Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training
Category of Post: Principal
Paper I – ENGLISH LANGUAGE PROFECIENCY Test Syllabus

English: (Content) (Marks: 100)

Area		Level Of Testing
Parts of Speech		Nouns, Pronouns, Adjectives, Adverbs, Conjunctions, Interjections - Types and functions
Synonyms		Identification of Shades of Meaning
Antonyms		Identifying Antonyms in a Context
Homophones		Identification & Usage
Homonyms		Identification & Usage
Hypernyms & Hyponyms		Identification & Usage
Spelling		Spelling
One-word Substitutes		Referring to Persons / Professions, Places, Collections
Phrasal Verbs		Identification of Meaning and usage
Idiomatic Expressions		Identification, Usage
Proverbs		Proverbs
Word Formation		Suffixes, Prefixes and other forms
Short Forms - Full Forms		Common Short Forms - Full Forms
Abbreviations - Full Forms		Common Abbreviations - Full Forms
Word Collocations		Word Collocations
Foreign Phrases Used in English		Standard and common Foreign Phrases Used in English
Helping Verbs		Form, Function & Contractions
Modal Auxiliaries		Form, Function & Contractions
Ordinary Verbs		Form, Function & Contractions
Articles		Use of Articles Including Omissions
Prepositions		Simple, Compound Prepositions Including Prepositions following Certain Words and Prepositional Phrases
Clauses		Main Clauses, sub-ordinate Clauses, Adjectival Clauses, Noun Clauses, Adverbial Clauses, Relative Clauses, Finite and Non-finite Clauses

Sentence Structures		Sentence Structures
Degrees of Comparison		Form, Function, Construction, Transformation
Language Functions		Language Functions with social norms (formal and informal)
Question Tags		Imperatives and Statements with semi negatives and indefinites subjects
Types of Sentences		Types of Sentences
Sentence Improvement		Sentence Improvement
Direct Speech & Indirect Speech		Statements, Questions, Imperatives and Exclamatory Sentences
Active Voice & Passive Voice		Active Voice & Passive Voice
Tenses		Use of tenses and framing including IF conditionals Type 1, 2 &3
Agreement between subject & Verb		Agreement between subject & Verb
Word Order		Word Order In a phrase or a sentence
Linkers		Linkers
Transformation of Sentences		Simple. Compound and Complex Sentences
Common Errors		Based on all Vocabulary and Grammar Topics
Punctuation and Capitalization		Use of capital letters, comma, full stop, question mark, exclamation mark and inverted commas
Writing of Discourses		Letter Writing, News Report, Diary Entry, Conversation, Description, Diary Entry, Biographical Sketch, Story, Script for a speech
Dictionary Skills		Dictionary Skills
Reading comprehension		Prose (GENERAL)

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training
Category of Post: PRINCIPAL
Paper II Syllabus

Part – I

General Knowledge and Current Affairs (Marks: 15)

Part – II

Perspectives in Education (Marks: 15)

1. **History of Education :**
   - The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
   - Education in Pre Independent era - Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944).
   - Education in Post Independent era - Mudaliar Commission (1952-53), Kothari Commission (1964-66), Ishwarbhai Patel committee (1977), NPE-1986, POA-1992
2. **Teacher Empowerment:**
   - Need, interventions for empowerment, Professional code of conduct for teachers, Teacher motivation, Professional development of Teachers and Teacher organizations, National / State Level Organizations for Teacher Education, Maintenance of Records and Registers in Schools.
3. **Educational Concerns in Contemporary India:**
   - Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities.
   - Economics of Education, Education as Human Capital, Education and Human Resource Development, Literacy - Saakshar Bharat Mission.
   - Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
   - Inclusive Education - Classroom Management in Inclusive Education
   - Role of Education in view of Liberalization, Privatization and Globalization
   - Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs, Model Schools.
   - Incentives and special provisions – Mid Day Meals, Free Books, Scholarship, Awards, Welfare Hostels, Transportation.
   - Current Trends in Education – Badi pelusthondi, Badi ki Vasta, Mavuru – Mana Badi, Vidyanjali, Swacha Patasala, Inspire, Kalavutsav.

Part - III

Educational Psychology (Marks: 20)

1. Development of Child

- Development, Growth & Maturation — Concept & Nature
- Principles of development and their education implication
- Factors influencing Development — Biological, Psychological, Sociological, emotional.
- Dimensions of Development and their interrelationships — Physical & Motor, Cognitive, Emotional, Social, Moral, Language relating to Infancy, early Childhood, late Child hood, dolescence.
- Understanding Development — Piaget, Kohlberg, Chomsky, Carl Rogers, Erikson
- Individual differences — Infra & Inter Individual differences in the areas of Attitudes, Aptitude, Interest, Habits, Intelligence and their Assessment.
- Development of Personality — Concept, Factors effecting development of personality, self concept.
- Adjustment, Behavioural problems, Mental Health, Defense mechanism.
- Methods and Approaches of Child Development — Introspection, Observation, Interview, Case study, Experimental, Cross sectional and Longitudinal
- Developmental tasks and Hazards

2. Understanding Learning

- Concept, Nature of Learning — input — process — outcome
- Factors of Learning — Personal and Environmental
- Approaches to Learning and their applicability—Behaviorism (Skinner, Pavlov, Thorndike) Constructivism (Piaget, Vygotsky), Gestalt(Kohler, Koffka) and Observational (Bandura)
- Dimensions of Learning — Cognitive, Affective and Performance.
- Motivation and Sustenance —its role in learning.
- Memory & Forgetting
- Transfer of Learning

3. Pedagogical Concerns

- Teaching and its relationship with learning and learner.
- Learners in Contexts: Situating learner in the socio-political and cultural context
- Children from diverse contexts—Children With Special Needs (CWSN), Inclusive Education.
- Understanding of pedagogic methods — Enquiry based learning, Project based learning, Survey, Observation and Activity based learning, Cooperative and collaborative learning.
- Individual and Group learning: Issues and concerns with respect to organizing learning in class room like Study habits, Self learning and Learning to learn skills.
- Organizing learning in heterogeneous class room groups — Socio-economic background, Abilities and Interest.
- Paradigms of organizing Learning-Teacher centric, Subject centric and Learner centric.
- Theory of instruction – Bruner
- Teaching as Planned activity — Elements of Planning
- Phases of Teaching — Pre active, Interactive and Post active

- General and Subject related skills, competencies required in teaching and attributes of good facilitator.
- Learning resources — Self, Home, School, Community, Technology.
- Class room Management: Role of student, teacher, Leadership style of teacher, Creation of non threatening learning environment, Managing behaviour problems, Guidance & Counselling, Punishment and its legal implications, Rights of a child, Time Management.
- Distinction between Assessment for Learning & Assessment of Learning, School based Assessment, Continuous & Comprehensive Evaluation : Perspective & Practice.
- Understanding teaching & learning in the context of NCF, 2005 & Right to Education Act, 2009.

