3 Application Of Sociology In Nursing 3.11.4 Basic principles of sociology
4. Principles and Practice of Nursing	4.1. Introduction 4.2. Nursing process 4.2.1 Introduction 4.2.2 Definition Of Nursing Process 4.3. Admission of a patient 4.3.1 Introduction 4.3.2 Definition 4.3.3 Purpose Of Admission 4.3.4 Type Patient Admission 4.3.5 Patient Admission Procedure 4.4. Discharge 4.4.1 Introduction 4.4.2 Definition

	4.4.3 Purpose Of Discharge 4.4.4 Types Of Discharge 4.4.5 Patient Discharge Procedure 4.5.7. Special devices 4.7. Body Mech & Positioning 4.7.1 Introduction 4.7.2 Definition 4.7.3 Purposes 4.7.4 Normal Position 4.7.5 Positions Used For Patient 4.8. Safety and comfort needs 4.8.1 Introduction 4.8.2 Safety 4.8.3 Comfort 4.8.4 Comfort and safety devices 4.8.5 Safety precaution to be taken in the hospital 4.8.6 Cause of infection in the hospital 4.9. Activity and Exercises 4.9.1 Introduction 4.9.2 Importance Of Activities Of Daily Living 4.9.3 Benefits of exercises 4.9.4 Types Of Exercises 4.11. Moving, shifting and lifting 4.11.1 Introduction 4.11.2 Purposes 4.11.3 General consideration prior to action 4.12. Oxygen needs 4.12.1 Introduction 4.12.2 Purpose 4.12.3 Indications for oxygen inhalation 4.12.4 Methods of oxygen administration 4.12.5 Care of oxygen cylinders and precautions tube taken when using the oxygen cylinder

5. Personal Hygiene	5.1. Introduction 5.2. Personal hygiene 5.2.1 Introduction 5.2.2 Definition 5.2.3 Factors influencing personal hygiene practices 5.3.8. Common oral problems 5.4. Skin problems 5.4.1 Introduction 5.4.2 common skin problems 5.4.6. Care of pressure points and prevention of decubitusuler 5.4.7. Types of Therapeutic baths 5.5.5. Common hair / scalp problem 5.5.6 Proper hair care 5.6.3. Common problems of eye 5.6.4 Care of patient 5.7 Care of nose 5.7.1 Introduction 5.7.2 Function of nose 5.7.3. Common problems in the nose 5.8.2. Common ear problems 5.8.3 Preventing ear problems 5.9. Common foot / nail problem 5.9.1 Characteristics of healthy nail 5.9.2 Purposes of care of nails 5.9.3 Risk factors for foot and nail alignments 5.9.4 Common foot and nail problems 5.9.5 Feet and nails 5.9.6 Care of feet and nail
6. Health Assessment and Physical Examination	6.1. Introduction 6.2. Definition 6.3. Purposes 6.4. Methods of physical Examination 6.4.1 Inspection 6.4.2 Palpation 6.4.3 Percussion 6.4.4 Auscultation 6.4.5 Reflex testing 6.4.6 Olfaction 6.5. Principles of Physical education 6.6.5. Pain

7. First aid and Emergencies	7.1. Introduction 7.2. Definition 7.3. Rules and Principles of First Aid 7.19. CPR 7.21. First aid kit
8. Hospital House Keeping	8.1. Introduction 8.2. Principles 8.3. Cleanliness and orderliness
9. Documentation	9.1. Introduction 9.2. Definitions 9.2.1 Records 9.2.2 Report 9.2.3 Reporting 9.2.4 Documentation 9.3. Purposes 9.4. Methods 9.5. General guidelines 9.6. Characteristics 9.7. Principles 9.8. List of records 9.8.1 vital signs charts 9.8.2 Intake and output chart 9.8.3 Drug chart 9.8.4 Nurses chart 9.9. Arrangements of records 9.10. Reports 9.10.1 Definition 9.10.2 Purposes 9.10.3 Classification of reports 9.10.4 Criteria for a good report 9.10.4.1 Reports used in hospital setting 9.11. Nurses Responsibility for record keeping and reporting

