YEAR PLAN FOR THE ACADEMIC YEAR 2024-25			
	ENGLISH CORE STD XII		
MONTH	TOPIC/SUBTOPIC		WRITING
	FLAMINGO	VISTAS	
MARCH/ APRIL	1.THE LAST LESSON 2. LOST SPRING P1. MY MOTHER AT SIXTY SIX	1.THE THIRD LEVEL 2. THE TIGER KING (NOT TO BE INCLUDED FOR UT 1)	
JUNE (21 DAYS)	P2. KEEPING QUIET (NOT TO BE INCLUDED FOR UT1) 3. DEEP WATER (NOT TO BE INCLUDED FOR UT1)	3. JOURNEY TO THE END OF THE EARTH (NOT TO BE INCLUDED FOR UT 1)	1. NOTICE
UNIT TEST 1 (JUNE 10 -15)			
JULY (24 DAYS)	4. THE RATTRAP (NOT TO BE INCLUDED FOR UT 2) P3. A THING OF BEAUTY (NOT TO BE INCLUDED FOR UT 2)		2. LETTER TO THE EDITOR
UNIT TEST 2 (JULY 31 - AUG 7)			
AUGUST (20 DAYS)	P4. A ROADSIDE STAND P5. AUNT JENNIFER'S TIGERS	4. THE ENEMY	3. REPORT WRITING (NEWSPAPER AND MAGAZINE)
SEPTEMBER (16 DAYS)	5. INDIGO 6. POETS AND PANCAKES (NOT TO BE INCLUDED FOR TERM END 1)		4.INVITATION - FORMAL & INFORMAL REPLY TO INVITATION

STD : XII

OCTOBER (22 DAYS)	7. THE INTERVIEW (NOT TO BE INCLUDED FOR TERM END 1)	5.ON THE FACE OF IT (NOT TO BE INCLUDED FOR TERM END 1)	5. ARTICLE 6. JOB APPLICATION LETTER
TERM END EVALUATION 1 (OCT 18 - 30)			
NOVEMBER (24 DAYS)	8. GOING PLACES	6. MEMORIES OF CHILDHOOD	
FIRST MODEL EXAMINATION (2 DEC -13 DEC) **SECOND MODEL EXAMINATION (3 JAN -15 JAN)** **BOARD ASL – 20 MARKS (TO BE DONE AS STIPULATED BY THE CBSE)**			

BHARATIYA VIDYA BHAVAN, KOCHI KENDRA
INFORMATICS PRACTICES(065)
YEAR PLAN FOR THE ACADEMIC YEAR 2024-25

CLASS: XII

MONTH	TOPIC	SUB-TOPICS	CONCEPTS
APRIL	Unit 1: Data Handling using Pandas –I	Introduction to Python libraries- Pandas, Matplotlib Data structures in Pandas - Series and Data Frames Series: Creation of Series from – ndarray, dictionary, scalar value , Mathematical operations on series – addition, subtraction, multiplication, division ,Head and Tail functions Selection, Indexing and Slicing Attributes of Series – name, index.name, values, size, emptyDataFrames: creation - from dictionary of Series, list of dictionaries, displaying dataframe Attributes of DataFrames – index, columns, dtypes, values, shape, size, T, ndim, head(), tail()	Data analysis using Python libraries,Concepts of data structures,Series creation and its operations. Creation of 2D data sructure: Dataframe and its attributes
JUNE	Unit 1: Data Handling using Pandas –I	**Data Frames:** Operations on rows and columns: add, select, delete, rename; Head and Tail functions;	Operations on dataframes and built in functions, concept of importing and exporting data using csv

UNIT TEST I -10/06/2024 TO 15/06/2024
Portions: Introduction to Python libraries- Pandas, Matplotlib.
Data structures in Pandas - Series and Data Frames Creation - from dictionary of Series
MARKING SCHEME:
OBJECTIVE TYPE QUESTIONS [MCQs - 5 marks(20%)]
COMPETENCY BASED QUESTIONS
Assertion Reasoning - 1 Mark (4%)
Find the output, Find the errors and operations based on Series - 10 Marks (40%)
Series and Data Frame creation - 5 Marks (20%)
CONSTUCTED RESPONSE QUESTIONS [Short answer questions - 4 marks (16%)]

JULY	**Unit 1: Data Handling using Pandas –I**	**Data Frames:** creation - from Text/CSV files; Indexing using Labels, Boolean Indexing; Importing/Exporting Data between CSV files and Data Frames. iteration; Data Frame Creation using Text/CSV files	Dataframes indexing ,concept of importing and exporting data using csv
UNIT TEST II -31/07/2024 TO 07/08/2024 **PORTIONS :Data Frames: creation - list of dictionaries, Text/CSV files ,display; iteration; Operations ,Indexing** **Importing/Exporting Data between CSV files and Data Frames.** **MARKING SCHEME:** **OBJECTIVE TYPE QUESTIONS [MCQs - 5 marks(20%)]** **COMPETENCY BASED QUESTIONS** **Assertion Reasoning - 1 Mark (4%)** **Find the output, Find the errors and operations based on DataFrame - 10 Marks (40%)** **Data Frame creation - 3 Marks (12%)** **CONSTUCTED RESPONSE QUESTIONS [Short answer questions - 6 marks (24%)]**			
AUGUST	**Unit 1: Data Visualization** **Unit 4: Societal Impacts**	**Data Visualization:** Purpose of plotting; drawing and saving following types of plots using Matplotlib –line plot, bar graph, histogram Customizing plots: adding label, title, and legend in plots. **Societal Impacts** Digital footprint, net and communication etiquettes, data protection, intellectual property rights (IPR), plagiarism, licensing and copyright	Visualizing data using matplotlib library,Societal Impacts-Digital footprint,IPR

SEPTEMBER	**Unit 4: Societal Impacts** **Unit 2: Database Query using SQL**	**Societal Impacts** Free and Open Source Software (FOSS), cybercrime and cyber laws, hacking, phishing, cyber bullying, overview of Indian IT Act. E-waste: hazards and management. Awareness about health concerns related to the usage of technology **Database Query using SQL** Revision of database concepts and SQL commands covered in class XI **Math functions**: POWER (), ROUND (), MOD (). **Date Function**s: NOW (), DATE (), MONTH (), MONTHNAME (), YEAR (), DAY (), DAYNAME ().	Societal Impacts- cybercrime and cyber laws, E-waste: hazards and management. Data Base Concepts and SQL single row functions
OCTOBER	**Unit 2: Database Query using SQL**	**Text functions**: UCASE ()/ UPPER (), LCASE ()/ LOWER (), MID ()/ SUBSTRING () /SUBSTR (), LENGTH (), LEFT (), RIGHT (), INSTR (), LTRIM (), RTRIM (), TRIM **Aggregate Functions**: MAX (), MIN (), AVG (), SUM (), COUNT (); using COUNT (*). Querying and manipulating data using Group by, Having, Order by. Working with two tables using **equi-join**	Data Base Concepts and SQL Aggregate functions

TERM END EVALUATION -18/10/2024 TO 30/10/2024

PORTIONS :Unit 1: Data Handling using Pandas -I and Data Visualization ,Unit 4: Societal Impacts, Unit 2: Database Query using SQL

Revision of database concepts and SQL commands covered in class XI,SQL SINGLE ROW FUNCTIONS

MARKING SCHEME:

Unit I Data Handling using Pandas -I and Data Visualization- 35 Marks,

Unit 4: Societal Impacts - 10 Marks

Unit 2: Database Query using SQL-25 Marks

OBJECTIVE TYPE QUESTIONS [MCQs - 16 marks (22%)]

COMPETENCY BASED QUESTIONS

Assertion Reasoning - 2 Mark (2 %)

Very Short Answer type questions carrying 02 marks each - 14 marks (20 %)

Short Answer type questions carrying 03 marks - 18 Marks (25.7%)

Questions carrying 05 marks each -20 Marks (28.5%)

NOVEMBER	**Unit 3: Introduction to Computer Networks**	Introduction to networks, Types of network: PAN, LAN, MAN, WAN. Network Devices: modem, hub, switch, repeater, router, gateway Network Topologies: Star, Bus, Tree, Mesh. Introduction to Internet, URL, W W W, and its applications- Web, email, Chat, VoIP. Website: Introduction, difference between a website and webpage, static vs dynamic web page, web server and hosting of a website. Web Browsers: Introduction, commonly used browsers, browser settings, add-ons and plug-ins, cookies.	Network and types of Network,Network Devices,Network Topology, Internet and web fundementals
DECEMBER	**FIRST MODEL EXAMINATION -02/12/2024 TO 13/12/2024**		
JANUARY	**SECOND MODEL EXAMINATION -03/01/2025 TO 15/01/2025**		
S.No	**NAME OF**	**NAME OF TEACHERS**	**SIGNATURE**
1	BVM, ELAMAKKARA		
2	BVM, EROOR		
3	BVV, THRIKKAKARA		
4	BVM, GIRINAGAR		
5	BAV, KAKKANAD		
6	BMV, TRIPUNITHURA		
7	BMV, VELLOOR		