Part – IV - (35 Marks)

Contemporary Social, Economic and Cultural Issues

Activities and programmes relating to School Education.

Financial Management.

School Administration.

Monitoring – Leadership qualities.

Acts / Rights:

- Right of Children to Free and Compulsory Education Act - 2009
- Right to Information Act - 2005
- Child Rights
- Human Rights.

National Curriculum - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms

State Curriculum – Framework, 2010: State vision, State Conceren, Systamic reforms, Possion papers of A.P. State.

School Organization: Institutional Planning, Principal as a Leader, Teacher Quality, Linkages and Interface with other institutions and vice versa, Student Quality, Organization of Teaching, Co-curricular Activities, Office Management, Resources required for a good school, Organizational Climate, Evaluation, Job satisfaction of the Staff.

Part – V

Understanding of Teaching Methodology (15 Marks)

(i) Curriculum: Meaning, Principles, types of curriculum organization, approaches.

(ii) Approaches and Methods of Teaching: Lecture Method and Modified form of the Lecture Method, Project Method, Heuristic Method, Scientific Method, Laboratory Method, Inductive Method, Deductive Method, Problem solving Method, Analytical Method, Synthetic Method, Programmed Instruction, Team Teaching, Remedial Teaching.

(iii) Planning: Instructional Plan-Year Plan, Unit Plan, Lesson Plan.

(iv) Instructional material and resources: Text Books, Work books, Supplementary material, AV aids, Laboratories, Library, Clubs-Museums-Community, Information and Communication Technology.

(v) Evaluation: Types, tools, Characteristics of a good test, Continuous and Comprehensive Evaluation, Analysis and Interpretation of Scholastic Achievement Test.

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Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training
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Paper – II - Social Studies
Syllabus

PART - I

I. General Knowledge And Current Affairs (Marks: 10)

PART - II

II. Perspectives In Education (Marks: 10)

1. **History of Education :**
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4. **Acts / Rights:**
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    - Child Rights
    - Human Rights.

5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

PART - III

III. Educational Psychology – 10 Marks

1. Development Of Child

- Development, Growth & Maturation — Concept & Nature
- Principles of development and their education implication
- Factors influencing Development — Biological, Psychological, Sociological, emotional.
- Dimensions of Development and their interrelationships — Physical & Motor, Cognitive, Emotional, Social, Moral, Language relating to Infancy, early Childhood, late Child hood, dolescence.
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- Distinction between Assessment for Learning & Assessment of Learning, School based Assessment, Continuous & Comprehensive Evaluation : Perspective & Practice.
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PART - IV

IV. Content: (50 Marks)

Classes VI – Intermediate Syllabus:

Theme - I: Diversity on the Earth

Reading, Making and Analysis of Maps -different types of maps - directions -scale - conventional symbols use in maps-measuring heights , distances - Contour Lines- Representation of relief features on maps- uses of maps- past and present-Maps Down the Ages-reading of thematic maps-atlas-globe-a model -the earth grid system- Using an atlas to find latitude and longitude of places, time.

Our Universe, the Sun and the Earth – energy form sun- temperature - The evolution of the Earth- earth movements – seasons- regions on earth-condition -Movements of the Earth's-crust - Internal Structure of the Earth- Realms of the earth

Lithosphere- 'first order' landforms- oceans and continents -diverse features - Second Order landforms-mountains, plains and plateaus- diverse people living in different kinds of landforms in India and Andhra Pradesh -plate tectonics-Volcanoes-earth quakes –disaster management- Mining and minerals- new trends in mining and minerals.- renewable and non-renewable –Indian relief features –location-geological background-major relief divisions in India-and Andhra Pradesh

Hydrosphere- Hydrological cycle - water sources - oceans - relief of the oceans - salty-movements - oceans as resource waves, tides, currents - ocean as resource – Indian, Andhra Pradesh river and water resources –ground water-tanks-recharging ground water-floods- Rational and equitable Use of water-Andhra Pradesh water , land and trees protection act .

Atmosphere- structure of atmosphere Pressure Belts and Planetary Winds- Carioles effect-winds- weather and climate –factors which influence weather and climate –seasons in india-types of rainfall- Global Warming and Climate Change-anthropological global warming - IPCC- Impact of climate change on India-

Biosphere- Natural vegetation- different kinds of forests- human society and environment-pollution and effects-depletion of resources- using and protesting forests

Theme - II: Production Exchange and Livelihoods

From Gathering Food to Growing food – The Earliest People - Agriculture in Our Times - Trade in Agricultural Produce -Trade in Agricultural Produce – agricultural in India, Andhra Pradesh-types of farming-cropping season-crops-importance of agriculture –green revolution –effects- dry land agriculture –Food security – nutrition status –PDS-sustainable development and equity -handicrafts and handlooms- industrial revolution- beginning of industrial revolution- Sources of Energy and Industrial Development-urbanisation and slums-production in a factory Livelihood and Struggles Urban Workers - Minerals and Mining - Impact of Technology on Livelihoods –technology changes in agricultural, industrial ,service sectors -importance of transport system –transport system in India, traffic education – Andhra Pradesh- money and banking- finance literacy-credits and finance system- prices and cost of living - Role of government in regulating prices- The Government Budget and Taxation –direct and indirect taxes-industries in India-new policies for industries -service activates in India -growth and development-comparing of different countries and states-sectors of economy-employment- organized and unorganized sectors –employment in India-population –people and settlement-urbanisation in India , urbanisation problems-people and migration –types of migrations –village economy –Globalization –factors –impact-fair globalization-other issues.

