II Revision Exam Syllabus 2021 - 22 (January and February)

STANDARD-12

பாடத்திட்டம் – 2021–2022

வகுப்பு: 12 **பாடம்: பொதுத்தமிழ்**

மாதம்	மொத்த பாடங்கள்	இயல்	பாடப்பொருள்
ஜனவரி	2	4	உரைநடை – பண்டைய காலத்துப் பள்ளிக்கூடங்கள் செய்யுள் – இதில் வெற்றிபெற இலக்கணம் – பா இயற்றப் பழகலாம்
		5	செய்யுள் – தெய்வமணிமாலை, தேவாரம் துணைப்பாடம் – தலைக்குளம்
பிப்ரவரி	1	6	செய்யுள் – சிலப்பதிகாரம் துணைப்பாடம் – நடிகர் திலகம் வாழ்வியல் – திருக்குறள்

SYLLABUS 2021–2022

STANDARD: 12 **SUBJECT: ENGLISH**

MONTH	Total No. Of Units	UNIT	TOPICS
January	1	3	**Prose** - In Celebration of Being Alive **Poem** - All the World's a Stage **Grammar** - Active and Passive Voice Interrogatives or Questions
February	1	4	**Poem** - Ulysses **Supplementary** -The Midnight Visitor **Grammar** - Conditional Clauses Kinds of Sentences (Simple, Compound, Complex)

SYLLABUS 2021-2022

STD : 12 **SUBJECT : MATHEMATICS**

MONTH	TOTAL NUMBER OF UNITS	UNIT	CONTENT
JANUARY	2	**5. Two Dimensional Analytical Geometry-II**	5.1 Introduction(Theorem 5.1-5.5 without proof) 5.2 Circle 5.2.1 Equation of a circle in standard form 5.2.2 Equations of tangent and normal at a point P on a given circle(without proof) 5.2.3 Condition for the line $y = mx+c$ to be a tangent to the circle $x^2 + y^2 = a^2$ and finding the point of contact (without proof) 5.3 Conics 5.3.1 The general equation of a Conic 5.3.2 Parabola 5.3.3 Ellipse (Theorem 5.3.3-without proof) 5.3.4 Hyperbola (Theorem 5.3.4-without proof) 5.4 Conic Sections 5.4.1 Geometric description of conic section 5.4.2 Degenerate Forms 5.5 Parametric form of Conics 5.5.1 Parametric equations 5.6 Tangents and Normals to Conics 5.6.1 Equation of tangent and normal to the parabola $y^2 = 4ax$ (without proof) 5.6.2 Equations of tangent and normal to Ellipse and Hyperbola (without proof) 5.6.3 Condition for the line $y = mx+c$ to be a tangent to the conic sections (without proof) 5.7 Real life Applications of Conics 5.7.1 Parabola 5.7.2 Ellipse 5.7.3 Hyperbola 5.7.4 Reflective property of parabola 5.7.5 Reflective property of Ellipse (*All properties without proof)

JANUARY		**6. Applications of Vector Algebra**	6.1 Introduction (Theorems 6.1-6.23-without proof) 6.2 Geometric Introduction to Vectors 6.3 Scalar Product and Vector Product 6.3.1 Geometrical interpretation 6.3.2 Application of dot and cross products in plane Trigonometry 6.3.3 Application of dot and cross products in Geometry 6.3.4 Application of dot and cross product in Physics 6.4 Scalar triple product 6.4.1 Properties of the scalar triple product 6.5 Vector triple product 6.6 Jacobi's Identity and Lagrange's Identity 6.7 Application of Vectors to 3D Geometry 6.7.1 Different forms of equation of a straight line 6.7.2 A point on the straight line and the direction of the straight line are given 6.7.3 Straight Line passing through two given points 6.7.4 Angle between two straight lines 6.7.5 Point of intersection of two straight lines 6.7.6 Shortest distance between two straight lines 6.8 Different forms of Equation of a plane 6.8.1 Equation of a plane when a normal to the plane and the distance of the plane from the origin are given 6.8.2 Equation of a plane perpendicular to a vector and passing through a given point 6.8.3 Intercept form of the equation of a plane 6.8.4 Equation of a plane passing through three given non-collinear points 6.8.5 Equation of a plane passing through a given point and parallel to two given non-parallel vectors. 6.8.6 Equation of a plane passing through two given distinct points and is parallel to a non-zero vector 6.8.7 Condition for a line to lie in a plane 6.8.8 Condition for coplanarity of two lines 6.8.10 Angle between two planes 6.8.11 Angle between a line and a plane 6.8.12 Distance of a point from a plane 6.8.13 Distance between two parallel planes (*All properties without proof)

FEBRUARY	2	**7. Applications of Differential Calculus**	7.1 Introduction 7.1.1 Early Developments 7.2 Meaning of Derivatives 7.2.1 Derivative as slope 7.2.2 Derivative as rate of change 7.2.3 Related rates 7.2.4 Equations of Tangent and Normal 7.2.5 Angle between two curves 7.5 Indeterminate Forms 7.5.1 A Limit Process 7.5.2 The l'Hôpital's Rule 7.5.3 Indeterminate forms $0/0, \infty/\infty, 0 \times \infty, \infty - \infty$ 7.6 Applications of First Derivative 7.6.1 Monotonicity of functions 7.6.2 Absolute maxima and minima 7.6.3 Relative Extrema on an Interval 7.6.4 Extrema using First Derivative Test 7.7 Applications of Second Derivative 7.7.1 Concavity, Convexity, and Points of Inflection 7.7.2 Extrema using Second Derivative Test 7.8 Applications in Optimization (*All properties without proof)
		8. Differentials and Partial Derivatives	8.1 Introduction 8.2 Linear Approximation and Differentials 8.2.2 Errors: Absolute Error, Relative Error, and Percentage Error 8.2.3 Differentials (*All properties without proof)

SYLLABUS 2021–2022

STANDARD: 12 **SUBJECT: PHYSICS**

MONTH	Total No. Of Units	UNIT	CONTENT
January	2	5. Electromagnetic waves	5.1 Introduction 5.1.1 Displacement current and Maxwell's correction to Ampere's circuital law 5.1.2 Maxwell's equations in integral form 5.2 Electromagnetic waves 5.2.1 Production and properties of electromagnetic waves-Hertz experiments 5.2.3 Electromagnetic spectrum 5.3 Types of spectrum emission and absorption spectrum fraunhofer lines
		6. Ray Optics	6.1 Introduction 6.1.1 Ray optics 6.1.2 Reflection 6.1.3 Angle of deviation due to reflection 6.1.4 Image formed in plane mirror 6.1.5 Characteristics of the image formed by plane mirror 6.2 Spherical mirrors 6.2.1 Paraxial rays and marginal rays 6.2.2 Relation between f and r 6.2.5 The mirror equation 6.2.6 Lateral magnification in spherical mirror 6.3 Speed of light 6.3.1 Fizea's method to determine speed of light 6.3.3 Refractive index 6.3.4 Optical path 6.4 Refraction 6.4.1 Angle of deviation due to refraction 6.4.3 Principle of reversibility 6.4.4 Relative refractive index 6.4.5 Apparent depth 6.4.6 Critical angle and total internal reflection 6.4.8 Refraction in glass slab 6.5 Refraction at single spherical surface