PRACTICAL

CLASS: 11		SUBJECT: NURSING (VOCATIONAL)
Sl.No	**Unit**	**Topic**
1.	**1**	Bed Making
2.	**2**	Personal Hygiene
3.	3	Vital signs
4.	**7**	Identification of bones
5.	**9**	Wearing of gown / glove/ mask
6.	**10**	Application of bandages

பாடத்திட்டம் 2021–2022

வகுப்பு : 11 **பாடம் : வேளாண் அறிவியல் – கருத்தியல்**
(Agricultural Science)

அலகு	பாடப்பொருள்
1. வேளாண்மையின் வரலாறு	அறிமுகம் 1.1 வேளாண்மை 1.2 தமிழ் இலக்கையத்தில் வேளாண்மை 1.3 இந்திய வரலாற்றில் வேளாண்மை 1.4 சுதந்திரத்திற்குப் பின் இந்திய வேளாண்மை 1.5 ஐந்தாண்டுத் திட்டங்கள் 1.7 வேளாண் வளர்ச்சித் திட்டங்களால் ஏற்படுத்தப்பட்ட சாதனைகள்
2. தமிழ்நாட்டின் தட்ப வெப்பநிலை	அறிமுகம் 2.1 வானிலை, தட்பவெப்பநிலை, நுண்வானிலை 2.2 தட்ப வெப்ப நிலையின் முக்கியத்துவம் 2.3 தமிழ் நாட்டின் பருவகாலங்கள் 2.5 வானிலை முன்னறிவிப்பு 2.8 பயிர் உற்பத்தியைப் பாதிக்கும் காரணிகள்
3. தமிழ்நாட்டின் மண்வளம்	அறிமுகம் 3.1 மண்வளம் 3.2 மண் உருவாகக் காரணங்கள் 3.4 மண்ணின் பணிகள் 3.5 மண்ணின் பண்புகள் 3.6 மண்ணின் ஊட்டத்திறன் 3.8 மண்ணின் குறைபாடு மற்றும் நிவர்த்தி 3.9 மண் அரிமானம்
4. தமிழ்நாட்டின் பயிர் வகைகள்	அறிமுகம் 4.1 தானியப் பயிர்கள் 4.2 சிறுதானியப் பயிர்கள் 4.3 குறு தானியப் பயிர்கள் 4.4 பயறுவகைப் பயிர்கள் 4.5 எண்ணெய் வித்துப் பயிர்கள் 4.6 நாப்பயிர்கள் 4.7 சர்க்கரைப் பயிர்கள் 4.8 உரப் பயிர்கள் 4.9 தீவனப் பயிர்கள் 4.10 தோட்டக்கலைப் பயிர்கள்

5. உழவியல் முறைகள்	அறிமுகம் 5.2 பண்ணை 5.3 சாகுபடி 5.4 பயிர் சாகுபடித் திட்டம் 5.5 சாகுபடி முறைகள் 5.6 உழவு மற்றும் பண்படுத்துதல் 5.7 உழவின் வகைகள்
6. பண்ணைக் கருவிகள்	அறிமுகம் 6.1 இயந்திரமயமாதலின் அவசியம் அறிமுகம் 6.2 பண்ணைக் கருவிகளின் வகைப்பாடு 6.8 சிறப்பு வகை வேளாண் கைருவிகள்
7. விதை மற்றும் விதைப்பு	7.1 விதை 7.2 விதை, தானியம் வேறுபாடு 7.3 விதை உறக்கம் 7.4 விதை நேர்த்தி
8. நீர் நிர்வாகம்	அறிமுகம் 8.1 நீர்ப்பாசனம் 8.2 நீரின் முக்கியத்துவம் 8.3 நீர் ஆதாரங்கள் 8.5 நீர்ப்பாசன முறைகள் 8.7 வறட்சி மேலாண்மை
9. உரம் மற்றும் உர நிர்வாகம்	அறிமுகம் 9.1 ஊட்டச் சத்துக்களின் வகைகள் 9.2 உர வகைப்பாடு 9.4 ஒருங்கிணைந்த ஊட்டச்சத்து மேலாண்மை 9.5 ஊட்டச்சத்து பயன்படுதிறன் 9.8 உயிர் உரங்கள்
10. களை மேலாண்மை	அறிமுகம் 10.1 களை 10.2 களைகளின் இயல்புகள் 10.5 களைகளால் ஏற்படும் நன்மைகள் 10.6 களைகளால் ஏற்படும் பாதிப்புகள் 10.7 களைகள் பரவும் முறைகள் 10.8 களை மேலாண்மை 10.9 ஒருங்கிணைந்த களைக் கட்டுப்பாடு
11. பயிரைத் தாக்கும் பூச்சிகள்	அறிமுகம் 11.1 தீங்குயிரி, பூச்சி, பூச்சியியல் 11.3 பூச்சியின் வாழ்க்கைச் சுழற்சி 11.4 பூச்சிகளின் வகைப்பாடு 11.7 பயிர் பாதுகாப்பு 11.8 பயிர் பாதுகாப்பு முறைகள்