Theme -III: Political Systems and Governance

Community Decision Making in a Tribe - Emergence of Kingdoms and Republics – Mahajanapadas- First Empires – mouryan empire- ashoka –kingdoms and empires in the deccan- New Kings and Kingdoms(between seventh and twelth centuries)-mahamud ghazni – the cholas and other- The Kakatiyas - Emergence of a Regional Kingdom- The Kings of Vijayanagara-srikirshna devaraya-Mughal Empire- Establishment of British Empire in India-the revolt 1857-after revolt-british rule in india- Landlords and Tenants under the British and the Nizam - National Movement - The Early Phase 1885-1919 -National Movement - The Last Phase 1919-1947 –national movement in India – partition – integration of states-Independent India 1947-77 – state reorganisation-social and economic change-foreign policy – wars –emergency- independent India 1977-2000

Changing cultural tradition in Europe- the ancient , medieval world in Europe-renaissance-humanism-realism-the new concept of human beings-debates within Christianity –Beginning of the modern science-exploration of sea routes –democratic and nationalist revolution in

17^{th},18^{th} and 19^{th} centuries – the glorious revolution- American independence –french revolution- rise of nationalism in Europe-the revolts 1830-1848 –Germany unification-unification of Italy-industrialisation and social change –social protest movements – luddism-socialism-women movements – colonialism in latin America , Asia , Africa- impact of colonialism in India-adivasi revolts-the British governament's industrial policy-labourers' stuggles-the world between 1900-1950-world war I and world war II- causes – the treaty of Versailles – the league of nationas-consequences of the world war-Russian socialist revolution-the great depression- Nazism –post war world and India – UNO-Cold war-non alignment movement- the growth of nationalism in the middle east-peace movement and collapse of USSR-National liberation movements in the colonies .

Democratic Government - Village Panchayats - Local Self – Government in Urban Areas – Making of Laws in the State Assembly-Implementation of Laws in the District - The Indian Constitution - the making of independent India 's constitution –Parliamentary system – federalism- the constitution today- Elections system in India – electoral literacy- Parliament and Central Government - Law and Justice –Supreme court –high court- other courts – worldly expansion of democracy- the democracy an evolving idea.

Theme -IV: Social Organisation and Inequities

Diversity in Our Society - Towards Gender Equality –caste discrimination and the struggle for equalities –livelihood and struggles of Urban workers –workers rights –abolishment of zamindari system-poverty-Rights –Human rights and fundamental rights- Women rights , protection acts – children rights – RTI-RTE-legal service authority- Lok Adalat –consumer rights - social movements in our time

Theme - V: Religion and Society

Religion and Society in Early Times – hunter- gatherers-early farmers and herdrers-Indus valley civilisation –Vedas- Jainism ,Buddhism-flok religion-bhakthi-nathpanthis ,siddhas,yogis.- sufism -kabir – gurunank-Devotion and Love towards God –Hindu religion-Bhakti movement-Christianity-Islam- the belief in supreme god-social and religious reform movements-Christian missionaries and oriental scholars-Bramha samaj- Arya Samaj-Swami Vivekananda –reforms and education among muslims –social reformers in andrapradesh-social reforms and caste system-narayana guru-jyothirao phule – dr br ambedker-understanding Secularism-

Theme -VI: Culture and Communication

Language, Writing and Great Books - Sculptures and Buildings –Performing Arts and Artistes in Modern times-burrakatha – tholubommalata –bharatanatyam-Film and print media-role of media in freedom movement- sports Nationalism –other games and their status.

Intermediate Syllabus:

Geography:

General Geography-Definition and scope of Geography – Branches of Geography-Geography as an integrating Discipline and as Spacial Science with physical, biological and social sciences.
Solar System-Origin and Evolution of solar system-Rotation and Revolution of the Earth and their effects-Latitudes and Longitudes-Standard Time and International Date line.
The Earth - Interior of the Earth-Wegner's theory of continental drift -Major Rock types and their characteristics.
Geomorphology -Major landforms: Mountains, Plateaus and Plains-Geomorphic Process: Weathering - Physical and Chemical Weathering-Landforms associated with wind and river – Erosional and depositional.
Climatology -Climate: Elements of weather and climate-Atmosphere: Composition and structure of atmosphere -Insolation: Insolation and Heat Budget of the Planet Earth-Temperature: Factors influencing Temperature, Vertical and horizontal distribution of temperature Pressure- Global pressure belts WindsPlanetary winds, Seasonal and Local winds-Precipitation: Forms and types of rain fall (Convectional, Orographic and Cyclonic rain fall).
Bio geography -Biomes of the world- Equatorial, Tropical and Temporate -Biodiversity and Conservation -Concept of Ecosystem and Ecological Balance- Oceanography, Hydrology and Natural hazards
Oceanography-Divisions of the Ocean floor- Continental shelf, Continental slope, Deep Sea plains and Ocean deeps-Ocean Temperatures- Vertical and horizontal distribution-Ocean Salinity Definition, vertical and horizontal distribution-Oceanic Movements: Waves, Tides and Currents, (Currents of Atlantic, Pacific and Indian Ocean)
Hydrology-Elements of Hydrological cycle: Precipitation, evaporation, evapo-transpiration, run off, infiltration and recharge -Hydrological Cycle.
Natural Hazards-Causes and Spatial distribution of floods, droughts, cyclones, Tsunamis, Earthquakes and landslides Global Warming and its consequences-Disaster Management in India-Human Geography : Definition, Content and scope- Man and Environment: Definition, Content, Classification of environment-Environmental impact World Population : Growth, Factors influencing, density and distribution
Human activities - Primary, Secondary and tertiary activities-Resources - Definition, Classification and Conservation-Agriculture -Definition, Types, food crops (Rice and wheat) Non food crops (Cotton, Sugarcane) and Plantation crops-(Rubber, tea and coffee) their Significance, Conditions - for cultivation, production and distribution.
Definition and Classification (Metallic - Iron), non Metallic – bauxite and (fuel minerals - coal and petroleum) Industries - Location factors, types of industries -Agro – based (Cotton textiles) Forest based (Paper mills) -Mineral based (Iron and steel) - Chemical based (Fertilizers)- Transportation -Road ways, Railways, Water ways and Air ways - Rail ways-Intensive net work rail way, Regional rail-ways and Trans continental railways - Water ways-Mjor sea ports: London, San Francisco-Reo De Janeiro, Cape Town, Kolkata and Sydney-Major Air ports- Tokyo, Paris, Chicago, Bogota and -Wellington
Physical features of India - Major features - Northern mountains, Indo – Gangetic-plains, Peninsular plateau of India and coastal plains- Major rivers of India - Perennial rivers- Indus, Ganges and Brahmaputra-Non Perennial rivers- Narmada, Tapati, Mahanadi, -Godavari, Krishna, Pennar and Cauvery - Climate of India - Cold weather season: Temperature Rainfall & Pressure distribution Hot weather season- Temperature, Rainfall & Pressure distribution South west monsoon season- Temperature, Rainfall & Pressure distribution North east