January	2	6. Ray Optics	6.5.1 Equation for refraction at single spherical surface 6.6 Thin lens 6.6.3 Lens makers formula and lens formula 6.6.4 Lateral magnification in thin lens 6.6.6 Focal length of lenses in contact 6.6.7 Silvered lenses 6.7 Prism 6.7.1 Angle of deviation produced by a prism 6.7.2 Angle of minimum deviation 6.7.3 Refractive index of the material of the prism 6.7.4 Dispersion of white light through a prism 6.7.5 Dispersive power 6.7.6 Scattering of sunlight
		Practical	4. Voltage - current characteristics of a PN junction diode. 5. Verification of truth tables of logic gates using integrated circuits.
February	2	7. Wave Optics	7.1 Theories on light 7.1.1 Corpuscular theory 7.1.2 Wave theory 7.1.3 Electromagnetic wave theory 7.1.4 Quantum theory 7.2 Wave nature of light 7.2.1 Wave optics 7.2.2 Huygens' principle 7.2.3 Proof for laws of reflection using Huygens principle 7.2.4 Proof for laws of refraction using Huygens principle 7.3 Interference 7.3.1 Phase difference and path difference 7.3.2 Coherant Sources 7.3.3 Double slit as coherent source 7.3.4 Young's double slit experiment 7.3.5 Interference in white light (polychromatic light) 7.3.6 Interference in thin films 7.4 Diffraction 7.4.2 Diffraction in single slit 7.4.4 Fresnel's distance 7.4.5 Difference between interference and diffraction 7.4.9 Resloution

February	2	7. Wave Optics	7.5.3.1 Polariser and analyser 7.5.3.2 Plane and partially polarised light 7.5.3.3 Malus law 7.5.3.4 Uses of polroids 7.5.4 Polrisation by reflection 7.5.4.1 Brewster's law 7.5.4.2 Pile of plates 7.6 Optical instruments 7.6.1 Simple microscope 7.6.1.1 Near point focusing 7.6.1.2 Normal focusing 7.6.1.3 Resolving power of microscope 7.6.1.4 Resolving power of telescope 7.6.2 Compound microscope 7.6.2.1 Magnifictaion in Compound microscope 7.6.3 Astronomocal telescope 7.6.3.1 Magnifictaion in astronomocal telescope 7.6.5 Reflecting telescope 7.6.6.3 Astigmatism
		8. Dual nature of radiation and mater	8.1 Introduction 8.1.1 Electron Emission 8.2 Photo Electric Effect 8.2.1 HERTZ, Hallwach and Lenards's Observation 8.2.2 Effect of intensity of incident Light on Photo Electric current 8.2.3 Effect of Potential Difference on Photo Electric current 8.2.4 Effect of Frequency on Incident Light on stopping potential 8.2.5 Laws of Photo Electric current 8.2.6 Concept of Quantization of Energy 8.2.7 Particle Nature of light - Einstein Explanation 8.2.8 Photo Electric cells and their Applications 8.3 Matter waves 8.3.1 Introduction wave Nature of Particles 8.3.2 De Broglie wavelength 8.3.3 De Broglie wavelength of electron 8.3.4 Davisson - Germer Experiment 8.3.5 Electron Microscope 8.4 X-ray Spectra Continuous X Ray Spectra, Characteristic X Ray Spectra
		Practical	6. Verification of De morgan's Theorems.

SYLLABUS 2021–2022

STANDARD: 12 **SUBJECT: CHEMISTRY**

MONTH	NUMBER OF UNITS	UNIT	TOPICS
January	3	3. P-block elements -II	Introduction 3.1 Group 15 (Nitrogen group) elements 3.1.1 Occurrence 3.1.2 Physical properties 3.1.3 Nitrogen Preparation Properties of Nitrogen Uses of nitrogen 3.1.4 Ammonia (NH_3) Preparation Properties of Ammonia Chemical Properties Structure of ammonia 3.1.7 Allotropic forms of phosphorus 3.1.8 Properties of phosphorus Uses of phosphorus Oxoacids of Phosphorus-Structure Group 16 (Oxygen group) elements Occurrence Physical properties 3.2 Oxygen Preparation: Properties Chemical properties Uses of Oxygen 3.2.1 Allotropic forms of sulphur 3.2.2 Sulphur dioxide Preparation Properties Chemical properites Uses of sulphur dioxide Structure of sulphur dioxide Structure of oxoacids of sulphur 3.3 Group 17 (Halogen group) elements: 3.3.1 Chlorine Occurrence: Physical properties of Chlorine 3.3.1 Manufacture of chlorine Physical properties Chemical properties Uses of chlorine

MONTH	NUMBER OF UNITS	UNIT	TOPICS
January	3	3. P-block elements -II	3.3.4 Inter halogen compounds: Properties of inter halogen compounds Structure of inter halogen compounds 3.4 Group 18 (Inert gases) elements: 3.4.1 Occurrence: Physical properties Physical properties-Inert Gases Properties of inert gases Chemical Properties Structures of compounds of Xenon Uses of noble gases
		8.Ionic Equillibrium	Introduction 8.1. Acids and bases 8.1.1 Arrhenius concept 8.1.2 Lowry - Bronsted Theory 8.1.3 Lewis Concept 8.2 Strength Of Acids and Bases 8.3 Ionisation of water 8.4 The pH Scale 8.4.1 Relation between pH and pOH 8.5 Ionistion of Weak Acids 8.5.1 Ostwalds Dilution Law 8.6. Common ion effect 8.7 Buffer Solution 8.7.1 Buffer Action 8.7.3 Henderson Hasselbalch Equation 8.9 Solubility Product 8.9.1 Determination of solubility Product from Molar Solubility
		12. Carbonyl compounds and carboxylic acids	Introduction 12.1 Nomenclature of Aldehyde and Ketones 12.2 Structure of carbonyl group 12.3 General methods of preparation of Aldehydes and Ketones 12.4 Physical properties of Aldehydes and Ketones 12.5 Chemical properties of Aldehydes and Ketones (Mechanism only for aldol and cannizaro reaction)

MONTH	NUMBER OF UNITS	UNIT	TOPICS
January	3		12.6 Test for Aldehydes (First two test only) CARBOXYLIC ACIDS 12.8 Nomenclature of carboxylic acids 12.9 structure of carboxyl group 12.10 Methods of preparation of carboxylic acids except Sno 5 12.11 Physical properties of carboxylic acids 12.12 chemical properties of carboxylic acids (expect mechanism of esterification) Test for carboxylic acid 12.13 Acidity of carboxylic acids
		Practical - Volumetric analysis	3. Estimation of Oxalic acid (Acid Base Titration)
February	2	4. Transition and inner transition elements	Introduction 4.1 Position of d- block elements in the periodic table 4.2 Electronic configuration 4.3 General trend in properties 4.3.1 Metallic behavior 4.3.2 Variation of atomic and ionic size 4.3.3 Ionization enthalpy 4.3.4 Oxidation state 4.3.5 Standard electrode potentials of transition metals 4.3.6 Magnetic properties 4.3.7 Catalytic properties 4.3.8 Alloy formation 4.3.9 Formation of interstitial compounds 4.3.10 Formation of complexes 4.4 Important compound of Transition elements f-block elements – Inner transition elements The position of Lanthanoids in the periodic table Electronic configuration of Lanthanoids Oxidation state of lanthanoids Atomic and ionic radii Causes of lanthanoid contraction Consequences of lanthanoid contraction Actinoids Electronic configuration of actinoids Oxidation state of actinoids Differences between lanthanoids and actinoids