BHARATIYA VIDYA BHAVAN, KOCHI KENDRA
COMPUTER SCIENCE
YEAR PLAN FOR THE ACADEMIC YEAR 2024-25

CLASS: XII

MONTH	TOPIC	SUB-TOPICS	CONCEPTS
MARCH/ APRIL	Computational Thinking and Programming-2 Database Management	Revision of python topics in class XI Functions Database concepts Relational data model	Basic concepts of Python programming Creating reusable and modular code, promoting good programming practices such as code reusability, readability, and maintainability. Concepts of RDBMS.
UNIT TEST 1(10/6/2024)TOPICS :REVISION STD XI,FUNCTIONS,DATABASE CONCEPTS,RELATIONAL DATA MODEL			
JUNE	Database Management	Structured Query Language	The use of RDBMS to store, organize, and retrieve large amounts of data efficiently. Understand and use MySQL commands to store and manage data. Grouping and filtering of records to get cumulative data. Extracting data from multiple tables.
JULY	Computational Thinking and Programming-2 Database Management	Interface of Python with an SQL Database,Excepton Handling	Client Server architecture -to transfer and manage data between a front end and back end. Handle errors raised by programs using try, except and finally.
UNIT TEST 2(31/7/2024)TOPICS :SQL,CONNECTIVITY,EXCEPTION HANDLING			
AUGUST	Computational Thinking and Programming-2	Introduction to Files,Text Files	Files as a medium for permanent storage. Types of Files and paths.Text File Handling

SEPTEMBER	Computational Thinking and Programming-2	Binary Files,CSV Files	Binary and CSV file Handling
TERM END EVALUATION (18/10/2024) TOPICS:REVISION STD XI,FUNCTIONS,DATABASE CONCEPTS,RELATIONAL DATA MODEL,SQL,CONNECTIVITY,EXCEPTION HANDLING,TEXT FILE,BINARY FILE,CSV FILE			
OCTOBER	Computer Networks	Data Structure,Evolution of Networking,Data communication terminologies,Transmission Media,Network Devices,Network Types,Network Protocol	Understand the concept of Stack. Various types of transmission media used in different types of networks, including wired ,wireless networks,network types,topologies,network protocol and network devices.
NOVEMBER	Computer Networks	Introduction to Web Services	Introduction to web services.
FIRST MODEL:2/12/2024 TO 13/12/2024			
SECOND MODEL:3/1/2025 TO 15/1/2025			
S.No	**NAME OF SCHOOL**	**NAME OF TEACHERS**	**SIGNATURE**
1	BVM, ELAMAKKARA	BINDU T C	
2	BVM, EROOR	ANUPAMA USHA	
3	BVV, THRIKKAKARA	ALEYAMMA GEORGE	
4	BVM, GIRINAGAR	GIRIJA PILLAI	
5	BAV, KAKKANAD	SEEMA C	
6	BMV, TRIPUNITHURA	SUSMITHA SHENOY	
7	BMV, VELLOOR	ANOOP M A	

BHARATIYA VIDYA BHAVAN, KOCHI

YEAR PLAN FOR THE ACADEMIC YEAR 2024- 2025

Std. XII - PHYSICS

MONTH	TOPIC	SUB-TOPICS	CONCEPTS
APRIL JUNE	Chapter–1: Electric Charges and Fields	Electric potential & potential energy, equipotential surfaces, Conductors and insulators, Dielectrics and electric polarization	an electrostatic field. Conductors and insulators, free charges and bound charges inside a conductor. Dielectrics and electric polarization, capacitors and capacitance, combination of capacitors in series and in parallel, capacitance of a parallel plate capacitor with and without dielectric medium between the plates, energy stored in a capacitor (no derivation, formulae only).Electric current, flow of electric charges in a metallic cvelocity, mobility and their relation with electric current; Ohm's law, V-I characteristics (linear and non-linear), electrical energy and power, electrical resistivity and conductivity, temperature dependence of resistance, Internal resistance of a cell, potential difference and emf of a cell, combination of cells in series and in parallel, Kirchhoff's rules, Wheatstone bridge.
	Chapter–2: Electrostatic Potential and Capacitance Chapter–3: Current Electricity	Capacitors and capacitance Electric current, drift velocity, Ohm's law, temperature dependence of resistance, Internal resistance and emf of acell, Kirchhoff's rules, Wheatstone bridge.	Electric charges, Conservation of charge, Coulomb's law-force between two- point charges, forces between multiple charges; superposition principle and continuous charge distribution. Electric field, electric field due to a point charge, electric field lines, electric dipole, electric field due to a dipole, torque on a dipole in uniform electric field. Electric flux, statement of Gauss's theorem and its applications to find field due to infinitely long straight wire, uniformly charged infinite plane sheet and uniformly charged thin spherical shell (field inside and outside).
			Concept of magnetic field, Oersted's experiment. Biot - Savart law and its application to current carrying circular loop. Ampere's law and its applications to infinitely long straight wire. Straight
			Electric potential, potential difference, electric potential due to a point charge, a dipole and system of charges; equipotential surfaces, electrical potential energy of a system of two-point charges and of electric dipole in
		FIRST UNIT TEST (25marks)	solenoid (only qualitative treatment), force on a moving charge in uniform
		Electric Charges and Fields -17 MARKS,	magnetic and electric fields.
		Electrostatic Potential and Capacitance) - 8 MARKS(includingpotential due to a dipole)	
	Chapter–4: Moving Charges	and Magnetism(continues)	

Chapter–5:
Magnetism and Matter

torque experienced by a current loop in uniform magnetic field, moving coil galvanometer

current loop in uniform magnetic field; Current loop as a magnetic dipole and its magnetic dipole moment, moving coil galvanometer- its current sensitivity and conversion to ammeter and voltmeter.

JULY

Biot - Savart law and its applications,
Ampere's law and its applications,
force on a moving charge in uniform magnetic and electric fields.
Force on a current-carrying conductor in a uniform magnetic field, force between two parallel current-carrying conductors,

Bar magnet, magnetic field intensity due to a magnetic dipole (bar magnet),
torque on a magnetic dipole.
Magnetic properties of materials, Magnetization of materials, effect of temperature on magnetic properties.

Force on a current-carrying conductor in a uniform magnetic field, force between two parallel current-carrying conductors-definition of ampere, torque experienced by a

Bar magnet, bar magnet as an equivalent solenoid (qualitative treatment only), magnetic field intensity due to a magnetic dipole (bar magnet) along its axis and perpendicular to its axis (qualitative treatment only), torque on a magnetic dipole (bar magnet) in a uniform magnetic field (qualitative treatment only), magnetic field lines. Magnetic properties of materials- Para-, dia- and ferro - magnetic substances with examples, Magnetization of materials, effect of temperature on magnetic properties.

SECOND UNIT TEST (25marks)
Electrostatic Potential and Capacitance (from equipotential surface) - 8 MARKS,
Current Electricity -10 MARKS,
Moving Charges and Magnetism
(including Ampere circuital law and its applications.) - 7 MARKS

Electromagnetic induction; EMF and current;

Electromagnetic induction; Faraday's laws, induced

Chapter–6:
Electromagnetic Induction
Lenz's Law, Self and mutual induction.

Lenz's Law, Self and mutual induction.

AUGUST

Chapter–7:
Alternating Current

Alternating currents, LCR series circuit (phasors only), AC generator, Transformer.

Alternating currents, peak and RMS value of alternating current/voltage; reactance and impedance; LCR series circuit (phasors only), resonance, power in AC circuits, power factor, wattless current.
AC generator, Transformer.

Chapter–8:
Electromagnetic Waves
Chapter–9:
Ray Optics and Optical Instruments
Chapter–10:
Wave Optics

SEPTEMBER

Chapter–11:
Dual Nature of Radiation and Matter
Chapter–12: Atoms
Chapter–13: Nuclei

OCTOBER
Basic idea of displacement current, Electromagnetic waves,
Electromagnetic spectrum

Reflection of light, spherical mirrors, refraction of light, refraction at spherical
surfaces, lenses, , lens maker's formula, refraction of light through a prism.

Optical instruments

Wave front and Huygen's principle, Interference, diffraction due to a single slit.

Dual nature of radiation, Photoelectric effect, Einstein's photoelectric equation, de-Broglie relation.

Alpha-particle scattering experiment;
Bohr model of hydrogen atom.

Composition and size of nucleus, nuclear force, mass defect & binding energy per nucleon , nuclear fission, nuclear fusion
Basic idea of displacement current, Electromagnetic waves, their characteristics, their transverse nature (qualitative idea only). Electromagnetic spectrum (radio waves, microwaves, infrared, visible, ultraviolet, X-rays, gamma rays) including elementary facts about their uses.

Reflection of light, spherical mirrors, mirror formula, refraction of light, total internal reflection and optical fibers, refraction at spherical surfaces, lenses, thin lens formula, lens maker's formula, magnification, power of a lens, combination of thin lenses in contact, refraction of light through a prism.
Optical instruments: Microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers.

Wave front and Huygen's principle, reflection and refraction of plane wave at a plane surface using wave fronts. Proof of laws of reflection and refraction using Huygen's principle.
Interference, Young's double slit experiment and expression for fringe width (No derivation final expression only), coherent sources and sustained interference of light, diffraction due to a single slit, width of central maxima (qualitative treatment only).

Dual nature of radiation, Photoelectric effect, Hertz and Lenard's observations; Einstein's photoelectric equation-particle nature of light. Experimental study of photoelectric effect
Matter waves-wave nature of particles, de-Broglie relation.

Alpha-particle scattering experiment; Rutherford's model of atom; Bohr model of hydrogen atom, Expression for radius of nth possible orbit, velocity and energy of electron in nth orbit, hydrogen line spectra (qualitative treatment only).

Composition and size of nucleus, nuclear force
Mass-energy relation, mass defect; binding energy per nucleon and its variation with mass number; nuclear fission, nuclear fusion.

