

INDEX

SYLLABUS 2021 - 2022

10th ENGLISH MEDIUM

S.No	Class	Subject	Page
1	10	Tamil	1
2	10	English	2
3	10	Mathematics	4
4	10	Science	6
5	10	Social Science	16

www.kalviexpress.in

www.kalviexpress.in

பாடத்திட்டம் 2021 – 2022

வகுப்பு: 10

பாடம் : தமிழ்

இயல்	பாடப்பொருள்
இயல் 1	உரைநடை உலகம் - தமிழ்ச்சொல் வளம் கவிதைப் பேழை - அன்னை மொழியே கற்கண்டு - எழுத்து, சொல்
இயல் 2	கவிதைப் பேழை - காற்றே வா! கற்கண்டு - தொகைநிலைத் தொடர்கள்
இயல் 3	விரிவானம் - கோபல்லபுரத்து மக்கள் கற்கண்டு - தொகைநிலைத் தொடர்கள் வாழ்வியல் - திருக்குறள்
இயல் 4	கவிதைப் பேழை - பெருமாள் திருமொழி கற்கண்டு - இலக்கணம் - பொது
இயல் 5	கவிதைப் பேழை - நீதிவெண்பா கற்கண்டு - வினா வகைகள், விடை வகைகள் பொருள்கோள்
இயல் 6	கவிதைப் பேழை - கம்பராமாயணம் கற்கண்டு - அகப்பொருள் இலக்கணம் வாழ்வியல் - திருக்குறள்
இயல் 7	உரைநடை உலகம் - சிற்றகல் ஒளி(தன்வரலாறு) கவிதைப் பேழை - மெய்க்கீர்த்தி, சிலப்பதிகாரம் விரிவானம் - மங்கையராய்ப் பிறப்பதற்கே... கற்கண்டு - புறப்பொருள் இலக்கணம்
இயல் 8	உரைநடை உலகம் - சங்க இலக்கியத்தில் அறம் கவிதைப் பேழை - காலக்கணிதம் விரிவானம் - இராமானுசர்- நாடகம் கற்கண்டு - பா-வகை, அலகிடுதல்
இயல் 9	உரைநடை உலகம் - ஜெயகாந்தம் (நினைவு இதழ்) கவிதைப் பேழை - தேம்பாவணி விரிவானம் - ஒருவன் இருக்கிறான் கற்கண்டு - அணி

SYLLABUS - 2021 - 2022

STANDARD : 10

SUBJECT : ENGLISH

Unit	Content
1	<p>Prose His First Flight</p> <p>Poem Life</p> <p>Supplementary The Tempest</p> <p>Grammar Modals Active & Passive Voice</p>
2	<p>Supplementary Zigzag</p> <p>Grammar Articles Prepositional Phrases</p>
3	<p>Prose Empowered Women Navigating the World</p> <p>Poem I am Every woman</p> <p>Grammar Tense</p>
4	<p>Prose The Attic</p> <p>Grammar Phrases and Clauses Conjunctions Nominalisation</p>

5	Prose Tech Bloomers Poem The Secret of the Machines Grammar Pronouns Reported speech
6	Prose The Last Lesson Grammar Subject - Verb Agreement Non Finites
7	Grammar Simple, Complex and Compound