MONTH	NUMBER OF UNITS	UNIT	TOPICS
February	2	9. Electro chemistry	Introduction 9.1 Conductivity of electrolytic solution 9.1.1 Molar conductivity 9.1.2 Equivalent conductance 9.1.3 Factors affecting Electrolytic conductance 9.1.4 Measurement of conductivity of ionic solutions 9.2 Variation of molar conductivity with concentration 9.2.2 Kohlrausch's law and Applications 9.3.2 Galvanic cell notation 9.3.4 Measurement of electrode potential 9.4 Thermodynamics of cell reactions 9.4.1 Nernst equation Electrolytic cell and Electrolysis Faraday's law of electrolysis First law, Second law Electrochemical series
		Practical - Organic compounds	3. Urea 4. Glucose

SYLLABUS 2021–2022

STANDARD: 12 **SUBJECT: BOTANY**

MONTH	Total No. Of Chapter	CHAPTER	CONTENT
January	2	**CHAPTER 4** Principles and Processes of Biotechnology	4.2 Methods of Biotechnology 4.2.1 Fermentation 4.2.2 Single cell Protein 4.3 Advancements in Modern Biotechnology 4.3.1 Genetic Engineering 4.4 Tools - Genetic Engineering 4.4.1 Restriction Endonuclease 4.4.2 DNA Ligase 4.4.3 Alkaline Phosphatase 4.4.4 Vectors 4.5 Methods of Gene Transfer 4.5.1 Direct or Vectorless Gene transfer 4.5.2 Indirect or vector-Mediated Gene transfer 4.6 Screening for Recombinants 4.6.1 Insertional Inactivation - Blue White Colony Method 4.6.2 Antibiotic resistant markers 4.6.3 Replica plating technique 4.6.4 Molecular Techniques - Isolation of Genetic Material and Gel Electrophoresis 4.6.5 Nucleic Acid Hybridization 4.6.6 Bioassay for Target Gene Effect 4.6.7 Genome Sequencing and Plant Genome Projects 4.6.8 Evolutionary pattern Assessed using DNA 4.6.9 Genome editing and CRISPR - Cas9 4.6.10 RNA Interference (RNAi) 4.7.2 Herbicide tolerant – Basta 4.7.3 Insect Resistance – Bt Crop 4.7.7 Polyhydroxybutyrate – PHB 4.7.11 Bioremediation 4.7.13 Bioprospecting 4.8 Applications of Biotechnology

January	2	**CHAPTER 5** Plant Tissue Culture	5.1 Basic concepts of Tissue Culture 5.2 Plant Tissue Culture 5.2.2 Technique involved in PTC 5.2.3 Types of Plant Tissue Culture 5.4 Applications of Plant Tissue Culture 5.4.2 Artificial Seed 5.5 Conservation of plant 5.5.2 Cryopreservation 5.7 Future of Biotechnology
		PRACTICALS	5 Flow of energy – 10 % Law
			6 Quadrat method – Population density and frequency determintation
February	2	**CHAPTER 6** Principles of Ecology	6.1 Ecology 6.1.1 Definitions of ecology 6.1.2 Ecological hierarchy 6.1.4 Habitat and Niche 6.1.5 Ecological equivalents 6.2.1 Climatic Factors 6.2.b Temperature 6.2.c Water 6.2.2 Edaphic factors 6.2.3 Topographic factors 6.2.4 Biotic factors 6.3 Ecological adaptations: Hydrophytes, Xerophytes, Mesophytes

February	2	**CHAPTER 7** Ecosystem	7.2.1 Photosynthetically Active Radiation 7.2.3 Concepts of tropic level in an Ecosystem 7.2.4 Energy Flow 7.2.5 Food chain 7.2.6 Food web 7.2.7 Ecological pyramids 7.2.9 Biogeo Chemical cycle Carbon cycle & Phosphorous cycle 7.2.10 Types of ecosystem 7.3 Plant succession 7.3.1 Causes of succession 7.3.2 Characteristics of Ecological succession 7.3.3 Types of succession 7.3.4 Process of succession 7.3.5 Classification of plant succession 7.3.6 Significance of plant succession
		PRACTICALS	7 Genetic linkage maps
			8 Dissect and display the Pollinia of Calotropis

SYLLABUS 2021-2022

STANDARD: 12 **SUBJECT: ZOOLOGY**

MONTH	TOTAL NO OF CHAPTERS	UNIT	TOPICS	PRACTICALS
January	3	5 Molecular Genetics	Introduction 5.1. Gene as the functional unit of Inheritance 5.2. In search of Genetic material 5.3. DNA is the Genetic Material 5.3.1 Hershey and Chase experiment on T2 bacteriophage 5.5. RNA - World 5.6. Properties of genetic Material 5.7. Packaging of DNA helix 5.9. Transcription 5.9.1 Transcription unit and gene 5.9.2 Process of transcription 5.10. Genetic Code 5.10.1 Mutation and genetic code 5.12. Translation 5.12.1 Mechanism of Translation 5.13 Regulation of gene Expression 5.14. Human genome project 5.14.1 Goals and methodologies of Human Genome Project 5.14.2 Salient features of Human Genome Project 5.14.3 Application and future challenges 5.15. DNA finger printing Technique	11. tRNA 12. Homologous organs 13. Analogous organs

January		6 Evolution	Introduction 6.1 Origin of life 6.2. Geological Time Scale 6.3. Biological evolution 6.5. Theories of biological evolution 6.5.1 Lamarck's theory 6.5.2 Darwin's theory of Natural selection 6.5.3 Mutation theory 6.5.4 Modern synthetic theory 6.5.5 Evolutionbyanthropogenic sources 6.5.6 Adaptive Radiation 6.7. Hardy- Weinberg Principle	
		7 Human Health and Diseases	Introduction 7.1. Common diseases in human beings 7.1.1 Bacterial and viral diseases 7.1.2 Protozoan diseases 7.1.3 Fungal diseases 7.1.4 Helminthic diseases 7.2. Maintenance of personal and public hygiene 7.3. Adolescence -Drug and Alcohol abuse 7.3.1 Addiction and dependence 7.3.2 Effects of drugs and alcohol 7.3.3 Prevention and control 7.4. Mental health depression	
February		8 Immunology	Introduction 8.1. Basic concepts of Immunology 8.2. Innate immunity 8.3. Acquired immunity 8.4. Immune responses 8.5. Lymphoid organs 8.6. Antigens 8.7. Antibodies 8.8. Antigen - Antibody interaction	

February	3	8 Immunology	8.9. Vaccines 8.10. Vaccination and Immunization 8.11 Hypersensitivity	
		9 Microbes in Human Welfare	Introduction 9.2 Microbes in industrial products 9.2.1 Antibiotic production 9.2.2 Fermented beverages 9.2.3 Chemicals, enzymes and other bioactive molecules 9.3 Microbes in sewage treatment 9.3.1 Microbial fuel cell (MFC) 9.5 Bioremediation 9.5.1 Microorganisms involved in bioremediation	14. Animal cloning 15. X linked Disease 16. Autosomal Disease
		10 Applications of Bio technology	Introduction 10.1. Applications in medicine 10.1.1 Recombinant Human Insulin 10.1.2 Human alpha lactalbumin 10.1.3 Interferons 10.1.4 Recombinant Vaccines 10.2. Gene therapy 10.3. Stem cell therapy 10.4. Molecular Diagnostics 10.5. Transgenic Animals 10.6. Biological Products and their uses	