TERM END EVALUATION
Electric Charges and Fields & Electrostatic potential and capacitance - 15 MARKS, Current Electricity - 8 MARKS, Moving Charges and Magnetism & Magnetism and Matter - 15 MARKS, EMI & AC - 15 MARKS, EM Waves- 5 MARKS, Ray Optics (upto Optical instruments)- 12 MARKS

Chapter–14:
Semiconductor Electronics:
Energy bands in conductors, Intrinsic and extrinsic semiconductors- , p-n junction,
Energy bands in conductors, semiconductors and insulators (qualitative ideas only) Intrinsic and extrinsic semiconductors- p and n type, p-n junction

NOVEMBER	**Materials, Devices and application of junction diode.**	**Simple Circuits** Semiconductor diode - I-V characteristics in forward and reverse bias, application of	junction diode -diode as a rectifier.

DECEMBER **FIRST MODEL EXAM (ALL CHAPTERS)**

JANUARY SECOND MODEL EXAMINATION (ALL CHAPTERS)

NAME OF THE
SCHOOL NAME OF THE TEACHER SIGNATURE BVM ELAMAKKARA JAYASREE L

BVV THRIKKAKARA LEENA P P

BNV VELLOOR BINDU VISWANATH

BVM GIRINAGAR SWAPNA PILLAI

BAV KAKKANAD MANJINI P

BVV EROOR KALA S PILLAI

BMV , TRIPUNITHURA ASHA S

FEBRUARY	**Hydrocarbons**	Classification of Hydrocarbons Aliphatic Hydrocarbons: Alkanes - Nomenclature, isomerism, conformation (ethane only), physical properties, chemicalreactions including free radical mechanism of halogenation, combustion and pyrolysis. Alkenes - Nomenclature, structure of double bond (ethene), geometrical isomerism, physical properties, methods of preparation, chemical reactions: addition of hydrogen, halogen, water,hydrogen halides (Markovnikov's addition and peroxide effect), ozonolysis, oxidation, mechanism of electrophilic addition. Alkynes - Nomenclature, structure of triple bond (ethyne), physical properties, methods of preparation, chemical reactions: acidic character of alkynes, addition reaction of - hydrogen, halogens, hydrogen halides and water. Aromatic Hydrocarbons: Introduction, IUPAC nomenclature, benzene: resonance, aromaticity, chemical properties: mechanism of electrophilic substitution. Nitration, sulphonation, halogenation, Friedel Craft's alkylation and acylation, directive influence of functional group in monosubstituted benzene.Carcinogenicity and toxicity.	Hydrocarbons,classification of hydrocarbons,IUPAC nomenclature,physical and chemical properties,catalytic reduction,free radical halogenation,combustion,reforming ,aromatisations,pyrolysis,Markovnikov's law,peroxide effect,ozonlysis,polymerisation,acidic character of alkynes,addition reactions,resonance,aromticity,Huckel's rule,electrophilic substitution,Arenium ion,adddtion reactions by benzene,directing influence,Carcinogenicity and toxicity
FINAL EXAMINATION **17/02/2025 TO 28/02/2025 (ALL PORTIONS :40% of TERM I & 60% of TERM II)** **Some basic concepts of chemistry - 6 marks, Structure of atom - 7 marks, Classification of elements and periodocity in properties- 7 marks,UNIT Chemical bonding and molecular structure - 8 marks, Chemical thermodynamics - 5 marks, Equilibrium- 6 marks, Redox reactions- 7 marks, Organic chemistry - Some basic principles and techniques - 11 marks &** **Hydrocarbons- 13 marks**			

BHARATIYA VIDYA BHAVAN, KOCHI

YEAR PLAN FOR THE ACADEMIC YEAR 2024-'25

CLASS XII CHEMISTRY

MONTH	TOPIC	SUB-TOPIC	CONCEPTS
MARCH/APRIL	1. SOLUTIONS 6. HALOALKANES AND HALOARENES	**SOLUTIONS** - Types of solutions, expression of concentration of solutions of solids in liquids, solubility of gases in liquids, solid solutions, colligative properties - relative lowering of vapour pressure, Raoult's law, elevation of boiling point, depression of freezing point, osmotic pressure, determination of molecular masses using colligative properties, abnormal molecular mass, Van't Hofffactor . **Haloalkanes and halo arenes** - Nomenclature, nature of C–X bond, physical properties.	**SOLUTIONS**- Concentration terma and units , Henry's and Roults law, Ideal and non- ideal solution , colligative properties , osmosis and reverse osmosis , abnormal molar mass and vant Hoff's factor. **Haloalkanes and halo arenes** - IUPAC nomenclature, preparation, properties , reaction mechanisms of haloalkanes and haloarenes
JUNE	6.HALOALKANES AND HALOARENES 7.ALCOHOLS,PHENOLS AND ETHERS	**Haloalkanes and halo arenes** :Chemical properties, mechanism of substitution reactions, optical rotation. Nature of C–X bond, substitution reactions (Directive influence of halogen in mono substituted compounds only).Uses and environmental effects of dichloromethane , trichloromethane , tetrachloromethane , iodoform , freons , DDT. **Alcohlols , Phenols and ethers** : Alcohols: Nomenclature, methods of preparation, physical and chemical properties (of primary alcohols only), identification of primary, secondary and tertiary alcohols, mechanism of dehydration, uses with special reference to methanol and ethanol. Phenols: Nomenclature, methods of preparation, physical and chemical properties, acidic nature of phenol, electrophillic substitution reactions, uses of phenols. Ethers: Nomenclature, methods of preparation, physical and chemical properties, uses	**Haloalkanes and halo arenes**-Application of haloalkanes and haloarenes **Alcohols,Phenols and Ethers**- IUPAC nomenclature, preparation, properties , reaction mechanisms of Alcohols, phenols and Ethers

FIRST UNIT - TEST (10/6/2024-15/6/2024) PORTIONS - SOLUTIONS (18) - Numericals 7 marks. HALOALKANES AND HALOARENES- Including physical properties (7)			
JULY	8.ALDEHYDES,KETONES AND CARBOXYLIC ACIDS	Nomenclature, nature of carbonyl group, methods of preparation,physical and chemical properties, mechanism of nucleophilic addition, reactivity of alpha hydrogen in aldehydes: uses. Carboxylic acid-Nomenclature, acidic nature, methods of preparation, physical and chemical properties; uses	IUPAC nomenclature of aldehydes , ketones and carboxylic acids , structure of carboxyl groups, preparation of aldehydes and ketones,physical and chemical characterictics of aldehydesa nd ketones , preparation of carboxylic acids , physical and chemical characteristics of carboxylic acids. Application of aldehydes , ketones and acids.
SECOND UNIT - TEST(31/07/2024 - 7/8/2024) PORTIONS-6.HALO ALKANES & HALOARENES - from chemical properties.(8)7. ALCOHOLS , PHENOLS AND ETHERS (12) 8.ALDEHYDES , KETONES AND CARBOXYLIC ACIDS - upto physical properties(physical properties not included)(5)			
AUGUST	2. ELECTROCHEMISTRY	Redox reactions, conductance in electrolytic solutions, specific and molar conductivity, variationsof conductivity with concentration, Kohlrausch's Law, electrolysis and law of electrolysis(elementary idea), dry cell-electrolytic cells and Galvanic cells, lead accumulator, EMF of a cell,standard electrode potential, Nernst equation and its application to chemical cells, Relationbetween Gibbs energy change and EMF of a cell, fuel cells, corrosion.	Electrochemical cell, Nernst equation, Electrolytic conductivity and molar conductivity, Kohlarauschs law , electrolysis , fuel cells and batteries, corrosion

SEPTEMBER	3. CHEMICAL KINETICS 10. BIOMOLECULES	**Chemical Kinetics** :Rate of a reaction (Average and instantaneous), factors affecting rate of reaction: concentration, temperature, catalyst; order and molecularity of a reaction, rate law and specific rate constant, integrated rate equations and half-life (only for zero and first order reactions), concept of collision theory (elementary idea, no mathematical treatment). Activation energy, Arrhenius equation. **BIOMOLECULES** : Carbohydrates - Classification (aldoses and ketoses), monosaccahrides (glucose and fructose), D-L configuration oligosaccharides (sucrose, lactose, maltose), polysaccharides (starch, cellulose, glycogen); Importance of carbohydrates.Proteins – Elementary idea of – amino acids , peptide bond , polypeptides , proteins , structure of proteins-primary, secondary , tertiary, quarternary structures (qualitative idea only), denaturation of proteins, enzymes . Hormones-Elementary idea excluding structure.Vitamins- Classification and functions.Nucleic acids – DNA and RNA	**Chemical kinetics** - types of chemical reactions , average rate of reaction, rate equation , order of reaction, rate constant, rate of reaction, rate equation for different orders of reaction, rate constant and order of reaction, collision theory. **Biomolecules** - Carbohydrates- classification, fructose and glucose, sources of protein , types of protein , denaturation of protein , enzymes , vitamins , structure and chemical composition of nucleic acids, role of biomolecules.
OCTOBER	4. d and f BLOCK ELEMENTS 5. COORDINATION COMPOUNDS	**"d" and "f" Block Elements**:General introduction, electronic configuration, occurrence and characteristics of transition metals, general trends in properties of the first row transition metals - metallic character, ionization enthalpy, oxidation states, ionic radii, colour, catalytic property, magnetic properties, interstitial compounds, alloy formation, preparation and properties of K2Cr2O7 and KMnO4. **Co-ordination compounds** :Coordination compounds - Introduction, ligands, coordination number, colour, magnetic properties and shapes, IUPAC nomenclature of mononuclear coordination compounds. Bonding, Werner’s theory, VBT	**"d" and "f" Block Elements**:Position of transition elements, electronic configuration, physical and chemical characteristics of transition elements, variable oxidation number , electrode4 potantail, oxidation states, magnetic properties , complex copounds, prreparation of metal oxides, properties of f-block elements **Co-ordination compounds** : Werners theory, co-ordination entity , co-ordination number, polyhedron , oxidation number of central atom , homolectic and heteroleptic complexes, IUPAC nomenclature, isomerism, valence bond theory ,