monsoon season: Temperature, Rainfall & Pressure distribution-Natural vegetation of India-Types of vegetation based on rainfall and their-distribution. Evergreen forest, deciduous forest, scrub -forest, & Thorny forest -Soils - Definition, factors for formation, types and -their distribution.
Population- Growth trends from 1901 to 2001, Distribution based-on density, problems of high population- Irrigation-Types of irrigation: canals, wells and tanks. Major -multipurpose projects. Bakranangal, Hirakud, -Damodar valley corporation and Nagarjuna Sagar-Agriculture: Cropped area, production and distribution of -selected crops: Rice, Wheat, Millets, Coffee, Tea, Sugarcane, Cotton, Jute and tobacco; Problems of Indian agriculture.
Minerals- Production and distribution of coal, petroleum, iron, mica and manganese, bauxite.
Industries- Location factors growth and distribution of iron and steel, cotton textile and ship building industries- Transportation-Means of Transport – Road ways, Rail ways, Water -ways and Air ways; Major ports of India – Mumbai, -Cochin, Kandla, Kolkata, Visakhapatnam and Chennai.
Geography of Andhra Pradesh: Location, Physiography and Climate, Population.

History:

What is History: Definition - Scope – Sources – Historiography – Relationship with other Social Sciences – Impact of Geography on history - Relevance of History.
Ancient Civilizations and Culture : Pre Harappan Cultures - Harappan Civilization – Script, town planning, society, economy and culture - Vedic age and Post Vedic Culture.
Early States, Empires and Economy : Early States – 16 Mahajanapadas - Rise of Magadha – Economy and Agriculture – urbanization.
Early Societies, and religious movements: Early Societies – Social differences – Religious movements – Jainism – Buddhism and other sects Ajjivikas and Lokayats.
Polity, Economy, Society and Culture between 3rd to 7th Century A.D. : Mauryas - Kushanas – Guptas – Pushyabhuties – Origin of feudalism – Polity, Society, Economy and Culture.
Deccan and South India up to 8th A.D: Sangam age – Satavahanas – Pallavas – Chalukyas – Rastrakutas – Cholas – Polity, Society, Economy and culture.
Age of Delhi Sultanate: Sources/Travellors Accounts - Arab Invasions – Turkish invasions – Delhi Sultanate – Polity, Economy, Society and Culture.
Age of Mughals: Chronicles/Sources – Mughal rule – Babur, Humayun, Shershah, Akbar, Jahangir, ShahJahan and Aurangazeb - Polity, Economy, Society and culture - Disintegration - Maratas, Sikhs.
Bhakti and Sufi Traditions 8 A.D. 16 Century A.D: Prevailing Religious Traditions and beliefs in the Society – Bhakti Saints and their Preachings – Sufism – Main features and their impact.
Deccan and South India 8th A.D – 16 the A.D : Sources - Kakatiyas – Vijyanagara – Bahamanis – Qutbshahis and Asafjahis – a brief survey.
India under the Colonial Rule : Sources - Portuguese – Dutch – French – English East India Company – Era of Governor Generals and their Polices – Reforms of Viceroys – 1857 Mutiny.
Indian National Movement: Background to National Movement, Socio-religious movement – rise of Nationalism – Vandemataram movement – Home rule movement – Emergence of Mahatma Gandhi and leadership – Revolutionary movement, Subhash Chandra Bose – Poona Pact Quit India movement – Partition of India – Emergence of Independent India.
The Modern World- Beginning of Modern Age, Renaissance, Development in Science, The Reformation Movement, Rise of Nation States, Struggle against Absolute Monarchies - Capitalism and Industrial Revolution -The Revolutionary Movements -The Glorious Revolution, The American war of Independence, The French Revolution of 1789 -

.Nationalist Movements: Rise and fall of Napoleon, French Revolution of 1830 and the 1848 Revolt, Unification of Germany and Italy, Socialist Movements – Rise of Working class, Paris Commune of 1871

Imperialism: Factors in the rise of Imperialism, Forms and Methods of Imperialism, Scramble for Africa and Asia

Contemporary World: The First World war, League of Nations, The Russian Revolution of 1905 and 1917 -The World upto World War II: Rise of Fascism and Nazism, Militarism in Japan, U.S.A. and U.S.S.R. after World War I, Turkey after World War I, Failure of League of Nations, Spanish Civil war, World war II, The Nationalist Movements in Asia and Africa, Emergence of Latin America

The World after World War II: Formation of Military Blocks, Role of independent Nations of Asia and Africa in the World Affairs, Non-Alignment Movement, Role of UNO in preserving World Peace, Problems of Disarmament and Nuclear Weapons, Prominent Personalities of the World.

Civics:

Scope and Significance of political Science - Introduction to Civics and Political Science, Origin and Evolution, Meaning, Definitions, What do we study? Why do we study?

State - State – Meaning, Definitions, Elements, Relation of state with other Institutions – Society, Association, Government.