SYLLABUS 2021-2022

STANDARD: 12 **SUBJECT: BIO-BOTANY**

MONTH	Total No. Of Chapter	CHAPTER	CONTENT
January	2	**CHAPTER 4** Principles and Processes of Biotechnology	4.2 Methods of Biotechnology 4.2.1 Fermentation 4.2.2 Single cell Protein 4.3 Advancements in Modern Biotechnology 4.3.1 Genetic Engineering 4.4 Tools - Genetic Engineering 4.4.1 Restriction Endonuclease 4.4.2 DNA Ligase 4.4.3 Alkaline Phosphatase 4.4.4 Vectors 4.5 Methods of Gene Transfer 4.5.1 Direct or Vectorless Gene transfer 4.5.2 Indirect or vector-Mediated Gene transfer 4.6 Screening for Recombinants 4.6.1 Insertional Inactivation - Blue White Colony Method 4.6.2 Antibiotic resistant markers 4.6.4 Molecular Techniques - Isolation of Genetic Material and Gel Electrophoresis 4.6.5 Nucleic Acid Hybridization 4.6.6 Bioassay for Target Gene Effect 4.6.7 Genome Sequencing and Plant Genome Projects 4.6.8 Evolutionary pattern Assessed using DNA 4.6.10 RNA Interference (RNAi) 4.7.2 Herbicide tolerant – Basta 4.7.3 Insect Resistance – Bt Crop 4.7.7 Polyhydroxybutyrate – PHB 4.7.11 Bioremediation 4.7.13 Bioprospecting 4.8 Applications of Biotechnology

January	2	**CHAPTER 5** Plant Tissue Culture	5.1 Basic concepts of Tissue Culture 5.2 Plant Tissue Culture 5.2.2 Technique involved in PTC 5.2.3 Types of Plant Tissue Culture 5.4 Applications of Plant Tissue Culture 5.4.2 Artificial Seed 5.5.2 Cryopreservation 5.7 Future of Biotechnology
		PRACTICALS	5 Flow of energy – 10 % Law
			6 Quadrat method – Population density and frequency determintation
February	2	**CHAPTER 6** Principles of Ecology	6.1 Ecology 6.1.1 Definitions of ecology 6.1.2 Ecological hierarchy 6.1.4 Habitat and Niche 6.1.5 Ecological equivalents 6.2.1 Climatic Factors 6.2.b Temperature 6.2.c Water 6.2.2 Edaphic factors 6.2.3 Topographic factors 6.2.4 Biotic factors 6.3 Ecological adaptations: Hydrophytes, Xerophytes, Mesophytes

February	2	**CHAPTER 7** Ecosystem	7.2.1 Photosynthetically Active Radiation 7.2.3 Concepts of tropic level in an Ecosystem 7.2.4 Energy Flow 7.2.5 Food chain 7.2.6 Food web 7.2.7 Ecological pyramids 7.2.9 Biogeo Chemical cycle Carbon cycle & Phosphorous cycle 7.2.10 Types of ecosystem 7.3 Plant succession 7.3.1 Characteristics of Ecological succession 7.3.2 Types of succession 7.3.3 Classification of plant succession 7.3.4 Significance of plant succession
		PRACTICALS	7 Genetic linkage maps
			8 Study of Pollen germination on a slide

SYLLABUS 2021-2022

STANDARD: 12 **SUBJECT: BIO-ZOOLOGY**

MONTH	TOTAL NO OF CHAPTERS	UNIT	TOPICS	PRACTICALS
January	2	5 Molecular Genetics	Introduction 5.1. Gene as the functional unit of Inheritance 5.2. In search of Genetic material 5.3. DNA is the Genetic Material 5.3.1 Hershey and Chase experiment on T2 bacteriophage 5.5. RNA - World 5.6 Properties of genetic Material 5.7. Packaging of DNA helix 5.9. Transcription 5.9.1 Transcription unit and gene 5.9.2 Process of transcription 5.10. Genetic Code 5.10.1 Mutation and genetic code 5.12. Translation 5.12.1 Mechanism of Translation 5.13 Regulation of gene Expression 5.14. Human genome project 5.14.1 Goals and methodologies of Human Genome Project 5.14.2 Salient features of Human Genome Project 5.14.3 Application and future challenges 5.15. DNA finger printing Technique	9. tRNA 10. Homologous organs 11. Analogous organs

January		6 Evolution	Introduction 6.1 Origin of life 6.2. Geological Time Scale 6.3. Biological evolution 6.5. Theories of biological evolution 6.5.1 Lamarck's theory 6.5.2 Darwin's theory of Natural selection 6.5.3 Mutation theory 6.5.4 Modern synthetic theory 6.5.5 Evolution by anthropogenic sources 6.5.6 Adaptive Radiation 6.7. Hardy- Weinberg Principle	
February	3	7 Human Health and Diseases	Introduction 7.1 Common diseases in Human beings 7.1.1 Bacterial and viral diseases 7.1.2 Protozoan diseases 7.1.3 Fungal diseases 7.1.4 Helminthic diseases 7.2 Maintenance of Personal and Public Hygiene 7.3 Basic concepts of Immunology 7.3.1 Innate Immunity 7.3.2 Acquired Immunity 7.3.3 Immune responses 7.3.4 Lymphoid organs 7.3.5 Antigens 7.3.6 Antibodies 7.3.7 Antigen – Antibody interaction 7.3.8 Vaccines 7.3.9 Vaccination and immunization 7.3.10 Hypersensitivity 7.6 Adolescence – Drug and Alcohol abuse 7.6.1 Addiction and dependence 7.6.2 Effects of drugs and alcohol 7.6.3 Prevention and control 7.7. Mental health and Depression	

February		8 Microbes in Human Welfare	Introduction 8.2 Microbes in industrial products 8.2.1 Antibiotic production 8.2.2 Fermented beverages 8.2.3 Chemicals, enzymes and other bioactive molecules 8.3 Microbes in sewage treatment 8.3.1 Microbial fuel cell (MFC) 8.5 Bioremediation 8.5.1 Microorganisms involved in bioremediation	12. X linked Disease 13. Autosomal Disease
		9 Applications of Bio technology	Introduction 9.1. Applications in medicine 9.1.1 Recombinant Human Insulin 9.1.2 Human alpha lactalbumin 9.1.3 Interferons 9.2. Gene therapy 9.3. Stem cell therapy 9.4. Molecular Diagnostics	

SYLLABUS 2021-2022

STANDARD: 12 **SUBJECT: BIOCHEMISTRY**

MONTH	TOTAL NO. OF UNITS	UNIT	TOPICS	PRACTICALS
January	2	4. Protein Metabolism	Introduction 4.1.4 Decarboxylation 4.1.5 Fate of Carbon Skeleton of Amino Acids 4.1.6 Trans Methylati 4.3 Formation of Niacin 4.4 Formation of Melanin 4.5 Formation of Thyroid Hormones 4.6 Formation of Catecholamine	6. Estimation of Calcium by titrimetric method
		5. Lipid Metabolism	5.1 Introduction 5.1.1 Biological Functions of Lipids 5.2 Biosynthesis of Fatty Acids 5.3 Oxidation of Fatty Acids 5.3.1 Oxidation 5.4 Cholesterol 5.4.1 Biosynthesis of Cholestero 5.4.2 Important derivatives of Cholesterol 5.4.2.1 Bile Salts 5.4.2.2 Steroid Hormones 5.4.2.3 Vitamin D 5.5 Phospholipids 5.5.1 Types of Phospholipids 5.5.2 Biosynthesis of Phospholipids 5.5.3 Biosynthesis of Lecithin 5.5.4 Degradation of Phospholipids 5.5.5 Lysolecithins Formation 5.5.6 Effects of Lysolecithins 5.6 Cephalin	