TERM END EXAMINATION (18/10/24 - 30/10/24) PORTIONS - SOLUTIONS (8), HALOALKANES AND HALOARENES (10),ALCOHOLS , PHENOLS AND ETHERS (10) ,ALDEHYDES KETONES AND CARBOXYLIC ACIDS (15),ELECTROCHEMISTRY (15) , CHEMICAL KINETICS (12)			
NOVEMBER	5. COORDINATION COMPOUNDS 9. AMINES	**Coordination compounds** :CFT; structure and stereoisomerism, importance of coordination compounds (in qualitative inclusion, extraction of metals and biological system. **AMINES**:Nomenclature, classification, structure, methods of preparation, physical and chemical properties, uses, identification of primary, secondary and tertiary amines.Diazonium salts : Preparation , chemical reactions and importance in synthetic organic chemistry	**Coordination compounds**: Crystal field theory, synergic bond, applications of complex copounds. **Amines** : Structure of amines , classification, IUPAC nomenclature , preparation , physical and chemical properties , diazotisation , preparation of diazinium salts, imporatance of diazonium salts

BHARATIYA VIDYA BHAVAN, KOCHI KENDRA
YEAR PLAN FOR THE ACADEMIC YEAR 2024-25
STD -XII APPLIED MATHEMATICS (241)

MONTH	TOPIC	SUB-TOPICS	CONCEPTS
MARCH	ALGEBRA -MATRICES	**Matrices and types of matrices, Equality of matrices, Transpose of a matrix, Symmetric and Skew symmetric matrix, Algebra of Matrices**	The entries, rows and columns of matrices, Present a set of data in a matrix form, Examples of transpose of matrix, A square matrix as a sum of symmetric and skew symmetric matrix, Observe that diagonal elements of skew symmetric matrices are always zero, Addition and Subtraction of matrices, Multiplication of matrices (It can be shown to the students that Matrix multiplication is similar to multiplication of two polynomials) Multiplication of a matrix with a real number
APRIL	ALGEBRA- DETERMINANTS	**Determinants, Inverse of a matrix, Solving system of simultaneous equations using matrix method, Cramer's rule**	Singular matrix, Non-singular matrix, $\|AB\|=\|A\|\|B\|$, Simple problems to find determinant value Inverse of a matrix using: a) cofactors If A and B are invertible square matrices of same size, i) $(AB)^{-1}=B^{-1}\,A^{-1}$ ii) $(A^{-1})^{-1}=A$ iii) $(A^{T})^{-1}=(A^{-1})^{T}$ Solution of system of simultaneous equations up to three variables only (non- homogeneous equations)
JUNE	CALCULUS - DIFFERENTIATION AND ITS APPLICATIONS	Higher Order Derivatives, Application of Derivatives, Marginal Cost and Marginal Revenue using derivatives Increasing /Decreasing Functions	Simple problems based on higher order derivatives Differentiation of parametric functions and implicit functions (up to 2nd order), To find the rate of change of quantities such as area and volume with respect to time or its dimension Gradient / Slope of tangent and normal to the curve The equation of the tangent and normal to the curve (simple problems only) ,

		Maxima and Minima	Examples related to marginal cost, marginal revenue, etc. Simple problems related to increasing and decreasing behaviour of a function in the given interval A point x= c is called the critical point of f: if f is defined at c and $f'(c)=0$ or f is not differentiable at c To find local maxima and local minima by: i)First Derivative Test ii) Second Derivative Test Contextualized real life problems
UNIT TEST-1 10/6/24 TO 15/6/24 MATRICES, DETERMINANTS (DIFFERENTIATION AND ITS APPLICATIONS NOT INCLUDED)			
JULY	CALCULUS - DIFFERENTIATION AND ITS APPLICATIONS- CONTINUED, PROBABILITY DISTRIBUTIONS	Probability Distribution Mathematical Expectation Variance Binomial Distribution Poison Distribution Normal Distribution	Definition and example of discrete and continuous random variable and their distribution The expected value of discrete random variable as summation of product of discrete random variable by the probability of its occurrence Questions based on variance and standard deviation Characteristics of the binomial distribution Binomial formula:

			$P(r) = {}^{n}C_r\, p^r\, q^{n-r}$ Where n = number of trials P = probability of success q = probability of failure Mean =np Variance = npq Standard Deviation = $\sqrt{npq}$ Characteristics of Poisson Probability distribution Poisson formula: $P(x) = \frac{\lambda^x e^{-\lambda}}{x!}$ Mean = Variance = λ Characteristics of a normal probability distribution Total area under the curve = total probability = 1 Standard Normal Variate: $Z = x-\mu/\sigma$ where x = value of the random variable μ = mean σ = S.D.
UNIT TEST-2(31/7/24 TO 07/08/24) DIFFERENTIATION AND ITS APPLICATIONS (PROBABILITY DISTRIBUTIONS NOT INCLUDED FOR EXAM)			
AUGUST	PROBABILITY DISTRIBUTIONS-CONTD….		
SEPTEMBER	NUMBERS, QUANTIFICATIONS AND NUMERICAL APPLICATIONS	Modulo Arithmetic Congruence Modulo Alligation and Mixture Numerical Problems Boats and Streams (upstream and downstream) Pipes and Cisterns Races and Games Numerical Inequalities	Definition and meaning Introduction to modulo operator Modular addition and subtraction Definition and meaning Solution using congruence modulo Equivalence class Meaning and Application of rule of alligation

			Mean price of a mixture Problems based on speed of stream and the speed of boat in still water Calculation of the portion of the tank filled or drained by the pipe(s) in unit time Calculation of the time taken/ distance covered / speed of each player Comparison between two statements/situations which can be compared numerically Application of the techniques of numerical solution of algebraic inequations
	TIME BASED DATA, CALCULUS-INTEGRATION AND ITS APPLICATIONS,	Time Series Components of Time Series Time Series analysis for univariate data Secular Trend Methods of Measuring trend Integration Indefinite Integrals as family of curves Definite Integrals as area under the curve Application of Integration	Meaning and Definition Secular trend Seasonal variation Cyclical variation Irregular variation Fitting a straight-line trend and estimating the value The tendency of the variable to increase or decrease over a long period of time Moving Average method Method of Least Squares Integration as a reverse process of differentiation Vocabulary and Notations related to Integration Simple integrals based on each method (non-trigonometric function) Evaluation of definite integrals using properties Problems based on finding Total cost when Marginal Cost is given Total Revenue when Marginal Revenue is given Equilibrium price and equilibrium quantity and hence consumer and producer surplus

OCTOBER	DIFFERENTIAL EQUATIONS	Differential Equations Formulating and Solving Differential Equations Application of Differential Equations	Definition, order, degree and examples Formation of differential equation by eliminating arbitrary constants Solution of simple differential equations (direct integration only) Growth and Decay Model in Biological sciences, Economics and business, etc
TERM END EVALUATION 18/10/24 TO 30/10/24 (INTEGRALS AND DIFFERENTIAL EQUATIONS NOT INCLUDED FOR EXAM)			
NOVEMBER	INFERENTIAL STATISTICS	Population and Sample Parameter and Statistics and Statistical Interferences t-Test (one sample t-test and two independent groups t-test)	□ Population data from census, economic surveys and other contexts from practical life □ Examples of drawing more than one sample set from the same population □ Examples of representative and non-representative sample □ Unbiased and biased sampling □ Problems based on random sampling using simple random sampling and systematic random sampling (sample size less than 100) □ Conceptual understanding of Parameter and Statistics □ Examples of Parameter and Statistic limited to Mean and Standard deviation only □ Examples to highlight limitations of generalizing results from sample to population □ Only conceptual understanding of Statistical Significance/Statistical Inferences □ Only conceptual understanding of Sampling Distribution through simulation and graphs

	FINANCIAL MATHEMATICS	Perpetuity, Sinking Funds Calculation of EMI Calculation of Returns, Nominal Rate of Return Compound Annual Growth Rate Linear method of Depreciation	● Examples and non-examples of Null and Alternate hypothesis (only non-directional alternate hypothesis) ● Framing of Null and Alternate hypothesis ● Testing a Null Hypothesis to make Statistical Inferences for small sample size ● *(for small sample size: t- test for one group and two independent groups* ● Use of t-table Meaning of Perpetuity and Sinking Fund Real life examples of sinking fund Advantages of Sinking Fund Sinking Fund vs. Savings account Methods to calculate EMI: i) Flat-Rate Method ii) Reducing-Balance Method Real life examples to calculate EMI of various types of loans, purchase of assets, etc. Formula for calculation of Rate of Return, Nominal Rate of Return Meaning and use of Compound Annual Growth Rate Formula for Compound Annual Growth Rate Meaning and formula for Linear Method of Depreciation Advantages and disadvantages of Linear Method

	LINEAR PROGRAMMING	Introduction and related terminology Mathematical formulation of Linear Programming Problem Different types of Linear Programming Problems Graphical method of solution for problems in two variables Feasible and Infeasible Regions Feasible and infeasible solutions, optimal feasible solution	● Need for framing linear programming problem ● Definition of Decision Variable, Constraints, Objective function, Optimization and Non- Negative conditions ● Set the problem in terms of decision variables, identify the objective function, identify the set of problem constraints, express the problem in terms of inequations ● Formulate various types of LPP's like Manufacturing Problem, Diet Problem, Transportation Problem, etc. ● Corner Point Method for the Optimal solution of LPP ● Iso-cost/ Iso-profit Method ● Definition and Examples to explain the terms ● Problems based on optimization ● Examples of finding the solutions by graphical method
DECEMBER	MODEL EXAMINATION -1 [02/12/24 TO 13/12/24]		
JANUARY	MODEL EXAMINATION -2 [03/01/25 TO 15/01/25]		