Nationalism - Nation, Nationality, Nationalism, Factors contributing for Nationality, Is India a Nation? Meaning, Forms (Traditional and modern)

law -Meaning, Definitions, Classification, Law and morality, Rule of Law. Liberty and Equality – Meaning, Definitions, Types, Safeguards, Liberty – Equality.

Rights and Responsibilities– Meaning, Definitions, functions Forms, Relationship between Rights and Responsibilities, Human Rights

Justice - Justice – Meaning, Forms of Justice, Social Justice.

Citizenship - Meaning, Definitions, Methods of Acquiring, Citizen – Alien , Loss of Citizenship, Hindrances to Good Citizenship, Universal Citizenship

Democracy- Meaning, Definitions, features, types, merits, devices, future

Secularism -Meaning, Secular State, Western Model, Indian Model, Why India was made a Secular State? Criticism of Indian Secularism

Constitution– Meaning, Definitions, features, Classification

Government - Unitary, Federal, Parliamentary, Presidential, Theory of Separation of Powers, Organs of Government

Indian Constitution: Indian National Movement- Government of India Acts – 1909, 1919 & 1935-

Salient features of Indian Constitution

Fundamental Rights &Directive Principles of State Policy- Fundamental Rights- Directive Principles of state Policy- Fundamental Duties

Union Government- Union Executive – President of India - Vice – President of India - Prime Minister & Council of Ministers

Indian Parliament - Lok Sabha-Composition – Powers and functions- Rajya Sabha: Composition – Powers and functions

Parliamentary Committees- Public Accounts Committee – Estimates -Committee – Committee on Public Undertakings

Union Judiciary - Supreme Court of India – Composition- Powers and Functions of Supreme Court -of India - Judicial Review

State Government- State Executive – Governor- Powers and Functions-Chief Minister - Powers and Functions- Council of Ministers

State Legislature-Legislative Assembly- Composition – Powers and Functions- Legislative Council-Composition – Powers and Functions - Legislative Committees: Public Accounts Committee – Estimates-Committee and Ethics Committee

State Judiciary-High Court – Composition- Powers and Functions of High Court- District Courts: Composition – Powers and Functions.

Union – State Relations - Legislative Relations-Administrative Relations- Financial Relations

Local Government-Rural Local Government - Panchayati Raj Institutions – 73rd Constitution Amendment Act- Urban Local Government: Municipalities - Municipal Corporation – 74th Constitution Amendment Act- District Collector : Role in Local Governments

India's Foreign Policy - Determinants of Foreign Policy- Basic features of India's Foreign Policy-

South Asian Association for Regional Cooperation (SAARC)

United Nation Organization (UNO)-Origin of UNO-Principal Organs of UNO- Achievements and failures of UNO

Contemporary Trends and Issues- Globalization- Terrorism-Corruption.

Economics:

Origin and meaning of Economics - Definitions of Economics; Adam Smith, Alfred Marshall, Lionel Robbins, Paul Samuelson, & Jocob Viner- Concept of Economics – Micro & Macro Economics Deductive and Inductive Method, Static and Dynamic Analysis, Positive and Normative Economics. Goods: (Free, Economic, Consumer, Producer, and Intermediary), Wealth, Income, Utility, Value, Price, wants and welfare.

Theory of Consumption - Cardinal and Ordinal Utility, the law of Diminishing Marginal Utility – Limitations – Importance; law of Equi-Marginal Utility Limitations and – Importance of the Law, Indifference Curve Analysis – Properties and Consumer's Equilibrium.

Theory of Demand - Meaning – Demand Function – Determinants of Demand, Demand Schedule – Demand Curve, Law of Demand, Exceptions to Law of Demand - Causes for the downward slope of the demand curve, Types of Demand – Price Demand, Income Demand, and Cross Demand- Elasticity of Demand – Meaning and Types – Price Elasticity, and Income Elasticity and Cross Elasticity – Price Elasticity-Types; Measurement of Price Elasticity of Demand- Point Method. Arc Method, Total Outlay Method. Determinants of Elasticity of Demand; Importance of Elasticity of Demand.

Theory of Production - Meaning - Production Function – Factors of Production; Short-run and Long-run Production Function; Law of variable proportions - Law of returns to scale; Economies of Scale - Internal and External- Supply – Supply Function - Determinants of Supply — Law of Supply- Cost Analysis – Basic Concepts of Costs- (Money, Real, Opportunity, Fixed and Variable, Total, Average and Marginal costs)- Revenue Analysis – Revenue under perfect and imperfect competition.

Theory of Value - Meaning and Classification of Markets – Perfect competition – features – price determination- Short-run and Long-run equilibrium of a firm and Industry- Imperfect Competition – Monopoly – Price Determination – Price-Discrimination-Monopolistic Competition- Features- Meaning of Oligopoly – Duopoly.

Theory of Distribution - Determination of Factor Prices – Marginal Productivity Theory - Rent – Ricardian theory of Rent – Modern theory - Quasi Rent – Transfer earnings - Wages – Meaning and types of wages – Money and Real wages - Interest- Meaning – Gross and Net interests - Profits – Meaning – Gross and Net profits.

National Income : Definitions of National Income and Concepts- Measurement of National Income – Census of Product Method – Census of Income Method – Census of Expenditure Method- Methods of Measuring National Income in India; Problems and importance

Macro Economic Aspects - Classical theory of Employment –J.B. Say Law of Markets- Limitations – J.M. Keynes Effective Demand- Public Economics - Public Revenue – Public Expenditure – Public debt – Components of Budget.

Money, Banking and Inflation - Money – Definitions and Functions of money – Types of Money - Banking – Commercial Banks – Functions; Central Bank – Functions – Reserve Bank of India – Net Banking- Inflation – Definitions – Types – Causes and Effects of inflation – Remedial Measures.

Statistics for Economics - Meaning, Scope and Importance of Statistics in Economics with Diagrams (Bar diagrams and Pie diagrams)-Measures of central tendency – Mean, Median, Mode.