February	1	6. Molecular Biology	Introduction 6.1 Central dogma of molecular biology 6.2 DNA Replication 6.2.1 The Models of DNA Replication 6.2.2 The conservative Model 6.2.3 The semiconservative Model 6.2.4 The dispersive model 6.2.5 The Meselson –Stahl experiment and the conformation of semiconservative model 6.2.6 Overview of DNA Replication 6.2.7 The DNA Polymerase 6.2.8 Difference between Prokaryotes and Eukaryotes in DNA Replication 6.2.9 The Polymerase Chain Reaction- an essential tool for Molecular Biology 6.2.9.1 The steps involved in PCR amplication 6.3 Transcription 6.3.1 Genes and Genes Expression 6.3.2 Overview of transcription 6.3.2.1 Initiation of transcription	
			6.3.2.2 Elongation of transcription 6.3.2.3 Termination of transcription 6.3.4 Post transcription Modification of RNA 6.4 Translation 6.4.1 The genetic code 6.4.2 Overview of Translation 6.4.3 Ribosomes	

February	1	6. Molecular Biology	6.4.4 Molecular events in Translation 6.4.4.1 Translation Initiation 6.4.4.2 The Translation Elongation 6.4.4.3 Termination of Translation 6.4.5 Post Translation Modification 6.4.6 Difference between Prokaryotes and Eukaryotes Translation	

SYLLABUS 2021-2022

STANDARD: 12 **SUBJECT: MICROBIOLOGY**

MONTH	TOTAL NO. OF UNITS	UNIT	CONTENT
January	2	5 Food Microbiology	5.1 Food Microbiology 5.1.1 Classification of foods 5.1.2 Sources of Microorganisms in food 5.1.3 Factors that influence Growth of microorganisms in food 5.2 Food spoilage 5.2.1 Causes of food spoilage 5.3 Food borne disease 5.3.1 Food borne infection 5.3.2 Food poisoning 5.5.5 Methylene Blue dye Reduction Test (MBRT)
		6 Industrial Microbiology	6.2 Screening of industrially important microorganism 6.3 Strain improvement 6.4 Preservation of industrially important microorganisms 6.5 Fermentors 6.5.1 Basic design of a fermentor 6.6 Industrial production of Penicillin 6.9 Industrial production of citric acid 6.10 Immobilization
		Practical	2. Identification of the fungus (Aspergillus/ Mucor/ Rhizopus) 3. Blood Grouping **Slide** 8. Eggs of Ascaris lumbricoides 9. Heterocysts of Nostoc

February	2	7 Medical Bacteriology	7.3 Staphylococcus aureus 7.3.1 Morphology 7.3.2 Cultural characteristics 7.3.3 Virulence Factors 7.3.4 Pathogenicity 7.3.5 Laboratory diagnosis 7.3.6 Treatment 7.4 Streptococcus pyogenes 7.4.1 Morphology 7.4.2 Cultural characteristics 7.4.3 Antigenic structure 7.4.4 Pathogenicity 7.4.5 Laboratory diagnosis 7.4.6 Treatment 7.5 Neisseria meningitides 7.5.1 Morphology 7.5.2 Cultural characteristics 7.5.3 Pathogenicity 7.5.4 Laboratory diagnosis 7.5.5 Treatment and prophylaxis
			7.6 Corynebacterium diphtheriae 7.6.1 Morphology 7.6.2 Cultural characteristics 7.6.3 Pathogenicity 7.6.4 Clinical Manifestations 7.6.5 Laboratory diagnosis 7.6.6 Prophylaxis 7.6.7 Treatment 7.7 Clostridium tetani 7.7.1 Morphology 7.7.2 Cultural characteristics 7.7.3 Toxins 7.7.4 Pathogenesis 7.7.5 Clinical feature 7.7.6 Laboratory diagnosis 7.7.7 Treatment 7.7.8 Prophylaxis 7.9 Salmonella typhi

February	2	7 Medical Bacteriology	7.9.1 Morphology 7.9.2 Cultural characteristics 7.9.3 Pathogenicity 7.9.4 Clinical Manifestations 7.9.5 Laboratory diagnosis 7.9.6 Prophylaxis 7.9.7 Treatment and control measures 7.11 Mycobacterium tuberculosis 7.11.1 Morphology 7.11.2 Cultural characteristics 7.11.3 Pathogenicity 7.11.4 Clinical symptoms 7.11.5 Laboratory diagnosis 7.11.6 Treatment 7.11.7 Prophylaxis and control measures 7.12 Treponema pallidum 7.12.1 Morphology 7.12.2 Cultural characteristics 7.12.3 Pathogenicity 7.12.4 Laboratory diagnosis 7.12.5 Treatment and preventive measure 7.13 Leptospira interogans 7.13.1 Morphology 7.13.2 Antigenic structure 7.13.3 Pathogenicity 7.13.4 Laboratory diagnosis 7.13.5 Treatment and preventive measure
		8 Medical Parasitology	8.1 Parasite and host 8.1.1 Association between host and parasite 8.1.2 Types and classification of parasite 8.1.3 Types of host 8.1.4 Classification of medical parasitology 8.1.5 Life cycle of parasites 8.1.6 Tranmission of parasites 8.2 Entamoeba histolytica 8.2.1 Geographical Distribution

February	2		8.2.2 Habitat 8.2.3 Morphology 8.2.4 Life cycle of Entamoeba histolytica 8.2.5 Pathogenesis 8.2.6 Clinical features 8.2.7 Laboratory diagnosis 8.2.8 Prevention and control 8.4 Leishmania donovani 8.4.1 Geographical Distribution 8.4.2 Habitat 8.4.3 Morphology 8.4.4 Life cycle of Leishmania donovani 8.4.5 Pathogenesis 8.4.6 Clinical features 8.4.7 Prevention and control 8.5 Plasmodium 8.5.1 Geographical Distribution 8.5.2 Habitat 8.5.3 Vectors 8.5.4 Life cycle 8.5.5 Human cycle 8.5.6 Mosquito cycle 8.5.7 Pathogenesis 8.5.8 Clinical features 8.5.9 Complication of server falciparum malaria 8.5.10 Recrudescence 8.5.11 Plasmodium vivax 8.5.12 Clinical features 8.5.13 Laboratory diagnosis 8.5.14 Treatment 8.5.15 Prevention and control
		Practical	2. Identification of the fungus (Aspergillus/ Mucor/Rhizopus) 3. Blood grouping 4. Blood staining **Spotter** 8. Eggs of Ascaris lumbricoides 9. Heterocysts of Nostoc 11. Antibiotic sensitivity plate – Kirby Bauer technique 14. Spoiled Food

SYLLABUS 2021–2022

STANDARD: 12 **SUBJECT: GENERAL NURSING**

MONTH	Total No. of Units	UNIT	CONTENT
January	3	3 Applied Psychology	**Introduction** 3.1 Definition of Psychology 3.2 Importance of Psychology in Nursing 3.3 Maslow's Theory of Motivation 3.5 Attitude 3.6 Emotions
			Practical: 3. Diet for Various Conditions
		4 Applied Sociology	**Introduction** 4.1 Definition 4.2 Principles of Sociology 4.3 Importance of Sociology in Nursing
		5 Applied Nutrition	**Introduction** 5.1 Terminology 5.2 Classification of Foods 5.3 Role of Nutrition in Maintaining Health 5.4 Factors Affecting Food and Nutrition 5.5 Carbohydrates 5.6 Fat 5.7 Proteins 5.8 Vitamins
			Practical: 4. Home Nursing