www.kalviexpress.in

SYLLABUS - 2021 - 2022

STANDARD : 10

SUBJECT : MATHEMATICS

Unit	Content
1. Relations and Functions	1.1 Introduction 1.2 Ordered Pair 1.3 Cartesian Product 1.4 Relations
2. Numbers and sequences	2.1 Introduction 2.2 Euclid's Division Lemma 2.3 Euclid's Division Algorithm 2.4 Fundamental Theorem of Arithmetic 2.6 Sequences 2.7 Arithmetic Progression
3. Algebra	3.1 Introduction 3.2 Simultaneous Linear Equations in three Variables 3.3 GCD and LCM of Polynomials 3.4 Rational expressions 3.5 Square Root of Polynomials. 3.6 Quadratic Equations 3.8 Quadratic Graphs
4. Geometry	4.1 Introduction 4.2 Similarity 4.3 Thales Theorem and Angle Bisector Theorem (Theorems 1,3-with proof & 2,4-without proof) 4.4 Pythagoras Theorem(Theorem 5-with proof) 4.5 Circles and Tangents(Theorem 6-without proof) 4.6 Concurrency Theorems
5. Coordinate Geometry	5.1 Introduction 5.2 Area of a Triangle 5.3 Area of a Quadrilateral 5.4 Inclination of a Line 5.5 Straight Line

6. Trigonometry	6.1 Introduction 6.3 Heights and Distances
7. Mensuration	7.1 Introduction 7.2 Surface Area 7.3 Volume 7.4 Volume and Surface Area of Combined Solids
8. Statistics and Probability	8.4 Probability 8.5 Algebra of Events
(*All examples and exercise problems for the content mentioned above)	

www.kalviexpress.in

SYLLABUS - 2021 - 2022

STANDARD : 10

SUBJECT : SCIENCE

Unit	Content
1. Laws of Motion	Introduction 1.1 Force and Motion 1.2 Inertia 1.2.1 Types of Inertia 1.2.2 Examples of Inertia 1.3 Linear Momentum 1.4 Newton's Laws of Motion 1.4.1 Newton's First Law 1.4.2 Force 1.4.3 Types of forces 1.4.4 Resultant Force 1.5 Newton's Second Law of Motion 1.7 Newton's Third Law of Motion 1.9 Rocket propulsion 1.10 Gravitation 1.10.1 Newton's Universal law of gravitation 1.11 Mass and Weight
2. Optics	Introduction 2.1 Properties of light 2.2 Refraction of Light 2.2.1 First Law of Refraction 2.2.2 Second Law of Refraction 2.3 Refraction of composite Light - Dispersion of Light 2.5 Lenses 2.5.1 Other Types of Lenses 2.6 Images formed due to refraction through a convex and concave lens 2.7. Refraction through a convex lens 2.8 Applications of a Convex lens 2.9 Refraction through a concave lens 2.10 Applications of concave lenses 2.11 Lens Formula 2.12 Sign Convention 2.16 Human eye 2.17 Defects in eye

<p>3. Thermal Physics</p>	<p>Introduction</p> <p>3.1 Temperature</p> <p>3.1.1 Absolute scale (Kelvin scale) of temperature</p> <p>3.1.2 Thermal equilibrium</p> <p>3.2 Thermal Energy</p> <p>3.2.1 Characteristic features of heat energy transfer</p> <p>3.2.2 Other units of Heat energy</p> <p>3.4 Fundamental laws of gases</p> <p>3.4.1 Boyle's law</p> <p>3.4.2 Charles' law</p> <p>3.4.3 Avogadro's law</p> <p>3.5 Gases</p> <p>3.5.1 Real gases</p> <p>3.5.2 Ideal gases</p>
<p>4. Electricity</p>	<p>Introduction</p> <p>4.1 Electric Current</p> <p>4.1.1 Definition of Electric Current</p> <p>4.1.2 SI unit of Electric current</p> <p>4.2 Electric circuit</p> <p>4.2.1 Electrical components</p> <p>4.3 Electric potential and Potential difference</p> <p>4.3.1 Electric Potential</p> <p>4.3.2 Electric Potential Difference</p> <p>4.3.3 Volt</p> <p>4.4 Ohm's law</p> <p>4.5 Resistance of a material</p> <p>4.5.1 Unit of Resistance</p> <p>4.6 Electrical resistivity and electrical conductivity</p> <p>4.6.1 Electrical resistivity</p> <p>4.6.2 Conductance and Conductivity</p> <p>4.8 Heating effect of current</p> <p>4.8.1 Joule's Law of Heating</p> <p>4.9 Electric power</p> <p>4.9.1 Unit of electric power</p> <p>4.9.2 Consumption of electrical energy</p>