Economic Growth And Development - Differences Between Economic Growth and Development classification of the world countries - Indicators of Economic development - Determinants of Economic Development - Characteristic features of Developed Countries - Characteristic features of Developing countries with special reference to India

Population and Human Resources Development - Theory of Demographic Transition - World Population - Causes of rapid Growth of population in India - Occupational distribution of population of India - Meaning of Human Resources Development - Role of Education and Health in Economic Development- Human Development Index (HDI)

National Income - Trends in the growth of India's National Income - Trends in distribution of national income by industry Origin - Share of Public Sector and Private Sector in Gross Domestic Product - Share of Organised and Un-organised Sector in Net Domestic Product - Income Inequalities - Causes of Income Inequalities - Measures to control income inequalities -Unemployment in India – Poverty - Micro Finace-Eradication of Poverty

Agriculture Sector-Importance of agriculture in India - Features of Indian agriculture - Agriculture Labour in India - Land utilization pattern in India - Cropping pattern in India - Organic Farming -Irrigation facilities in India - Productivity of agriculture - Land holdings in India - Land reforms in India - Green Revolution in India - Rural credit in India - Rural Indebtedness in India - Agricultural

Marketing - Industrial Sector - Significance of the Indian Industrial Sector in Post –Reform Period -Industrial Policy Resolution 1948 - Industrial Policy Resolution 1956 - Industrial Policy Resolution 1991 - National Manufacturing Policy- Disinvestment - National Investment Fund (NIF) -Foreign Direct Investment -Special Economic Zones (SEZs) - Causes of industrial backwardness in India -Small Scale Enterprises (MSMEs) - Industrial Estates - Industrial Finance in India - The Industrial Development under the Five Year Plans in India.

Tertiary Sector - Importance of Services Sector -India's Services Sector - State-Wise Comparison of Services - Infrastructure Development - Tourism - Banking and Insurance - Communication -Science and Technology - Software Industry in India

Planning And Economic Reforms - Meaning of Planning -NITI Ayog -Five Year Plans in India - XII Five Year Plan - Regional Imbalances - Role of Trade in Economic Development - Economic Reforms in India - GATT – WTO

Environment and Sustainable Economic Development - Environment - Economic Development -Environment and Economic Linkages. - Harmony between Environment & Economy

Economy Of Andhra Pradesh - History of Andhra Pradesh - Characteristic features of A.P. Economy -Demographic features - Occupational distribution of labour - Health Sector - Education -Environment - Agricultural sector - Industrial sector - Service and Infrastructure

sector - Information and Technology - Tourism -Andhra Pradesh and Welfare Programmes/ Schemes
Economic Statistics - Measures of Dispersion - Definitions of Dispersion - Importance of Measuring Variation -Properties of a good measure of variation -Methods of Studying Variation - Measures of Dispersion for average - Lorenz Curve - Correlation -Index Numbers - Weighted Aggregation Method.

Methodology (Marks: 20)

1. **Aims and objectives of learning Social Sciences**

   - values through Social Sciences - learning objectives and illustrations - learning objectives in constructivist approach - Academic Standards

2. **School curriculum and resources in Social Sciences**

   - NCF-2005, RTE-2009, SCF-2011 - syllabus – Learning Resources.

3. **Social Sciences as on integrating area of study: Context and concerns**

   - Distinguishing between Natural and Social Sciences - Social Studies and various Social Sciences -contributions of some eminent Social Scientists

4. **Approaches and strategies for learning Social Sciences**

   - collaborative learning approach - 5E learning model - problem solving approach - planning -concept mapping

5. **Community Resources and Social Sciences Laboratory**

6. **Tools and techniques of assessment for learning: Social Sciences**

7. Evaluation - CCE - assessment framework - assessment learning of students with special need

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State Council of Educational Research & Training
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Paper II – Chemistry Syllabus

Part – I

General Knowledge and Current Affairs (Marks: 10)

Part – II

Perspectives in Education (Marks: 10)

1. **History of Education :**
   - The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
   - Education in Pre Independent era - Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944).
   - Education in Post Independent era - Mudaliar Commission (1952-53), Kothari Commission (1964-66), Ishwarbhai Patel committee (1977), NPE-1986, POA-1992
2. **Teacher Empowerment:**
   - Need, interventions for empowerment, Professional code of conduct for teachers, Teacher motivation, Professional development of Teachers and Teacher organizations, National / State Level Organizations for Teacher Education, Maintenance of Records and Registers in Schools.
3. **Educational Concerns in Contemporary India:**
   - Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities.
   - Economics of Education, Education as Human Capital, Education and Human Resource Development, Literacy - Saakshar Bharat Mission.
   - Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
   - Inclusive Education - Classroom Management in Inclusive Education
   - Role of Education in view of Liberalization, Privatization and Globalization
   - Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs, Model Schools.
   - Incentives and special provisions – Mid Day Meals, Free Books, Scholarship, Awards, Welfare Hostels, Transportation.
   - Current Trends in Education – Badi pelusthondi, Badi ki Vasta, Mavuru – Mana Badi, Vidyanjali, Swacha Patasala, Inspire, Kalavutsav.
4. **Acts / Rights:**
   - Right of Children to Free and Compulsory Education Act - 2009
   - Right to Information Act - 2005
   - Child Rights

- Human Rights.

5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

Part - III

Educational Psychology (Marks: 10)

1. Development Of Child

- Development, Growth & Maturation — Concept & Nature
- Principles of development and their education implication
- Factors influencing Development — Biological, Psychological, Sociological, emotional.
- Dimensions of Development and their interrelationships — Physical & Motor, Cognitive, Emotional, Social, Moral, Language relating to Infancy, early Childhood, late Child hood, dolescence.
- Understanding Development — Piaget, Kohlberg, Chomsky, Carl Rogers, Erikson
- Individual differences — Infra & Inter Individual differences in the areas of Attitudes, Aptitude, Interest, Habits, Intelligence and their Assessment.
- Development of Personality — Concept, Factors effecting development of personality, self concept.
- Adjustment, Behavioural problems, Mental Health, Defense mechanism.
- Methods and Approaches of Child Development — Introspection, Observation, Interview, Case study, Experimental, Cross sectional and Longitudinal
- Developmental tasks and Hazards