February	3	6 Introduction to Sex Education	**Introduction** 6.1 Definition Aims of sex education 6.2 Good touch 6.3 Bad touch 6.4 Sexual harassment
		7 Midwifery Nursing	**Introduction** 7.1 Definition 7.2 Maternal Physiological Changes During Pregnancy 7.3 Diagnosis of Pregnancy 7.4 High Risk Pregnancy 7.5 Normal Labour 7.7 Normal Puerperium
		8 Child Health Nursing	**Introduction** 8.1 Definition of New Born 8.2 Medical and Special Care New Born 8.3 Universal Immunization Programme 8.7 Maternal and Child Health Services

SYLLABUS 2021–2022

STANDARD: 12 **SUBJECT: NUTRITION AND DIETETICS**

MONTH	Total No. of Units	UNIT	CONTENT
		3. Nutrition During Pre-School, School Age and Adolescence	3.5.6 Acne vulgaris 3.5.7 Malnutrition due to teenage pregnancy 3.5.8 Changes in eating habits during adolescence 3.5.9 Dietary guidelines for adolescents
January	2	4. Nutrition In Adulthood and Old Age	4.1 Adult. 4.1.1 Nutrition requirements of Adults. 4.2.1 Factors affecting intake of food. 4.2.2 Nutrition and food requirements of elderly 4.2.3 Dietary guidelines.
		5. Therapeutic Diets	5.1 Principles of therapeutic diet. 5.1.1 The general objectives of therapeutic diet. 5.1.3 Factors to be considered in planning therapeutic diets. 5.2 Routine hospital diet. 5.2.1 Liquid diets 5.2.2 Soft diets 5.2.3 Restricted diets 5.2.4 Regular diets 5.3 Special feeding methods. 5.4 Dietitian. 5.4.1 Administrative dietetians 5.4.2 Clinical dietetians 5.4.3 Community dietetians 5.4.4 Research dietetians 5.4.5 Teaching dietetians 5.4.6 Consultant dietetians 5.5.1 Role of Dietitian. 5.5.2 Responsibilities of Dietitian. 5.5.3 Code of ethics of Dietitian.

February	3	6. Diet In Fever	6.1 Communicable and non communicable diseases. 6.2 Definition of fever 6.3 Causes of fever 6.4 classification types of fever 6.6 Diet therapy in fever.
		Practical	5. Diet in fever
		7. Diet In Obesity And Underweight	7.1 Introduction for Obesity. 7.1.1 Aetiology. 7.1.2 Assessment of Obesity. 7.1.3 Complications of obesity. 7.1.4 Dietary Principles: 7.2 Underweight 7.2.1 Aetiology 7.2.2 Complications of underweight 7.2.3 Dietary principles.
		Practical	6. Diet in obesity
		8. Diet In Gastro Intestinal And Liver Disorder	8.1 Gastro intestinal disorder 8.1.1 Diarrhea 8.1.2 constipation, Diet therapy for constipation. 8.1.3 Diet therapy for peptic ulcer. 8.2 Liver disorder 8.2.1 Hepatitis – causes, types symptoms, Diet therapy for hepatitis 8.2.2 Cirrhosis symptoms and diet therapy

SYLLABUS 2021–2022

STANDARD: 12 **SUBJECT: Home Science**

MONTH	NUMBER OF UNITS	UNIT	TOPICS	PRACTICALS
January	1	**4. Fundamentals of Textiles**	4.1 Introduction 4.1.1 Definition and classification 4.3 Simple test for fiber Identification 4.5 Weaving 4.5.1. Classification of woven fabrics 4.6 Fabric finishes 4.7 Dyeing 4.7.1 Types of dyeing 4.7.2 Dyeing methods 4.8 Printing 4.8.1 Resist printing 4.8.2 Direct printing 4.10 Care and maintenance of fabric 4.11 Stain removal	4. Tie-dye Process
February	1	**5. Housing and Interior Decoration**	5.1 Introduction 5.1.1 Importance of Housing 5.1.2 Classification of residential building 5.1.3 Factors affecting choice of house 5.1.4 Owing or Renting a house 5.4 Interior Decoration 5.5 Elements of Art 5.5.1 Line 5.5.2 Shapes and forms 5.5.3 Space 5.5.4 Texture	5. Prang colour chart- Understand colour harmonies in Rangoli

February		**5. Housing and Interior Decoration**	5.5.5 Colour 5.6 Principles of Design 5.6.1 Balance 5.6.2 Proportion and scale 5.6.3 Rhythm 5.6.4 Emphasis 5.6.5 Harmony or unity 5.8 Flower arrangement 5.8.1 Materials used in flower arrangement 5.8.2 Styles in flower arrangement 5.8.3 Types of flower arrangement 5.9 Floor Decorations	

SYLLABUS 2021-2022

STANDARD: 12 **SUBJECT: COMPUTER SCIENCE**

MONTH	Total no of units	UNIT	TOPICS	PRACTICALS
Janaury	2	6. Control Structures	6.1 Introduction 6.2 Control structures	4. PY4 Generate Prime numbers and Set Operations
		7. Python Functions	7.1 Introduction - Types of functions 7.2 Defining functions 7.3 Calling a function 7.4 Passing Parameters 7.6 Anonymous functions 7.7 Return Statement 7.8 Scope of Variables	
February	3	8. Strings and String Manipulations	8.1 Introduction 8.2 Creating Strings 8.3 Accessing characters in a string 8.4 Modifying and Deleting String 8.5 String operators	5. PY5 Display a String elements – Using Class
		9.Lists, Tuples, Sets and Dictionaries	9.1 Introduction To List 9.2 Tuples 9.3 Sets	
		10.Python Classes and Objects	10.1 Introduction To Classes and Objects 10.2 Defining Classes 10.3 Creating Objects 10.4 Accessing Class Index 10.5 Class Methods 10.6 Constructors and Destructors in Python 10.7 Public and Private Members	

SYLLABUS 2021-2022

STANDARD: 12 **SUBJECT: COMMERCE**

MONTH	Total No. Of Unit	UNIT	TOPICS
January	2	Unit IV 9. Fundamentals of HRM	Entire Chapter
		10. Recruitment Methods	Entire Chapter
		11. Employees Selection Process	11.01 Meaning & Definition of Employee selection process 11.02 Steps in Employee selection process 11.03 Factors influencing selection process, importance 11.04 Importance of Selection Process
		Unit V 13. Elements of Marketing	13.01 Meaning and Definition of Market 13.02 Need for Market 13.03 Classification of Markets 13.04 Meaning and Definition of Marketer 13.05 What can be marketed?
February	2	Unit V 14. Marketing and Marketing Mix	14.01 Introduction to Marketing 14.02 Evaluation of Marketing 14.03 Marketing Concept 14.04 Definition of Marketing 14.05 Objectives of Marketing 14.06 Importance of Marketing 14.07 Functions of Marketing
		15. Recent Trends in Marketing	15.01 Recent Trends in Marketing 15.02 E-Marketing (i) (ii) (iii) (iv) 15.09 Niche Marketing 15.10 Viral Marketing 15.11 Ambush Marketing 15.12 Guerrilla Marketing