12. பயிர்களைத் தாக்கும் நோய்கள்	அறிமுகம் 12.1 பயிர் நோயியல் 12.2 நோய் 12.3 பயிர் நோய்களின் பொருளாதார முக்கியத்துவம் 12.4 நுண்ணுயிரிகளின் வகைப்பாடு
13. அறுவடை மற்றும் அறுவடை பின் தொழில் நுட்பம்	அறிமுகம் 13.1 அறுவடை 13.2 அறுவடை பின் நேர்த்தி 13.5 சேமிப்பு 13.6 மதிப்பு கூட்டுதல்
14. வேளாண் பொருளியல் மற்றும் விரிவாக்கம்	அறிமுகம் 14.1.1 பொருளியல் 14.1.2 வேளாண் பொருளியல் 14.1.4 விவசாயிகளின் வகைப்பாடு 14.1.6 வேளாண் வளர்ச்சியில் வங்கிகளின் பங்கு 14.1.8 வேளாண்மை காப்பீட்டுத் திட்டம் 14.2 வேளாண் விரிவாக்கம் 14.2.1 வேளாண் விரிவாக்கத்தின் குறிக்கோள்கள் 14.2.2 வேளாண் விரிவாக்கக் கல்வித் தொடர்பு முறைகள் 14.2.5 வேளாண் மகளிர் திட்டம்
15. கால்நடை வளர்ப்பு	அறிமுகம் 15.1 கால்நடை உற்பத்தியை அதிகரிப்பதற்கான வழிமுறைகள் 15.2 கால்நடைகளின் முக்கிய இனங்கள் 15.4 ஆட்டினங்கள் 15.5 கோழியினங்கள் 15.9 இனப்பெருக்கம் 15.10 கால் நடைகளில் களையெடுத்தல்
16. மீன் வளர்ப்பு	அறிமுகம் 16.1 மீன் வளர்ப்பு முறைகள் 16.3 மீன்களின் பொருளாதார முக்கியத்துவம் 16.4 மதிப்பூட்டப்பட்ட மீன் உணவுகள்

செய்முறை		
வகுப்பு : 11		பாடம் : வேளாண் அறிவியல்
வரிசை எண்	அலகு	தலைப்பு
1.	3.	விதை மற்றும் பயிர் வகை கண்டறிதல்- வேளாண் பயிர்
2.	4.	விதை மற்றும் பயிர் வகை கண்டறிதல்- தோட்டக்கலை பயிர்
3.	5.	தரமான விதை தேர்ந்தெடுத்தல், விதை நேர்த்தி முறைகள்
4.	7.	களைகளை அடையாளம் காணுதல்
5.	8.	உர வகைகளை அடையாளம் காணுதல்
6.	9.	பூச்சிகளையும் அதன் சேத அறிகுறிகளையும் அடையாளம் காணுதல்
7.	10.	நுண்ணுயிரிகளால் ஏற்படும் நோய் அறிகுறி கண்டறிதல்
8.	12.	பூச்சி கண்காணிப்பு பொறிகள்
9.	13.	இயற்கை பயிர் பாதுகாப்பு முறைகள்
10.	17.	கால்நடை பராமரிப்பு