2. Understanding Learning

- Concept, Nature of Learning — input — process — outcome
- Factors of Learning — Personal and Environmental
- Approaches to Learning and their applicability—Behaviorism (Skinner, Pavlov, Thorndike) Constructivism (Piaget, Vygotsky), Gestalt(Kohler, Koffka) and Observational (Bandura)
- Dimensions of Learning — Cognitive, Affective and Performance.
- Motivation and Sustenance —its role in learning.
- Memory & Forgetting
- Transfer of Learning

3. Pedagogical Concerns

- Teaching and its relationship with learning and learner.
- Learners in Contexts: Situating learner in the socio-political and cultural context
- Children from diverse contexts—Children With Special Needs (CWSN), Inclusive Education.
- Understanding of pedagogic methods — Enquiry based learning, Project based learning, Survey, Observation and Activity based learning, Cooperative and collaborative learning.
- Individual and Group learning: Issues and concerns with respect to organizing learning in class room like Study habits, Self learning and Learning to learn skills.
- Organizing learning in heterogeneous class room groups — Socio-economic background, Abilities and Interest.
- Paradigms of organizing Learning-Teacher centric, Subject centric and Learner centric.
- Theory of instruction – Bruner
- Teaching as Planned activity — Elements of Planning
- Phases of Teaching — Pre active, Interactive and Post active

- General and Subject related skills, competencies required in teaching and attributes of good facilitator.
- Learning resources — Self, Home, School, Community, Technology.
- Class room Management: Role of student, teacher, Leadership style of teacher, Creation of non threatening learning environment, Managing behaviour problems, Guidance & Counselling, Punishment and its legal implications, Rights of a child, Time Management.
- Distinction between Assessment for Learning & Assessment of Learning, School based Assessment, Continuous & Comprehensive Evaluation : Perspective & Practice.
- Understanding teaching & learning in the context of NCF, 2005 & Right to Education Act, 2009.

Part - IV

Content (Marks: 50)

I. General Chemistry:

Atomic Structure and elementary quantum mechanics: Blackbody radiation, Planck's radiation law, photoelectric effect, Compton Effect, de Broglie's hypothesis, Heisenberg's uncertainty principle. Postulates of quantum mechanics, Schrodinger wave equation and a particle in a box, energy levels, wave functions and probability densities, Schrodinger wave equation for H-atom, Separation of variables, Radial and angular functions, hydrogen like wave functions, quantum numbers and their importance Chemical Bonding: Valence bond theory, Hybridization, VB theory as applied to ClF3, BrF5, Ni(CO)4,XeF2, Dipole moment, Molecular orbital theory. Stereochemistry of carbon compounds: Stereo isomerism, Stereo isomers: enantiomers, diastereomers - Conformational and Configurational isomerism-Conformational, Enantiomers, Optical activity asymmetric and dissymmetric molecules, General Principles of Inorganic qualitative analysis: Molecular symmetry: Concept, types, The symmetry operations of a molecule form a group, Theory of quantitative analysis Principles of volumetric, gravimetric analysis, introductory treatment to Pericyclic Reactions.

II. Inorganic chemistry:

Periodicity and Periodic Properties, s,p,d,and f block elements Theories of bonding in metals: Valence bond theory, Explanation of metallic properties and its limitations, Free electron theory, thermal and electrical conductivity of metals, limitations, Band theory, formation of bands, explanation of conductors, semiconductors and insulators. Metal carbonyls and related compounds – EAN rule, classification of metal carbonyls, structures and shapes of metal carbonyls of V, Cr, Mn, Fe, Co and Ni, Metal nitrosyls and metallocenes Coordination Chemistry: IUPAC nomenclature, bonding theories, Isomerism in coordination compounds – structural isomerism and stereo isomerism, stereochemistry of complexes with 4 and 6 coordination numbers. Spectral and magnetic properties of metal complexes, Reactivity of metal complexes, Stability of metal complexes: Hard and soft acids bases (HSAB): Classification, application of HSAB principles – Stability of compounds / complexes. Bioinorganic chemistry: Essential elements, biological significance of Na, K, Mg, Ca, Fe, Co, Ni, Cu, Zn and chloride, Metalloporphyrins – haemoglobin, structure and function, Chlorophyll, structure and role in photosynthesis.

III. Organic Chemistry:

Structural theory in Organic Chemistry, Bond polarization, Alicyclic hydrocarbons Cycloalkanes Benzene and its reactivity, Concept of resonance, resonance energy, Heat of hydrogenation, heat of combustion of Benezene, mention of C-C bond lengths and orbital picture of Benzene, Concept of aromaticity, Huckel's rule. Application to Benzenoid (Benzene, Napthalene) and Non Benzenoid compounds (cyclopropenyl

cation, cyclo pentadienyl anion and tropylium cation) Reactions. General mechanism of electrophilic substitution, mechanism of nitration, Friedel Craft's alkylation and acylation, Orientation of aromatic substitution. Definition of ortho, para and meta directing groups. Ring activating and deactivating groups with examples (Electronic interpretation of various groups like NO2 and Phenolic).
Orientation effect of (i) Amino, methoxy and methyl groups (ii) Carboxy, nitro, nitrile, carbonyl and Sulfonic acid groups. (iii). Halogens (Explanation by taking minimum of one example from each type).Halogen compounds, Hydroxy compounds -Polyhydroxy compounds: Carbonyl compounds,Physical and chemical properties Base catalysed reactions with mechanism: Aldol, Cannizzaro reaction, Perkin reaction, Benzoin condensation, Haloform reaction, Knoevenagel reaction.Oxidation of aldehydes: BaeyerVilliger oxidation of ketones with mechanism.Reduction: Wolf Kishner reduction, MPV reduction, reduction with LiAlH4 and NaBH4 Analysis of aldehydes and ketones. Carboxylic acids and derivatives physical and chemical properties, Active methylene compounds Acetoacetic esters: Malonic ester: Synthetic applications, inter conversion: Nitrogen compounds: Carbohydrates: Amino acids and proteins