February		Unit VI 16. Consumerism	Entire Chapter
		17. Rights, Duties, & Responsibles of Consumers	Entire Chapter
		18. Grievance Redressal Mechanism	18.01 Grievance and Need for Redressal Mechanism 18.02 Consumer Councils 18.03 Three Tier Courts or Quasi Judiciary

SYLLABUS 2021-2022

STANDARD: 12 **SUBJECT: ACCOUNTANCY**

MONTH	Total No. Of Unit	UNIT	TOPICS
January	2	4. Good Will in Partnership Accounts	4.1 Introduction 4.2 Nature of Goodwill 4.3 Factors determining the value of the good will of the partnership firm 4.4 Need for valuation of Goodwill of partnership firms 4.5 Classification of Goodwill 4.6 Method of valuation of Goodwill 4.6.1 Average profit method 4.6.2 Super profit method
		5. Admission of a Partner	5.1 Introduction 5.2 Adjustments required at the time of admission of a partner 5.3 Distribution of accumulated profits, reserves and losses 5.4 Revaluation of assets and liabilities 5.4.1 When revised value of assets and liabilities are shown in the books 5.5 New profit sharing ratio and sacrificing ratio 5.5.1 New profit sharing ratio 5.5.2 Sacrificing ratio 5.7 Adjustment of capital on the basis of new profit sharing ratio all comprehensive problem except treatment of good will

February	2	6. Retirement and Death of a Partner	6.1 Introduction 6.2 Adjustments required on retirement of a partner 6.3 Distribution of accumulated profits, reserves and losses 6.4 Revaluation of assets and liabilities 6.5 Determination of new profit sharing ratio and gaining ratio 6.5.1 New profit sharing ratio 6.5.2 Gaining ratio 6.5.3 Difference between sacrificing ratio and gaining ratio
		7. Company Accounts	7.1 Introduction 7.2 Meaning and definition of company 7.3 Characteristics of a Company 7.4 Meaning and types of shares 7.5 Division of share capital 7.6 Issue of equity shares 7.7 Process of issue of equity shares 7.8 Issue of shares for cash in instalments 7.8.1 Under subscription 7.8.2 Over subscription 7.8.7 Shares issued at premium 7.9 Issues of shares for cash in lumpsum 7.10 Issues of shares for consideration other than cash

SYLLABUS 2021-2022

STANDARD: 12 **SUBJECT: ECONOMICS**

MONTH	NUMBER OF UNITS	UNIT	TOPICS
January	2	5. Monetary Economics	5.1 Introduction 5.2 Money 5.2.1 Meaning 5.2.4 Functions of money 5.3 Supply of money 5.4 Quantity theories of money 5.5 Inflation 5.5.1 Meaning of inflation 5.5.2 Types of inflation 5.5.3 Causes of inflation 5.7 Trade cycle 5.7.1 Meaning of trade cycle 5.7.2 Phases of trade cycle
		6. Banking	6.1 Introduction 6.3 Commercial banks 6.3.1 Functions of Commercial Banks 6.3.3 Role of commercial banks in Economic development of a country. 6.5 Central Bank 6.5.1 Functions of RBI 6.5.2 Credit control measures 6.5.4 Reserve Bank of India and Rural Credit 6.5.5 Role of RBI in Agricultural credit 6.5.6 Functions of Agriculture Credit Department 6.8 NABARD and its role in Agricultural credit 6.8.1 Functions of NABARD 6.9 Reserve bank of India and Industrial Finance 6.9.1 Institutional Set-up: 6.9.2 All-India Level Institutions: 6.9.3 State Level Institutions

January	2	6. Banking	6.10 Monetary policy 6.10.2 Objectives of Monetary Policy 6.11 Recent advancements in banking sector 6.11.1 E- Banking 6.11.2 RTGS and NEFT 6.11.3 ATM (Automated Teller Machine) 6.11.4 Paytm 6.11.5 Debit card and Credit Card 6.11.7 Merger of Banks 6.12 Money Market 6.13 Capital Market 6.14 Demonetisation 6.14.1 Objectives of Demonetisation
February	2	7. International Economics	7.1 International economics -Introduction 7.2 Meaning of International Economics 7.3 Subject matter of International Economics 7.4 Meaning of Trade 7.4.1 Internal Trade 7.4.2 International Trade 7.4.3 Difference between Internal and International Trade 7.6 Gains from International Trade 7.7 Terms of Trade 7.7.1 Meaning 7.8 Balance of Trade vs. Balance of payments 7.8.1 Balance of Trade (BOT) 7.8.2 Balance of Payments (BOP) 7.8.3 Components of BOPs 7.9 Exchange Rate 7.9.1 Meaning of Foreign Exchange (FOREX) 7.9.2 Definition of FOREX 7.9.3 Rate of Exchange 7.9.4 Definition of Equilibrium Exchange Rate 7.9.5 Determination of Equilibrium Exchange Rate 7.9.6 Types of Exchange Rate Systems 7.9.7 Types of Exchange Rates 7.9.8 Determinants of Exchange Rate 7.10 Foreign Direct Investment and Trade 7.10.1 Meaning of FDI 7.10.3 Advantages of FDI 7.10.5 FDI in India

February	2	8. International Economic Organization	8.1 ntroduction 8.2 International monetary fund 8.2.1 Objectives of IMF 8.2.2 Functions of IMF 8.2.3 Facilities offered by IMF 8.2.4 Achievements of IMF 8.2.5 India and IMF 8.3 International Bank for Reconstruction and Development of Bank or World Bank 8.3.2 Functions of IBRD 8.3.4 India and World Bank 8.4 World Trade Organization 8.4.2 Functions of WTO 8.4.4 WTO and India 8.6 South Asian Association for Regional Co-operation (SAARC) 8.6.2 Functions of SAARC 8.7 Association of South East Asian Nations(ASEAN) 8.7.2 Functions of ASEAN 8.8 BRICS 8.8.2 Functions of BRICS

SYLLABUS 2021-2022

STANDARD: 12 **SUBJECT: HISTORY**

MONTH	TOTAL NO. OF UNITS	UNIT	CONTENT
January	2	6. Introduction to Communalism in Nationalist Politics	Entire Unit
		7. Last Phase of Indian National Movement	Introduction 7.1 Cripps Mission 7.2 Quit India Movement 7.3 Netaji Subhas Chandra Bose and the INA 7.5 Rajaji Proposals and the Wavell Plan 7.6 Cabinet Mission and Mountbatten Plan
February	2	8. Reconstruction of Post-colonial India	Introduction 8.1 Consequences of Partition 8.2 Making of the Constitution 8.3 Merger of Princely States 8.4 Linguistic Reorganization of States
		9. Envisioning a New Socio-Economic Order	Introduction 9.1 Land Reforms and Rural Reconstruction 9.2 Development of Agriculture 9.4 Five Year Plans

SYLLABUS 2021–2022

STANDARD: 12 **SUBJECT: POLITICAL SCIENCE**

MONTH	TOTAL NO. OF UNITS	UNIT	CONTENT
January	2	5. Federalism in India	Entire unit
		6. Administrative Machinery in India	6.1 Framework of Indian Administration 6.2 Ministry, Department, Boards and Commissions 6.3 Personnel Administration 6.3.1 Civil services: Meaning and Features 6.3.2 All India Services, Central Services and State Service 6.3.3 UPSC – Organization, Powers, Functions and Role 6.3.4 State Public Service Commission 6.3.5 Staff Selection Commission 6.4 Election Commission 6.5 Comptroller and Auditor General of India 6.6.1 Enactment and Execution of Budget 6.6.2 Tax Structure in India
February	2	7. Challenges of Nation building	7.1 Integration of Princely States 7.2 Linguistic Reorganization of the state 7.4 Social, Economic and Political challenges of Nation building 7.5 Formation of Tamil Nadu state
		8. Planning and development politics	8.1 Planning: Meaning, Evolution and objectives 8.2 Planning Commission of India 8.3 Land Reforms in India 8.4 Green Revolution and White Revolution