TEACHERS ATTENDED:

BAV, KAKKANAD- ANURAJ N

BNV, VELLOOR- LALITHA K

BHARATIYA VIDYA BHAVAN, KOCHI KENDRA

YEAR PLAN MATHEMATICS(041) CLASS XII 2024-2025

MONTH	TOPIC	SUB-TOPICS	CONCEPTS
MARCH	3.MATRICES	Introduction Matrix Types of matrices Operations on matrices Transpose of a matrix symmetric and skew symmetric matrices. Invertible matrices	Concept, notation, order, equality, types of matrices, zero and identity matrix, transpose of a matrix, symmetric and skew symmetric matrices. Operation on matrices: Addition and multiplication and multiplication with a scalar. Simple properties of addition, multiplication and scalar multiplication. Non- commutativity of multiplication of matrices and existence of non-zero matrices whose product is the zero matrix (restricted to square matrices of order 2). Invertible matrices and proof of the uniqueness of inverse, if it exists; (Here all matrices will have real entries).
APRIL	4.DETERMINANTS	Introduction Determinant Area of a Triangle Minors and Cofactors Adjoint and Inverse of a Matrix Applications of Determinants and Matrices	Determinant of a square matrix (up to 3 x 3 matrices),, minors, cofactors and applications of determinants in finding the area of a triangle. Adjoint and inverse of a square matrix. Consistency, inconsistency and number of solutions of systems of linear equations by examples, solving systems of linear equations in two or three variables (having unique solution) using inverse of a matrix.
JUNE	1.RELATIONS AND FUNCTIONS (Not for first Unit Test)	Introduction Types of Relations Types of Functions	Types of relations: reflexive, symmetric, transitive and equivalence relations. One to one and onto functions.

FIRST UNIT TEST(10/06/24 - 15/06/24)			
JUNE	2 .INVERSE TRIGONOMETRIC FUNCTIONS	Introduction Basic Concepts	Definition, range, domain, principal value branch. Graphs of inverse trigonometric functions
JUNE	12.LINEAR PROGRAMMING	Introduction Linear Programming Problem	Introduction, related terminology such as constraints, objective function, optimization, . Graphical method of solution for problems in two variables, feasible and infeasible regions (bounded OR unbounded), feasible and infeasible solutions, optimal feasible solutions (up to three non-trivial constraints).
JULY	5.CONTINUITY & DIFFERENTIABILITY	Introduction Continuity Differentiability Exponential and Logarithmic Functions Logarithmic Differentiation Derivatives of Functions in Parametric Forms Second Order Derivative	Continuity and differentiability, chain rule, derivative of inverse trigonometric functions like $\sin^{-1} x$ $\cos^{-1} x$,$\tan^{-1} x$, derivative of implicit functions. Concept of exponential and logarithmic functions. Derivatives of logarithmic and exponential functions. Logarithmic differentiation, derivative of functions expressed in parametric forms. Second order derivatives.
JULY	6 .APPLICATION OF DERIVATIVES (Not for the second Unit Test)	Introduction Rate of Change of Quantities Increasing and Decreasing Functions Maxima and Minima	Rate of change of quantities, increasing/decreasing functions, maxima and minima (first derivative test motivated geometrically and second derivative test given as a provable tool). Simple problems (that illustrate basic principles and understanding of the subject as well as real life situations).
SECOND UNIT TEST(Chapters 1,2,5,12)(31/07/24 - 07/08/24)			

AUGUST	7.INTEGRALS (Definite integrals not included for term end exam)	Introduction Integration as an Inverse Process of Differentiation Methods of Integration Integrals of Some Particular Functions Integration by Partial Fractions Integration by Parts Definite Integral Fundamental Theorem of Calculus Evaluation of Definite Integrals by Substitution Some Properties of Definite Integrals	Integration as an inverse process of differentiation. Integration of a variety of functions by substitution, by partial fractions and by parts, Evaluation of simple integrals of the following types and problems based on them. $\int \frac{dx}{x^2 \pm a^2}, \int \frac{dx}{\sqrt{x^{2\pm} a2}}$ $\int \frac{dx}{\sqrt{a^{2-} - x2}}$ $\int \frac{dx}{ax^2 + bx + c}$, $\int \frac{dx}{\sqrt{ax^2 + bx + c}}$ $\int \frac{px + q}{ax^2 + bx + c} \int \frac{px + q}{\sqrt{ax^{2+} bx + c}}$ $\int \sqrt{a^2 \pm x^2}\, dx, \int \sqrt{x^2 - a^2}$ $, \int \sqrt{ax2 + bx + c}$ Fundamental Theorem of Calculus (without proof). Basic properties of definite integrals and evaluation of definite integrals.
SEPTEMBER	8.APPLICATION OF INTEGRATION(Not for the Term end evaluation)	Introduction Area under Simple Curves	Applications in finding the area under simple curves, especially lines, circles/ parabolas/ellipses; (in standard form only)
SEPTEMBER	9.DIFFERENTIAL EQUATIONS (Not for the Term end evaluation)	Introduction Basic Concepts General and Particular Solutions of a Differential Equation	Definition, order and degree, general and particular solutions of a differential equation. Solution of differential equations by method of separation of variables, solutions

		Methods of Solving First Order, First Degree Differential Equations	of homogeneous differential equations of first order and first degree . Solutions of linear differential equation of dY/dx+ $P\ y = Q$, where P and Q are functions of x or constants . dx/dy + Px = Q where P and Q are functions of y or constants
TERM END EVALUATION[Chapters 1,2,3,4,5,6,12,7(sections 7.1,7.2,7.3,7.4,7.5,7.6)](18/10/24 - 30/10/24)			
OCTOBER	10.VECTOR ALGEBRA	Introduction Some Basic Concepts Types of Vectors Addition of Vectors Multiplication of a Vector by a Scalar Product of Two Vectors	Vectors and scalars, magnitude and direction of a vector ,direction cosines and direction ratios of a vector ,types of vectors,(equal, unit, zero ,parallel and collinear vectors)position vector of a point ,negative of a vector ,components of a vector ,addition of vectors ,multiplication of vectors by a scalar ,position vector of a point dividing a line segment in a given ratio ,definition ,geometrical interpretation ,properties and application of scalar product of vectors ,vector product of vectors.
OCTOBER	11.THREE-DIMENSIONAL GEOMETRY	Introduction Direction Cosines and Direction Ratios of a Line Equation of a Line in Space Angle between Two Lines Shortest Distance between Two Lines	Direction cosines and direction ratios of a line joining two points. Cartesian equation and vector equation of a line, skew lines, shortest distance between two lines. Angle between 2 lines.
NOVEMBER	13.PROBABILITY	Introduction Conditional Probability Multiplication Theorem on Probability Independent Events Bayes' Theorem	Conditional probability, multiplication theorem on probability, independent events, total probability, Bayes' theorem, Random variable and its probability distribution, Mean of the random variable.

DECEMBER	FIRST MODEL EXAMINATION(02/12/24 -13/12/24)

BVM ELAMAKKARA: **BINDHU VISHAL, LOGIN RAJAN**

BVM EROOR: **MINI S NAIR, RENUKA GOPINATH**

BVM GIRINAGAR: **BEENA V NAIR,ZEENA MANUEL**

BAV KAKKANAD: **ANURAJ N , VARSHA R**

BMV THIRUVANKULAM: **MINU K JOY, REKHA R NAICK**

BVV THRIKKAKARA: **SINDHU AYYAPPAN**

BNV VELLOOR: **ABHILASH G NAIR, LALITHA K**

BHARATIYA VIDYA BHAVAN, KOCHI KENDRA			
YEAR PLAN FOR THE ACADEMIC YEAR 2024-25			
CLASS XII BUSINESS STUDIES (054)			
MONTH	**TOPIC**	**SUB-TOPICS**	**CONCEPTS**
MARCH	**Nature and Significance of Management**	Introduction	Management - concept, objectives, and importance
		Nature of Management	Management as Science, Art and Profession
		Levels of Management	Levels of Management
		Functions of Management	Management functions-planning, organizing, staffing, directing and controlling
		Co-ordination -The Essence of Management	Coordination- concept and importance
APRIL	**Principles of Management**	Principles of Management - The Concept	Principles of Management-concept and significance
		Principles of Management	Fayol's principles of management
		Taylor's Scientific Management	Taylor's Scientific management - principles and techniques
UNIT TEST I (25 MARKS)			
JUNE	**Business Environment**	Introduction	Meaning and importance of Business environment
		Dimensions of Business Environment	Dimensions of Business Environment - Economic, Social, Technological, Political and Legal

		Demonetisation	Demonetization - concept and features
JUNE/JULY	**Marketing**	Introduction	Marketing – Concept, functions and philosophies
		Marketing Mix	Marketing Mix – Concept and elements
		Product	Product – branding, labelling and packaging – Concept
		Pricing	Price - Concept, Factors determining price
		Physical Distribution	Physical Distribution – concept, components and channels of distribution
		Promotion	Promotion – Concept and elements:-Advertising, Personal Selling, Sales Promotion and Public Relations
JULY	**Planning**	Introduction	Planning: Concept, importance and limitation
		Planning Process	Planning process
		Types of Plans	Single use and Standing Plans. Objectives, Strategy, Policy, Procedure, Method, Rule, Budget and Programme
UNIT TEST II (25 MARKS)			
JULY/AUGUST	**Organizing**	Introduction	Organising: Concept and importance
		Steps in the process of Organising	Organising Process
		Organisation Structure	Structure of organisation- functional and divisional concept.
			Formal and informal organization – concept
		Delegation	Delegation: concept, elements and importance