SYLLABUS 2021-2022

CLASS: 11 SUBJECT: COMPUTER TECHNOLOGY

UNIT	CONTENT
1. Introduction to Computers	1.1. Introduction to computers 1.2. Generations of computers 1.3. Sixth Generation computing 1.4. Data and Information 1.6. Booting of computer
2. Number System	2.1. Introduction 2.2. Data Representation 2.3. Different types of number system 2.4. Number system conversions 2.6. Binary Arithmetic
3. Computer Organisation	3.1. Introduction 3.2. Basics of Microprocessors 3.3. Data Communication between CPU and Memory 3.4. Types of Microprocessors 3.5. Memory Devices 3.7. Ports and Interfaces
4. Theoretical Concepts of Operating System	4.1. Introduction to software 4.2. Introduction to operating system 4.3. Types of operating system 4.5. Prominent Operating Systems
5. Working with Windows operating system	5.1. Introduction to operating system 5.2. Introduction to windows operating System 5.3. Various versions of windows 5.4. Mouse actions 5.5. Windows desktop 5.6. The Window 5.7. Application window 5.8. Document window 5.9. Elements of a window 5.10. Start menu 5.13. Shutting down or Logging off a Computer

6. Introduction to Wordprocessor	6.1. An Introduction to Wordprocessor 6.2. An Introduction to openoffice writer 6.3. Tamil Typing interface 6.6. Help system in writer 6.11. Find and Replace
7. Word Processor	7.1. Working with tables 7.2. Formatting the table 7.3. Inserting formulae in table
9. Introducion to spreadsheet	9.1. Introduction to spreadsheet 9.2. Working with openoffice calc 9.3. Creating a new worksheet 9.4. Working with data 9.5. Creating formulae 9.6. Save close and open the worksheet
10. Functions and Charts	10.1. Managing worksheet 10.2. Selecting all sheets 10.3. Renaming worksheet 10.4. Copy, move and change the order of sheets 10.5. Selecting cells, columns and rows 10.6. Hide / show row and columns 10.7. Freezing and unfreezing rows and columns 10.10. Cell refreshing 10.11. Functions in open office calc
11. Data tools and printing	11.1. Data tools 11.2. Applying conditional format 11.5. Applying validation 11.6. Creating and using input help list 11.8. Printing spreadsheet
12. Presentation Basics	12.1. Presentation software - meaning 12.2. Impress 12.3. Opening a new Presentation
13. Presentation advanced	13.1. Inserting text features 13.3. Setting and controlling the slide show-timer /mouse controlled

14. Computer Network	14.1. Evaluation of networking 14.2. Network topologies 14.3. Types of network 14.4. Wired technologies 14.5. Wireless technologies 14.6. Network devices
15. Webpage Development Using Html AndCss	15.1. Necessity of internet 15.2. Internet and www 15.3. Types of internet service 15.4. Internet applications 15.5. E-mail 15.6. Internet threat
16. Computer Ethics And Cyber Security	16.1. Introduction 16.2. Tamil in internet 16.6. Tamil typing and interface software 16.7. Tamil office automation applications 16.8. Tamil translation and application 16.9. Tamil Programming language 16.10. Tamil informationinterchange coding system 16.11. Tamil, operating system 16.12. Organization and projects to develop tamil

PRACTICAL

CLASS: 11		**SUBJECT: COMPUTER TECHNOLOGY**
Sl.No	**Unit No**	**Topic**
1	**1.**	Openoffice writer - Text editing and formatting
2	**2.**	Openoffice writer - Table creation
3	**3.**	Openoffice calc - Creating worksheet using fill command
4	**4.**	Openoffice impress - Presentation about school
5	**5.**	Openoffice impress - Presentation using templets using bullets
6	**6.**	Openoffice impress - Days of the week with picture and sound