SYLLABUS 2021–2022

STANDARD: 12 **SUBJECT: GEOGRAPHY**

MONTH	Total No. of Units	UNIT	TOPICS
January	2	5. Cultural & Political Geography	5.1 Introduction 5.2 Cultural Realms of the World 5.3 Races 5.4 Tribal Distribution of the World
		Practical 9. Surveying	9.1 Introduction 9.2 Clinometers 9.3 Prismatic Compass
February	2	6. Geoinformatics	6.1 Introduction 6.2 Remote sensing 6.3 Geographic Information System (GIS)
		Practical 12. Representation of Geographical data	12.1 Introduction 12.2 Classification of statistical diagrams 12.2.1 Line Diagram 12.2.2 Bar Diagram 12.2.3 Pie Diagram

SYLLABUS 2021-2022

STANDARD: 12 **SUBJECT: STATISTICS**

MONTH	Total No. Of Unit	UNIT	CONTENT
January	2	4. Correlation Analysis	Introduction 4.1 Definition of Correlation 4.2 Types of Correlation 4.4 Karl Pearson's Correlation Coefficient 4.4.1 Karl Pearson's Correlation Coefficient 4.4.2 Properties 4.5 Spearman's Rank Correlation Coefficient 4.5.1 Repeated Ranks 4.6 Yules coefficient
		Practical	Lesson - 4 4.4.1, 4.5
		5. Regression Analysis	Introduction 5.1 Definition & types of regression 5.1.1 Simple linear regression 5.1.2 Multiple linear regression 5.1.3 Non- linear regression 5.5. Properties of regression coefficient 5.6 Difference between correlation & regression
		Practical	Lesson - 5 5.5

February	1	6. Index Number	Introduction 6.1 Definition & Uses of Index Numbers 6.2 Types of Index Numbers 6.3 Methods of Constructing Index numbers 6.3.1 Unweighted Index Numbers 6.4 Weighted Index Numbers. 6.4.1 Weighted aggregate index numbers 6.4.2 Weighted average of price relatives 6.4.3 Quantity Index Numbers 6.4.4 Tests for Index Numbers 6.5 Consumer Price Index
		Practical	Lesson - 6 6.4.2, 6.4.4, 6.5

SYLLABUS 2021-2022

STANDARD: 12 **SUBJECT: BUSINESS MATHEMATICS & STATISTICS**

MONTH	Total No. Of Unit	UNIT	TOPICS
January	2	4. Differential Equations	4.1 Formation of ordinary differential Equations 4.1.1 Definition of ordinary differential equation 4.1.2 Order and degree of a differential equation 4.1.3 Formation of ordinary differential equation: 4.2 First order and first degree differential equations 4.2.1 General solution and particular solution 4.2.2 Differential Equation in which variables are separable 4.2.3 Homogeneous Differential Equations
		5. Numerical Methods	5.1 Finite Differences 5.1.1 Forward Difference Operator, Backward Difference Operator and Shifting Operator 5.1.2 Finding the missing terms 5.2 Interpolation 5.2.1 Methods of interpolation 5.2.2 Graphical method 5.2.3 Algebraic method

February	2	6. Random Variable and Mathematical Expectation	6.1. Random variable 6.1.1 Definition of a random variable 6.1.2 Discrete random variable 6.1.3 Continuous random variable 6.2. Mathematical Expectation 6.2.1 Expected value and Variance 6.2.2 Properties of Mathematical expectation
		7. Probability Distributions	7.1 Distribution 7.1.1 Binomial distribution 7.1.2 Poisson Distribution

பாடத்திட்டம் – 2021 – 2022

வகுப்பு : 12

பாடம்: சிறப்புத்தமிழ்

மாதம்	மொத்த பாடங்கள்	இயல்	பாடப்பொருள்
ஜனவரி	1	3. அரங்கவியல்	நவீன நாடக வரலாறு இலக்கியமும் திரைப்படமும் நாட்டார் அரங்கக் கலைகள்
பிப்ரவரி	1	4. இலக்கணவியல்	தமிழ், ஆங்கிலம்– தொடரமைப்பு ஒப்பீடு வேர்ச்சொல் ஆய்வு– ஓர் அறிமுகம்

SYLLABUS 2021-2022

STANDARD: 12 **SUBJECT: COMMUNICATIVE ENGLISH**

MONTH	Total No. Of Units	UNIT	TOPICS	PRACTICAL
January	1	3. Have Another Day	Whose Fault (**Prose**) Somebody's Mother (**Poem**) Idioms Paper Presentation	**Speaking Skill:** Drafting a Speech **Writing Skill:** Designing a Pamphlet
February	1	4. Celebrations of Expressions	As you like it (**English Play**) The Bird Sanctuary (**Poem**) Language Study (Genres of Literature, Literary Devices) Reported Speech Advertisement and Poster Making	**Writing Skill :** Drafting an Advertisement

பாடத்திட்டம் 2021-2022

வகுப்பு: 12 **பாடம்: அறவியலும் இந்தியப் பண்பாடும்**

மாதம்	மொத்த அலகுகள்	அலகு	பாடப்பொருள்
ஜனவரி	2	4. இந்தியப் பண்பாடும் சமயங்களும்	பாடம் முழுவதும்
		5. இந்தியப் பண்பாட்டிற்குப் பேரரசுகளின் கொடை	நுழைவு வாயில், மௌரியர் காலப் பண்பாடு பல்லவர் காலப் பண்பாடு சோழர்காலப் பண்பாடு பாண்டியர் காலப் பண்பாடு முகலாயர் காலப் பண்பாடு நிறைவுரை
பிப்ரவரி	2	6. பக்தி இயக்கம்	நுழைவு வாயில் பக்தியின் வகைகள் நாயன்மார்கள் நாயன்மார்களின் சமயத்தொண்டு ஆழ்வார்கள் தமிழகப் பண்பாட்டிற்கு ஆழ்வார்களின் கொடை இடைக்கால இந்தியாவில் பக்தி இயக்கம் பக்தி இயக்கத்தின் விளைவுகள் நிறைவுரை
		7. சமூக – சமய சீர்திருத்த இயக்கங்கள்	பாடம் முழுவதும்

SYLLABUS 2021-2022

STANDARD: 12 **SUBJECT: COMPUTER APPLICATIONS**

MONTH	TOTAL NO. OF UNITS	UNIT	TOPICS	PRACTICALS
January	4	7. Looping Structure	Looping structure introduction For Each loop	CA7 - Create Execute Variables
		8. Forms and Files	8.1 HTML forms	
		9. Connecting PHP and MYSQL	9.1 MYSQL function in PHP	
		10. Introduction to Computer Networks	10.1 Introduction 10.3 Uses of the computer networks	
February	3	11. Network Examples and Protocols	11.1 Introduction	CA9 - String Functions
		12. DNS (Domain Name System)	12.1 Introduction 12.2 Overview of DNS 12.4 Uniform Resource Locator (URL) 12.5 DNS Components	
		13. Network Cabling	13.1 Introduction 13.2 Types of network cables	