		Decentralisation	Decentralization: concept and importance
AUGUST	**Staffing**	Introduction	Concept and importance of staffing
		Staffing as a Part of Human Resource Management	Staffing as a part of Human Resource Management concept
		Staffing Process	Staffing process
		Recruitment	Meaning, process, sources-internal and external (merits and demerits)
		Selection	Meaning, process
		Training and Development	Training and Development - Concept and importance, Methods of training - on the job and off the job - vestibule training, apprenticeship training and internship training
AUGUST/ SEPTEMBER	**Directing**	Introduction	Directing: Concept and importance
		Elements of Direction	Elements of Directing
		Motivation	Motivation - concept, Maslow's hierarchy of needs, Financial and Non-Financial incentives
		Leadership	Leadership - concept, styles - authoritative, democratic and laissez faire
		Communication	Communication - concept, formal and informal communication; barriers to effective communication, How to overcome the barriers?
SEPTEMBER	**Controlling**	Controlling	Controlling - Concept and importance
		Relationship between Planning and Controlling	Relationship between planning and controlling

		Controlling Process	Steps in process of control
TERM END EVALUATION (80 MARKS)			
OCTOBER	**Financial Markets**	Introduction	Financial Markets: Concept
		Money Market	Money Market: Concept
		Capital Market	Capital market and its types (primary and secondary), Difference between (primary and secondary) & (Capital market and money market)
		Stock Exchange	Stock Exchange - Functions and trading procedure
		Securities and Exchange Board of India (SEBI)	Securities and Exchange Board of India (SEBI) - objectives and functions
NOVEMBER	**Consumer Protection**	Introduction	Consumer Protection: Concept and importance
		The Consumer Protection Act,2019	The Consumer Protection Act, 2019
		Who is a Consumer?	Meaning of consumer
		Rights and Responsibilities of a Consumer	Rights and responsibilities of consumers
		Who can file a complaint?	Who can file a complaint?
		Redressal Agencies under Consumer Protection Act	Redressal machinery
		Reliefs Available	Remedies available

		Role of Consumer Organisations and NGOS	Consumer Awareness- Role of Consumer Organisations and Non-Governmental Organisations (NGOs)
NOVEMBER	**Financial Management**	Introduction	Financial Management: Concept, role and objectives
		Financial Decisions	Financial decisions: investment, financing and dividend - Meaning and factors affecting
		Financial Planning	Financial Planning - concept and importance
		Capital Structure	Capital Structure – concept and factors affecting capital structure
		Fixed and Working Capital	Fixed and Working Capital - Concept and factors affecting their requirements
NOVEMBER	**PROJECT**	Students are supposed to select one unit out of four and are required to make only ONE project from the selected unit. 1. Elements of Business Environment 2. Principles of Management 3. Stock Exchange 4. Marketing	
DECEMBER	**FIRST MODEL EXAMINATION**		
JANUARY	**SECOND MODEL EXAMINATION**		
JANUARY	**PRACTICAL EXAMINATION**		

SEEN	SIGNED
BVM, ELAMAKKARA –SHILAJA T R	
BVV, THRIKKAKARA –VIJILAKSHMI B	
BVM, EROOR – RENUKA BAIJU, ANITHA V	
BAV, KAKKANAD – SUDHA VARMA	
BVM, GIRINAGAR – ASHMI M R	
BMV, THIRUVAMKULAM – NIRMALA V K	
BNV, VELLOOR – MANJU BALAN	

BHARATIYA VIDYA BHAVAN, KOCHI KENDRA

YEAR PLAN - 2024-'25

STD: XII - SUBJECT: ECONOMICS (030)

	PART A–MACROECONOMICS
April/May	**Unit 2: Money &Banking**
June/ July	**Unit 1-National Income and related aggregates**
August	**Unit 4: Government budget and the economy**
September	**Unit 5: Balance of Payments & Foreign Exchange**
October	**Unit 3: Determination of income and employment**

	PART-B- INDIAN ECONOMIC DEVELOPMENT
March/April	**Unit 1: Development Experience (1947-90)** **Indian economy on the eve of Independence** **Indian economy 1950-90**
July	**Unit 2: Economic Reforms since 1991 (LPG)** **Unit 3: Current challenges** **5: HCF**
August	**Unit 3: Current challenges** **6: Rural development** **7: Employment**
September	**Unit 3: Current challenges** **9: Environment and Sustainable Development**
November	**Unit 4: Comparative Development Experiences of India and its neighbours**

BHARATIYA VIDYA BHAVAN, KOCHI KENDRA
STD XII – HISTORY

YEAR PLAN FOR THE ACADEMIC YEAR 2024-2025

MONTH	TOPIC	SUB TOPIC	CONCEPTS
MARCH-	**1. Bricks, Beads and Bones**	* The beginning * Subsistence Strategies * Mohenjodaro -A Planned Urban Centre *Tracking Social Differences * The End of the Civilisation * Discovering the Harappan Civilisation	* Agricultural technologies * The Citadel * Looking for "luxuries" and burials * Cunningham's confusion * Problems of interpretation
APRIL	**2. Kings, Farmers and Towns**	* Prinsep and Piyadassi * The Earliest States * An Early Empire * New Notions of Kingship * A Changing Countryside * Towns and Trade * Back to Basics - How Are Inscriptions Deciphered? * The Limitations of Inscriptional Evidence	* The sixteen mahajanapadas * Administering the empire * Chiefs and kings in the south * Popular perceptions of kings * Urban populations:Elites and craftspersons * Historical evidence from inscriptions
FIRST UNIT TEST JUNE 10 -15 (25 marks)			
JUNE	**3. Kingship, Caste and Class**	* . The Critical Edition of the Mahabharata * Kinship and Marriage -Many Rules and Varied Practices * Social Differences:Within and Beyond the Framework of Caste * Beyond Birth Resources and Status * Explaining Social Differences: * Handling Texts Historians and the Mahabharata	* Families and Gotras * Rules of marriage * Matriliny and metronimics * The four fold varna system * Varna and access to property * Language and content - Mahabharata * The search for convergence * Archaeological evidences

JULY	**4. Thinkers, Beliefs and Buildings**	* A Glimpse of Sanchi * The Background:Sacrifices and Debates * .Beyond Worldly Pleasures - The Message of Mahavira * Followers of the Buddha * Stupas and Sculpture * New Religious Tradition	* The sacrificial tradition - Thantric traditions * The teachings of Mahavitra * The Buddha and the Quest for Enlightenment * The teachings of the Buddha * Discovering - the Fate of Amaravati and Sanchi * Stories in stones * The development of Mahayana Buddhism and the growth of Puranic Hinduism
SECOND UNIT TEST JULY 31 - AUGUST 7 (25 marks)			
JULY	**5. Through the Eyes of Travellers**	* Al-Biruni and the Kitab-ul-Hind * Ibn Battuta's Rihla * François Bernier * Al-Biruni and the SanskriticTradition * Ibn Battuta and the Excitement of the Unfamiliar * Bernier and the "Degenerate"East * Women Slaves, Sati and Labourers	* The Kitab-ul-Hind as a source * An early globe-trotter * Comparing "East" and "West" * Overcoming barriers to understanding * Al-Biruni's description of the caste system * The Indian cities, a unique system of communication * The concept of land owership * The condition of women in the society
AUGUST	**6. Bhakti-Sufi Tradition**	* A Mosaic of Religious Beliefs and Practices * Poems of Prayer Early Traditions of Bhakti * The Virashaiva Tradition in Karnataka * Religious Ferment inNorth India * New Strands in the Fabric Islamic Traditions * The Growth of Sufism * The Chishtis in the Subcontinent * New Devotional Paths Dialogue and Dissent in Northern India	* The integration of cults * The Alvars and Nayanars of Tamil Nadu * The popular practice of Islam * Khanqahs and silsilas * Life in the Chishti khanqah * Kabir, Baba Guru Nanak and Mirabai
SEPTEMBER	**7. An Imperial Capital – Vijayanagara**	* The Discovery of Hampi * Rayas, Nayakas and Sultans * Vijayanagara - The Capital and its Environs * The Royal Centre * The Sacred Centre * Plotting Palaces, Temples and Bazaars	* The apogee and decline of the empire * Water resources * Fortifications and roads * The mahanavami dibba * Gopurams and mandapas * Other buildings in the royal centre

SEPTEMBER	**8 Peasants, Zamindars and the State**	* Peasants and Agricultural Production *The Village Community *Women in Agrarian Society *Forests and Tribes *The Zamindars Land Revenue System *The Ain-i Akbari of Abu'l Fazl Allami	* Looking for sources *Panchayats and headmen *Peasants and their lands *Caste and the rural milieu *Inroads into forests
TERM-END EVALUATION OCTOBER 18 - 30 (80 marks)			
OCTOBER	**9. Colonialism and the countryside**	* Bengal and the Zamindars * Why zamindars defaulted on payments *The Hoe and the Plough * A Revolt in the Countryside The Bombay Deccan * The Deccan Riots Commission	* An auction in Burdwan * Why zamindars defaulted on payments * The rise of the jotedars and zamindars resist * The Fifth Report * Paharias and Santhals * A new revenue system * The Deccan Riots Report
OCTOBER	**10. Rebels and the Raj**	* Pattern of the Rebellion * Awadh in Revolt * What the Rebels Wanted * Repression * Images of the Revolt	* The beginning of the mutiny * Leaders and followers * Rumours and prophecies * Subsidiary Alliance * The vision of unity * English women and the honour of Britain * Nationalist imageries
NOVEMBER	**11. Mahatma Gandhi and the National Movement**	* Mahatma Gandhi as a leader * The Making and Unmaking of Noncooperation * The Salt Satyagraha - a case study * The Last Heroic Days * Knowing Gandhi	* Dandi * Public voice and private scripts * Framing a picture * Through police eyes * From newspapers
NOVEMBER	**12. Framing the Constitution**	* A Tumultuous Time * The Vision of the Constitution * Defining Rights * The Powers of the State * The Language of the Nation	* The making of the Constituent Assembly * The problem with separate electorates * Objective Resolution * The language debate * A plea for Hindi * The fear of domination
FIRST MODEL EXAMINATION DECEMBER 2 - 13 (80 marks)			
SECOND MODEL EXAMINATION JANUARY 3 -15 (80 marks)			