<p>5. Acoustics</p>	<p>Introduction</p> <p>5.1 Sound waves</p> <p>5.1.1 Longitudinal Waves</p> <p>5.1.2 Categories of Sound waves based on their frequencies</p> <p>5.1.3 Difference between the sound and light waves</p> <p>5.2 Reflection of sound</p> <p>5.2.1 Laws of reflection</p> <p>5.2.2 Reflection at the boundary of a denser medium</p> <p>5.2.3 Reflection at the boundary of a rarer medium</p> <p>5.2.4 Reflection of sound in plane and curved surfaces</p> <p>5.3 Echoes</p> <p>5.3.1 Conditions necessary for hearing echo</p> <p>5.3.2 Applications of echo</p>
<p>6. Nuclear Physics</p>	<p>Introduction</p> <p>6.1. Radioactivity</p> <p>6.1.1 Discovery of radioactivity</p> <p>6.1.2 Definition of radioactivity</p> <p>6.1.3 Natural Radioactivity</p> <p>6.1.4 Artificial Radioactivity (or) Induced Radioactivity</p> <p>6.1.5 Units of Radioactivity</p> <p>6.2. Alpha, beta and gamma rays</p> <p>6.2.1 Properties of Alpha, Beta and Gamma rays</p> <p>6.2.2 Radioactive displacement law</p> <p>6.2.3 Alpha decay</p> <p>6.2.4 Beta decay</p> <p>6.2.5 Gamma decay</p> <p>6.5. Uses of Radioactivity</p> <p>6.5.1 Agriculture</p> <p>6.5.2 Medicine</p> <p>6.5.3 Industries</p> <p>6.5.4 Archaeological Research</p> <p>6.6. Safety measures</p> <p>6.6.1 Permitted range</p> <p>6.6.2 Preventive Measures</p>

<p>7. Atoms and Molecules</p>	<p>Introduction</p> <p>7.1 Atom and Atomic mass</p> <p>7.1.1 Relative Atomic mass (REM)</p> <p>7.2 Molecule and molecular mass</p> <p>7.2.1 Classification of molecules</p> <p>7.3 Difference between atoms and molecules</p> <p>7.6 Avogadro hypothesis</p> <p>7.7. Applications of Avogadro's Law</p> <p>7.9 Solved problems (Problems related to the above mentioned topics only)</p>
<p>8. Periodic Classification of Elements</p>	<p>Introduction</p> <p>8.1 Modern periodic law</p> <p>8.2 Modern periodic table</p> <p>8.2.1 Features of periods</p> <p>8.2.2 Features of groups</p> <p>8.6. Properties of metals</p> <p>8.6.1 Physical properties</p> <p>8.6.2 Chemical properties</p> <p>8.10 Alloys</p> <p>8.10.1 Amalgam</p> <p>8.10.2 Method of making alloys</p> <p>8.10.3 Types of alloys</p> <p>8.11 Corrosion</p> <p>8.11.2 Methods of preventing corrosion</p>
<p>9. Solutions</p>	<p>Introduction</p> <p>9.2 Components of solutions</p> <p>9.3 Types of solutions</p> <p>9.3.1 Based on the physical state of the solute and the solvent</p> <p>9.3.2 Based on the type of solvent</p> <p>9.3.3 Based on the amount of solute</p> <p>9.3.4 Concentrated and dilute Solutions</p> <p>9.6 Hydrated salts and water of crystallization</p>