BHARATIYA VIDYA BHAVAN, KOCHI

YEAR PLAN FOR THE ACADEMIC YEAR 2024-25

Subject: PSYCHOLOGY (037)

CLASS : XII

MONTH	**TOPIC**	**SUB-TOPICS**	**CONCEPTS**
MARCH/ APRIL	**Variations in Psychological Attributes**	Individual differences in human functioning assessment of psychological attributes. Intelligence, theories of intelligence. Individual differences in intelligence. Culture and intelligence. Emotional intelligence. Special abilities. Creativity	Theory of multiple intelligence, Triarchic theory of intelligence, PASS model. Variations in intelligence. Some misuse of intelligence test. Characteristics of emotionally intelligent person Aptitude: Nature and measurement
	Self and personality	Concept of self , cognitive and behavioural aspects of self, culture and self , Concept of personality, Major approaches to the study of personality, Assessment of personality	self esteem, self efficacy, self regulation.type approaches, trait approaches, 5 factor model of personality, psychodynamic approach, behavioural approach, cultural approach, humanistic approach, self report measure, projective techniques, behavioural analysis

JUNE	**Meeting life challenges**	Nature, types and sources of stress. Effects of stress on psychological functioning and health. Coping with Stress promoting positive health and wellbeing	A measure of stressful life events, examination anxiety stress and health, GAS, Stress and immune system lifestyle, stress management techniques, lifeskills, resilience and health
	FIRST UNIT TEST 10.06.2024	**(25 MARKS)**	
JUNE/JULY	**Psychological disorders**	Concepts of abnormality classification of psychological disorder,factors underlying abnormal behaviour, major psychological disorders	Anxiety disorders, somatic symptom disorders, dissociative disorders, mood disorders, schizophrenic disorders and its subtype, OCD, stress related disoders, neurodevelopmental disorders, substance use disorders effects ofcommonly abused substances
	SECOND UNIT TEST 31.07.2024	**(25 MARKS)**	
AUGUST	**Therapeutic Approaches**	Nature and process of psychotherapy. Types of therapies. Rehabilitation of the mentally ill	Therapeutic relationship. Steps in the formation of a client's problem, behavioural therapy, relaxation procedures, Cognitive therapy, Humanistic-Existential therapy, Alternative therapy.

SEPTEMBER	**Attitude and Social cognition**	Explaining Social behaviour nature and components of attitude attitude formation and change prejudice and discrimination, Strategies for handling prejudice	Green environment: ABC components of an attitude. Attitude formation, Attitude change, attitude behaviour relationship
	TERM END EXAMINATION 18.10.2023	**(70 MARKS)**	
NOVEMBER	**Social influence and group processes**	Nature and formation of groups. Types of groups. Influence of group on individual behaviour.	Group think, the minimal group paradigm experience social loafing, group polarization.
	FIRST MODEL EXAMINATION- 2.12.2024 (70+30= 100MARKS)		
	SECOND MODEL EXAMINATION - 3.01.2025 (70+30=100 MARKS)		
SEEN AND SIGNED BY:			
BVM, GIRINAGAR		KRISHNA PRIYA S PRABHU	
BAV. KAKKAND		R SRUTHI	

PORTIONS FOR EXAMINATION

FIRST UNIT TEST (10.6.2024)	**Chapter 1 and Chapter 2**
SECOND UNIT TEST (31.07.2024)	**Chapter 2 and Chapter 3**
TERM END EVALUATION (18.10.2024)	**Chapter 1 to Chapter 5**

BLUE PRINT

FOR 25 MARKS

1x5	**5 marks**
2x2	**4 marks**
3x3	**9 marks**
Case study based	**7 marks**

BLUE PRINT

FOR 70 MARKS

1x15	**15 marks**
2x6	**12 marks**
3x3	**9 marks**
4x4	**16 marks**
6x2	**12 marks**
Case study 3+3	**6 marks**

BHARATIYA VIDYA BHAVAN, KOCHI KENDRA
COMPUTER SCIENCE
YEAR PLAN FOR THE ACADEMIC YEAR 2024-2025

CLASS: XII

MONTH	TOPIC	SUB-TOPICS	CONCEPTS
MARCH/ APRIL	**PART A: Unit 2: Self-management Skills** **PART A: Unit 3: Information and Communication Technology Skills**	PART A: Unit 2: Self-management Skills • Session 1 Motivation and Positive Attitude • Session 2 Result Orientation • Session 3 Self-awareness PART A: Unit 3: Information and Communication Technology Skills Session 1 Getting Started with Spreadsheet Session 2 Performing Basic Operations in a Spreadsheet Session 3 Working with Data and Formatting Text Session 4 Advanced Features in Spreadsheet Session 5 Presentation Software Session 6 Opening, Closing, Saving and Printing a Presentation Session 7 Working with Slides and Text in a Presentation Session 8 Advanced Features used in Presentation	PART A: Unit 2: Self-management Skills • sources of motivation and inspiration • personality PART A: Unit 3: Information and Communication Technology Skills spreadsheet application presentation application

JUNE	**PART A:Unit 1 : Communication Skills-IV** **PART B: Unit 1: Capstone Project**	Unit 1 : Communication Skills-IV: • Session 1 Active Listening • Session 2 Parts of Speech • Session 3 Writing Sentences Unit 1: Capstone Project • Understanding the problem • Decomposing the problem through DT framework • Analytic Approach • Data Requirements • Data Collection • Modelling approach	Unit 1 : Communication Skills-III: • Importance of active listening • Steps to active listening Unit 1: Capstone Project: AI Project Cycle
Unit Test I Starts: 10/06/2024			
JULY	**PART B: Unit 1:Capstone Project**	Unit 1: Capstone Project • How to validate model quality • Metrics of model quality by simple Maths and examples from small datasets • Introduction to commonly used algorithms and the science behind them • Showcase through a compelling story	Unit 1: Capstone Project: • Model validation , RMSE , MSE , MAPE
	PART A: Unit 4: Entrepreneurial Skills	PART A: Unit 4: Entrepreneurship Skills Session 1 Entrepreneurship and Entrepreneur Session 2 Barriers to Entrepreneurship Session 3 Entrepreneurial Attitudes Session 4 Entrepreneurial Competencies	PART A: Unit 4: Entrepreneurship Skills Behavioral and entrepreneurial competencies
Unit Test II Starts: 31 /07/2024			

AUGUST	**PART B: Unit 2: Model Life Cycle**	PART B: Unit 2: Model Life Cycle • Different aspects of Model (Train, test, validate, hyper parameters, Commonly used platforms to build and runmodels) • Lifecycle of an AI model (Build, Deploy, Retrain)	PART B: Unit 2: Model Life Cycle AI Project Cycle, Model validation, AI deployment, IBM Watson
SEPTEMBER	**PART A: Unit 5: Green Skills**	PART A: Unit 5: Green Skills Session 1 Green Jobs Session 2 Importance of Green Jobs	PART A: Unit 5: Green Skills Role of green jobs
OCTOBER	**PART B: Unit 3: Story- telling through data**	PART B: Unit 3: Story- telling through data • The Need for Storytelling • How to create stories? • Ethics of storytelling	PART B: Unit 3: Story- telling through data • story telling
End Term Evaluation Starts: 18/10/2024			

NOVEMBER	**PART B: Unit 3: Story- telling through data**	PART B: Unit 3: Story- telling through data • Types of Data and Suitable Charts • Stories During the Steps of Predictive Modeling • Best Practices of Storytelling	PART B: Unit 3: Story- telling through data • power of data story telling
DECEMBER	**First Model Examination Starts: 02/12/2024**		
JANUARY	**Second Model Examination starts: 03/01/2025**		
FEBRUARY			
MARCH			
S.No	**NAME OF SCHOOL**	**NAME OF TEACHERS**	**SIGNATURE**
1	BMV, TRIPUNITHURA	Srilekshmi M,Ambujam Sasi	
2	BVM ELAMAKKARA	Anju G	
3	BVM,EROOR	Ganga Varma	
4	BVM, GiIRINAGAR	Bhavya G Menon	
5	BVV,THRIKKAKARA	Anagha Mani	
6	BNV VELOOR	Shybee Thomas	
7	BAV KAKKANAD	Neethesh Shenoy	

BHARATIYA VIDYA BHAVAN, KOCHI KENDRA			
STD XII – ZOOLOGY – YEAR PLAN			
2024-2025			
MONTH	**TOPIC**	**SUB TOPICS**	**CONCEPTS**
MARCH - APRIL	CHAPTER 2 HUMAN REPRODUCTION	2.1 Male reproductive system 2.2 Female reproductive system 2.3 Gametogenesis	Structure and functions of male reproductive organs Structure and functions of female reproductive organs Spermatogenesis and oogenesis,
JUNE	HUMAN REPRODUCTION contd..	2.4 Menstrual cycle 2.5 Fertilization and implantation 2.6 Pregnancy and embryonic development 2.7 Parturition and lactation	Hormonal control, structure of sperm , structure of ovary Various events during menstrual cycle, hormonal control, menstrual hygiene Structure of ovum , sex determination, cleavage Formation of placenta , placental hormones , milestones of embryonic development Foetal ejection reflex , significance of colostrum
FIRST UNIT TEST (JUNE 10-15) CHAPTER 2. HUMAN REPRODUCTION 2.1 TO 2.5 (EXCLUDING 2.5 FERTILIZATION AND IMPLANTATION)			
JUNE	CHAPTER 3 REPRODUCTIVE HEALTH	3.1 Reproductive health - problems and strategies 3.2 Population explosion and birth control 3.3 Medical termination of pregnancy 3.4 Sexually transmitted diseases 3.5 Infertility	Need for reproductive health IMR, MMR, contraceptive methods Why MTP is legalised? Types of STDs, symptoms and preventive measures ART - IVF, ZIFT, GIFT

JULY	CHAPTER 6 EVOLUTION	6.1 Origin of life 6.2 Evolution 0f life forms - a theory 6.3 What are the evidences of evolution ? 6.4 What is adaptive radiation ? 6.5 Biological evolution 6.6 Mechanism of evolution 6.7 Hardy-weinberg 6.8 A brief account of evolution principle 6.9 Origin and evolution of man	Big bang theory, formation of universe Different theories on origin of life Paleontology, comparative anatomy, embryology, molecular evidences Darwin's finches , placental mammals and marsupials of australia Branching descent and natural selection Hugo de Vries theory and Darwin's theory on evolution Hardy Weinberg equilibrium, founder effect, opertional techniques of natural selection Evolution of plants and animals through geological periods Different evolutionary stages of man
SECOND UNIT TEST (JULY 31 - AUGUST 7) CHAPTER 2 HUMAN REPRODUCTION (FROM 2.5 TILL THE END OF THE CHAPTER) AND CHAPTER 3 REPRODUCTIVE HEALTH			

AUGUST	CHAPTER 7 HUMAN HEALTH AND DISEASE	7.1 Common Diseases in Humans 7.2 Immunity 7.3 AIDS 7.4 Cancer 7.5 Drugs and Alcohol Abuse	Source, symptoms, target site and mode of transmission of common diseases in humans Innate and acquired, active and passive, vaccination, allergies, auto immunity and immune system Replication of retro virus, its transmission and prevention Types, causes, detection, diagonosis and treatment Classification of drugs, their source, target site and effect on our body Adolescence and drug abuse, addiction and dependence, effects of drug, alcohol abuse, prevention and control
AUGUST	CHAPTER 8 MICROBES IN HUMAN WELFARE	8.1 Microbes in Household Products 8.2 Microbes in Industrial Products 8.3 Microbes in Sewage Treatment 8.4 Microbes in Production of Biogas 8.5 Microbes as Biocontrol Agents 8.6 Microbes as Biofertilisers	Microbes in food processing Fermented beverages, antibiotics, bioactive molecules Primary and secondary treatment of sewage Study of biogas plant and biogas production Biological control of pests and diseases Organic farming , role of mycorrhizae and cyano bacteria
SEPTEMBER	CHAPTER 11 ORGANISMS AND POPULATIONS	11.1 Populations	Population attributes, growth, growth models, life history variation, population interactions

SEPTEMBER	CHAPTER 12 ECOSYSTEM	12.1 Ecosystem–Structure and Function 12.2. Productivity 12.3 Decomposition 12.4 Energy Flow 12.5 Ecological Pyramids	Stratification NPP, GPP, primary production and secondary production Decomposition cycle PAR, GFC, DFC and standing crop Types of ecological pyramids
OCTOBER	CHAPTER 13 BIODIVERSITY AND ITS CONSERVATION	13.1 Biodiversity 13.2 Biodiversity Conservation	Types of biodiversity, representation of global biodiversity, patterns of biodiversity, loss of biodiversity Why and How should we conserve biodiversity? In situ and Ex-situ
TERM END EVALUATION (OCTOBER 18-30) CH 2, 3, 6 AND 7			
NOVEMBER	**REVISION**		
FIRST MODEL EXAMINATION (DECEMBER 2 - 13)			
SECOND MODEL EXAMINATION (JANUARY 3 - 15) FULL PORTIONS			

NAME OF THE SCHOOL	NAME OF THE TEACHER	SIGNATURE
BVM, ELAMAKKARA	GEETA SHYAMSUNDER	
BVM , GIRINAGAR	INDU P	
BVM , EROOR	SINIMOL P	
BVV , THRIKKAKARA	SREEKALA KRISHNADAS	
BAV , KAKKANAD	PARVATHY AMMAL K R	
BMV , THRIPUNITHURA	MINI K	
BNV, VELLORE	DHANYA K C	

BHARATIYA VIDYA BHAVAN, KOCHI KENDRA			
STD XII – BOTANY – YEAR PLAN(2024-25)			
2024-2025			
MONTH	**TOPIC**	**SUB TOPICS**	**CONCEPTS**
MARCH/ APRIL	4.Principles of Inheritance and variation	4.1 Mendel's Laws of Inheritance 4.2 Inheritance of One Gene 4.3 Inheritance of Two Genes 4.4 Sex Determination	Hybridization experiments-Monohybrid cross and Dihybrid cross Law of segregation,Law of Dominance,Independent assortment Deviations from Mendelian pattern of inheritance Chromosomal theory of inheritance' Sex determination mechanisms
JUNE	4.Principles of Inheritance and variation (Contd.)	4.5 Mutation 4.6 Genetic Disorders	Pedigree analysis Mendelian disorders Chromosomal disorders
FIRST UNIT TEST [JUNE 10th TO 15 th] **CHAPTER 4: Principles of Inheritance and variation -Upto 4.6.2 (included)**			
JUNE/JULY	5.Molecular basis of inheritance	5.1 The DNA 5.2 The Search for Genetic Material 5.3 RNA World 5.4 Replication 5.5 Transcription 5.6 Genetic Code 5.7 Translation 5.8 Regulation of Gene Expression	Structure of Polynucleotide Chain Packaging of DNA Helix Transforming Principle,Biochemical Characterisation of Transforming Principle The Genetic Material is DNA Properties of Genetic Material (DNA versus RNA) The Experimental Proof for Replication The Machinery and the Enzymes Transcription Unit Mutations and Genetic Code tRNA– the Adapter Molecule The Lac operon
AUGUST	5.Molecular basis of inheritance(Contd.)	5.9 Human Genome Project,Rice Genome Procct 5.10 DNA Fingerprinting	Goals of HGP,Methodologies,Salient Features of Human Genome and Rice Genome Project Applications and Future Challenges Repetitive DNA,Satellite DNA,Polymorphism, Variable Number of Tandem Repeats
SECOND UNIT TEST [JULY 31st TO AUGUST 7th] **CHAPTERS 4 and 5** **4. Principles of Inheritance and variation-4.7 to 4.8.3** **5. Molecular basis of Inheritance -5.1 to 5.3 (Included)**			

SEPTEMBER	1-Sexual Reproduction in Flowering Plants	1.1 Flower – A Fascinating Organ of Angiosperms 1.2 Pre-fertilisation : Structures and Events 1.3 Double Fertilisation 1.4 Post-fertilisation: Structures and Events 1.5 Apomixis and Polyembryony	Stamen, Microsporangium, and Pollen Grain The Pistil, Megasporangium, and Embryo Sac Pollination Double Fertilization Post-Fertilization: Structures and Events Apomixis and polyembryony
OCTOBER	9-Biotechnology Principles and Processes	9.1 Principles of Biotechnology 9.2 Tools of Recombinant DNA Technology 9.3 Processes of Recombinant DNA Technology	Genetic engineering,Bioprocess engineering, recombinant DNA ,gene cloning and gene transfer, restriction endonuclease Gel electrophoresis Cloning Vectors Competent Host (For Transformation with Recombinant DNA) Processes of Recombinant DNA Technology
OCTOBER	10-Biotechnology and its Applications	10.1 Biotechnological Applications in Agriculture 10.2 Biotechnological Applications in Medicine	Green Revolution,tissue culture,somatic hybridisationPest Resistant Plants Genetically Engineered Insulin Gene Therapy Molecular Diagnosis
TERM END EVALUATION [OCTOBER 18th TO OCTOBER 30th] CHAPTERS 1, 4, 5 and 9 1-Sexual Reproduction in Flowering Plants 4.Principles of Inheritance and variation 5.Molecular basis of inheritance 9-Biotechnology Principles and Processes (9.1 TO 9.2.2) - 9.2.2 onwards NOT included			
NOVEMBER	10-Biotechnology and its Applications (Contd.)	10.3 Transgenic Animals 10.4 Ethical Issues	Transgenic Animals Ethical Issues Regarding Transgenic Animals
FIRST MODEL EXAMINATION [DECEMBER 2nd TO DECEMBER 13th] CHAPTERS 1,4,5,9 and 10			
SECOND MODEL EXAMINATION [JANUARY 3rd TO 15 th] CHAPTERS 1,4,5,9 and 10			

NAME OF THE SCHOOL	NAME OF THE TEACHER	SIGNATURE
BVM, ELAMAKKARA	SUMI U MENON	
BVM, GIRINAGAR	SAVITRI VISWAKUMAR	
BVM, EROOR	RADHIKA R	
BAV, KAKKANAD	SOUMYA K S	