	<p>9.6.1 Copper sulphate pentahydrate</p> <p>9.6.2 Magnesium sulphate heptahydrate</p> <p>9.7 Hygroscopy</p> <p>9.8 Deliquescence</p>
10. Types of Chemical Reactions	<p>Introduction</p> <p>10.1 Types of Chemical reactions</p> <p>10.1.1 Classification based on the nature of rearrangements of atoms</p> <p>10.1.2 Classification based on the direction of reaction</p> <p>10.4 Ionic product of water</p> <p>10.5 pH scale</p> <p>10.7 pH calculations</p> <p>10.8 Problems</p>
11. Carbon and its Compounds	<p>Introduction</p> <p>11.1 General characteristics of organic compounds</p> <p>11.2 Classification of organic compounds based on the pattern of carbon chain</p> <p>11.3 Classes of organic compounds (Based on the kind of atoms)</p> <p>11.3.1 Hydrocarbons</p> <p>11.3.2 Characteristics of hydrocarbons</p> <p>11.3.3 Classification of organic compounds based on functional groups</p> <p>11.4 Homologous series</p> <p>11.4.1 Characteristics of homologous series</p> <p>11.5 Nomenclature of organic compounds</p> <p>11.5.1 Why do we need nomenclature?</p> <p>11.5.2 Components of an IUPAC name</p> <p>11.5.3 IUPAC rules for naming organic compounds</p> <p>11.5.4 IUPAC nomenclature of hydrocarbons – Solved Examples</p> <p>11.5.5 IUPAC nomenclature of other classes – Solved Examples</p> <p>11.6 Ethanol</p> <p>11.6.1 Manufacture of ethanol</p> <p>11.6.2 Physical properties</p> <p>11.6.3 Chemical properties</p> <p>11.6.4 Uses of ethanol</p> <p>11.8 Organic compounds in daily life</p>

<p>12. Plant Anatomy and Plant Physiology</p>	<p>Introduction 12.1 Tissues 12.2 Tissue system 12.2.1 Dermal or Epidermal tissue system 12.2.2 Ground tissue system 12.2.3 Vascular tissue system 12.3 Internal structure of dicot root (Bean) 12.5 Internal structure of dicot Stem (Sunflower) 12.7 Internal structure of dicot or dorsi-ventral leaf (Mango) 12.9 Plant Physiology 12.9.1 Plastids 12.9.2 Structure of chloroplast 12.9.3 Functions of chloroplast 12.9.4 Photosynthesis 12.9.5 Where does photosynthesis occur? 12.9.6 Photosynthetic pigments 12.9.7 Role of sunlight in photosynthesis 12.9.8 Factors affecting photosynthesis 12.11 Types of respiration 12.11.1 Aerobic respiration (Except Stages) 12.11.2 Anaerobic respiration 12.11.3 Respiratory quotient</p>
<p>14. Transportation in Plants and Circulation in Animals</p>	<p>Introduction 14.1 Means of Transport in Plants 14.1.1 Diffusion 14.1.2 Active Transport 14.1.3 Osmosis 14.2 Root hair - water absorbing unit 14.3 Pathway of water absorbed by roots 14.4 Types of movement of water into the root cells 14.4.1 Apoplast Pathway 14.4.2 Symplast Pathway 14.5 Transpiration 14.5.1 Factors affecting transpiration, 14.6 Root pressure 14.7 Uptake of minerals 14.8 Translocation of Mineral Ions 14.9 Phloem Transport 14.10 Translocation of sugars</p>

	14.12 Blood 14.15 Structure of Human heart 14.15.2 Heart Beat 14.17 Blood Groups
16. Plant and Animal Hormones	Introduction 16.1 Plant Hormones 16.1.1 Auxins (Except Went's Experiment) 16.1.2 Cytokinins 16.1.3 Gibberellins 16.2 Human Endocrine glands 16.2.1 Pituitary Gland 16.2.2 Thyroid Gland 16.2.4 Pancreas (Islets of Langerhans) 16.2.5 Adrenal Gland 16.2.6 Reproductive Glands 16.2.7 Thymus Gland
17. Reproduction in Plants and Animals	Introduction 17.3 Sexual Reproduction in Plants 17.3.1 Parts of a Typical Flower 17.3.2 Structure of the Ovule 17.4 Pollination 17.4.1 Types of Pollination 17.6 Fertilization in Plants 17.7 Sexual reproduction in human 17.7.1 Male reproductive organ - Structure of Testes 17.7.2. Female reproductive organ - Structure of Ovary 17.8 Gametogenesis 17.8.1 Structure of human Sperm 17.8.2 Structure of human Ovum 17.9 Menstrual cycle - Process of Ovulation 17.14 Personal Hygiene 17.14.1 Body Hygiene 17.14.2 Toilet Hygiene 17.14.3 Menstrual and napkin Hygiene

<p>18. Genetics</p>	<p>Introduction</p> <p>18.1 Gregor Johann Mendel – Father of Genetics</p> <p>18.2 Monohybrid cross-Inheritance of one gene</p> <p>18.3 Dihybrid Cross- Inheritance of two genes and Law of Independent Assortment</p> <p>18.4 Mendel’s laws</p> <p>18.5 Chromosomes, DNA and genes</p> <p>18.5.1 Structure of a Chromosome</p> <p>18.5.4. Karyotype</p> <p>18.6 Structure of DNA</p> <p>18.6.1 Watson and Crick model of DNA</p> <p>18.6.2 DNA Replication</p> <p>18.6.3 Significance of DNA</p> <p>18.7. Sex Determination</p> <p>18.7.1. Sex Determination in Human</p>
<p>19. Origin and Evolution of Life</p>	<p>Introduction</p> <p>19.1 Theories on origin of life</p> <p>19.3 Theories of Evolution</p> <p>19.3.1 Lamarckism</p> <p>19.3.2 Darwinism or Theory of natural selection</p> <p>19.6 Ethnobotany</p>
<p>20. Breeding and Biotechnology</p>	<p>Introduction</p> <p>20.2 Green Revolution</p> <p>20.2.4 Plant breeding for improved nutritional quality</p> <p>20.3 Methods of Plant Breeding for Crop Improvement</p> <p>20.3.1 Introduction of new varieties of plants</p> <p>20.3.2 Selection</p> <p>20.3.3 Polyploidy Breeding</p> <p>20.3.4 Mutation Breeding</p> <p>20.3.5 Hybradisation</p> <p>20.4 Animal Breeding</p> <p>20.4.1 Inbreeding</p> <p>20.4.2 Outbreeding</p> <p>20.4.3 Heterosis</p> <p>20.6 Biotechnology in Medicine</p>

21. Health and Diseases	Introduction
	21.1 Abuse and types of abuse
	21.1.1 Child Abuse
	21.1.2 Sexual Abuse
	21.1.3 Child Sexual Abuse
	21.1.4 Approaches for protection of an abused child
	21.2 Drug and tobacco abuse
	21.3 Drug abuse
	21.3.1 Types of Drug
	21.3.2 Drug dependence
	21.3.3 Behavioural changes of drug users
	21.3.4 Drug De-addiction
	21.4 Tobacco abuse
	21.4.1 Tobacco Use
	21.4.2 Smoking Hazards and effects of Tobacco
	21.4.3 Prevention of smoking
	21.5 Alcohol abuse
	21.5.1 Harmful effects of alcohol to health
	21.6 Rehabilitation measures for alcoholics
	21.9 Obesity
	21.9.1 Prevention and control of obesity
	21.11 Cancer
	21.11.1 Types of Cancer
	21.11.2 Carcinogenic agents
	21.11.3 Treatment of Cancer
21.11.4 Preventive measures for cancer	
21.12 AIDS	
21.12.1 Transmission of HIV	
21.12.2 Symptoms and treatment of AIDS	
21.12.3 Prevention and control of AIDS	

<p>22. Environmental Management</p>	<p>Introduction</p> <p>22.1 Conservation and judicious use of Resources</p> <p>22.5 Renewable and non-renewable Energy Resources</p> <p>22.5.1 Fossil Fuels</p> <p>22.5.2 Coal and Petroleum</p> <p>22.5.3 Steps to conserve coal and petroleum resources</p> <p>22.6 Non-Conventional (Alternative) Energy Resources</p> <p>22.6.3 Shale gas</p> <p>22.6.5 Water energy</p> <p>22.6.6 Tidal energy</p> <p>22.7 Rainwater Harvesting</p> <p>22.8. Electrical Energy Management</p> <p>22.9 E-Waste and its management</p>
<p>Practical</p>	<p>2. Determination of focal length of a convex lens</p> <p>3. Determination of resistivity</p> <p>4. Identification of exothermic and endothermic reactions</p> <p>5. Testing the solubility of salt</p> <p>8. Photosynthesis</p> <p>10. Mendel's monohybrid cross</p> <p>13. Identification of blood cells</p>

Syllabus – 2021 - 2022

Standard: 10

SUBJECT: SOCIAL SCIENCE

Unit	Content
History	
1. Outbreak of World War I and Its Aftermath	1.1. Scramble for colonies 1.2. Rivalry of Great Powers 1.3. Causes, Course and Result of World War I 1.5. League of Nations
2. The World Between Two World Wars	2.1. The Great Depression 2.3. Anti-Colonial Movements and Decolonisation Processes in Asia
3. World War II	3.1. Causes, Course and Effects of World War II 3.2. Holocaust and its fallout
4. The World after World War -II	4.5. Non-Aligned Movement
5. Social and Religious Reform Movements in the 19th Century	Entire Unit
6. Early Revolts Against British Rules In Tamil Nadu	Entire Unit
7. Anti-Colonial Movements and the Birth of Nationalism	Entire Unit
8. Nationalism: Gandhian Phase	Entire Unit
9. Freedom Struggle in Tamil Nadu	Entire Unit
10. Social Transformation in Tamil Nadu	Entire Unit
Geography	
1. India- Location, Relief and Drainage	1.1 Location and Extent 1.2 Major Physiographic Divisions of India
2. Climate and Natural Vegetation Of India	2.1. The factors affecting the climate 2.2. Monsoon 2.3. Distribution of Rainfall

3. India - Agriculture	3.1 Soils 3.2 Modern irrigation methods 3.3 Agriculture 3.7. Major issues faced by farmers in India
4. India- Resources and Industries	4.1. Minerals-Types of Minerals 4.2. Energy Resources
5. India-Population,Transport, Communication and Trade	5.1. Population 5.3. Urbanization
6. Physical Geography of Tamil Nadu	6.1. Location and Size 6.2. Western Ghats 6.3. The Eastern Ghats 6.4. Plateaus 6.5. Plains 6.6. Drainage 6.12.Natural Disasters in Tamil Nadu
7. Human Geography of Tamil Nadu	7.1. Agriculture 7.2. Geographical Determinants of Agriculture 7.3. Cropping Seasons in Tamil Nadu 7.4. Distribution of Major Crops in Tamil Nadu 7.5. Livestock/Animal Husbandry 7.6. Water Resources 7.7. Mineral Resources 7.8. Industries
Civics	
1. Indian Constitution	Entire Unit
2. Central Government	Entire Unit
3. State Government	Entire Unit
4. India's foreign policy	Entire Unit
5. India's International Relations	5.1 India and its Neighbours

Economics	
1. Gross Domestic Product and its Growth: An Introduction	1.1. National Income 1.2. Gross Domestic Product (GDP) 1.3. Composition of Gross Domestic Product (GDP) 1.4. Composition of different sectors in GDP of India 1.5. Economic Growth and Development
2. Globalization and Trade	2.1. Globalization 2.4. Globalization In India 2.7. Impact and challenges of Globalization
3. Food security and Nutrition	Entire Unit
4. Government and Taxes	Entire Unit
5. Industrial Clusters in Tamil Nadu	5.3. Industrial Clusters 5.5. Major Industrial Clusters and Their Specialisation in Tamil Nadu 5.6. The Policy factors that helped the Industrialisation process in Tamil Nadu