IV. Physical Chemistry:

Liquid state: Intermolecular forces, structure of liquids (qualitative description). Structural differences between solids, liquids and gases, Liquid crystals, the meso morphic state, Classification of liquid crystals into Smectic and Nematic, Differences between liquid crystal and solid/liquid, Application of liquid crystals as LCD devices.Solid state: Classification of solids, crystalline state, seven crystal systems, close packed structure of solids, nearest neighbours, ionic radii, simple ionic compounds, point defects. Solutions: Liquid-liquid - ideal solutions, Raoult's law. Ideally dilute solutions, Henry's law. Non-ideal solutions, Vapour pressure, composition and vapour pressure-temperature curves. Azeotropes-HCl-H2O, ethanol-water systems and fractional distillation, partially miscible liquids-phenol-water, trimethylamine-water, nicotine-water systems. Effect of impurity on consulate temperature, immiscible liquids and steam distillation, Nernst distribution law, Calculation of the partition coefficient, Applications of distribution law; Catalysis: Types of catalysis, Electrochemistry: Electro chemical cells and cell reactions. Electrode potentials, Nernst equation and its relation to DG, Electrochemical series, emf of galvanic cells, Faraday's laws of electrolysis: Electro lytic conductance, specific, equivalent and molar conductance, Kohlrausch's law: concentration cells. Chemical kinetics: Rates of chemical reactions, order of reactions- first, second, third and zero order reactions with examples, effect of temperature on rate of reaction, Thermodynamics.

V. Chemistry And Industry:

Physico Chemical methods of analysis, Separation techniques Spectrophotometry, spectroscopy, Spectral interpretation, Drugs, formulations, pesticides and green chemistry, Macromolecules, Material Science and catalysis

Teaching Methodology (Marks: 20)

1. The Nature of Science: Nature and scope of science, Science, ideology and Society, Structure of Science (a) Substantive structure – Empirical knowledge, Theoretical Knowledge – (Facts, Concepts, hypothesis, theory, Principle Law), (b)Syntactic Structure of Science – Scientific inquiry, Processes of Science, Attitudes of inquiry.

2. The History and Development of Science: A brief introduction to oriental and western science, Contribution of the following Scientists in the Development of Science: Aryabhatta, BhaskaraCharya, Aristotle, Copernicus, Newton, Einstein, C.V.Raman, Various organizations working for the development of science in India.

3. Aims and Values of teaching Physical Sciences: Aims of teaching Physical Sciences, Values of teaching Physical Science, Correlation of Physics and with other subjects.

4. Objectives of teaching Physical Sciences: Meaning and importance of objectives, Bloom's Taxonomy of Educational objectives, Specific /Behavioral objectives / (Instructional objectives), Critique on Bloom's Taxonomy.

5. Approaches and Methods of teaching Physical Sciences: Inductive and Deductive Approaches, Micro Teaching, Team Teaching, Lecture Method, Lecture cum Demonstration Method, Historical Method, Heuristic Method, Project Method, Laboratory method, Problem Solving Method, Scientific Method, Multimedia Approach in Teaching Learning process, Programmed Learning, CAI and CAL.

6. Planning for effective instruction in Science: Year Plan, Unit Plan, Lesson Plan, Learning experience, characteristics, classification, source and relevance.
7. Teaching Learning Material (TLM): Characteristics and Importance of TLM, Classification and Types of TLM, Hardware and Software in TLM, TLM Principles to be followed, Edgar Dale's cone of learning experience.
8. Science laboratories: Importance of Practical work in science, Planning of Science laboratories, Procurement, care and maintenance of laboratory equipment, Registers, Management of safety and science kits, Development of improvised Apparatus.

9. Physical Science Curriculum: Principles of Curriculum Construction, Defects in the existing school science curriculum, Qualities of a good Science Text Book.
10. Non-formal Science Education: Science Clubs, Science Fairs – purposes, levels, organization, advantages, Science Library, Role of NGOs and State in popularizing Science.
11. Evaluation: Concept and Process of Evaluation, Tools of Evaluation, Preparation of Scholastic Achievement Test (SAT), Analysis and interpretation of Scores.

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Paper II – Physical Science Syllabus

Part – I

General Knowledge and Current Affairs (Marks: 10)

Part – II

Perspectives in Education (Marks: 10)

1. **History of Education :**
   - The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
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   - Education in Post Independent era - Mudaliar Commission (1952-53), Kothari Commission (1964-66), Ishwarbhai Patel committee (1977), NPE-1986, POA-1992
2. **Teacher Empowerment:**
   - Need, interventions for empowerment, Professional code of conduct for teachers, Teacher motivation, Professional development of Teachers and Teacher organizations, National / State Level Organizations for Teacher Education, Maintenance of Records and Registers in Schools.
3. **Educational Concerns in Contemporary India:**
   - Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities.
   - Economics of Education, Education as Human Capital, Education and Human Resource Development, Literacy - Saakshar Bharat Mission.
   - Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
   - Inclusive Education - Classroom Management in Inclusive Education
   - Role of Education in view of Liberalization, Privatization and Globalization
   - Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs, Model Schools.
   - Incentives and special provisions – Mid Day Meals, Free Books, Scholarship, Awards, Welfare Hostels, Transportation.
   - Current Trends in Education – Badi pelusthondi, Badi ki Vasta, Mavuru – Mana Badi, Vidyanjali, Swacha Patasala, Inspire, Kalavutsav.
4. **Acts / Rights:**
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   - Right to Information Act - 2005
   - Child Rights

- Human Rights.

5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

Part - III

Educational Psycology (Marks: 10)

1. Development Of Child

- Development, Growth & Maturation — Concept & Nature
- Principles of development and their education implication
- Factors influencing Development — Biological, Psychological, Sociological, emotional.
- Dimensions of Development and their interrelationships — Physical & Motor, Cognitive, Emotional, Social, Moral, Language relating to Infancy, early Childhood, late Child hood, dolescence.
- Understanding Development — Piaget, Kohlberg, Chomsky, Carl Rogers, Erikson
- Individual differences — Infra & Inter Individual differences in the areas of Attitudes, Aptitude, Interest, Habits, Intelligence and their Assessment.
- Development of Personality — Concept, Factors effecting development of personality, self concept.
- Adjustment, Behavioural problems, Mental Health, Defense mechanism.
- Methods and Approaches of Child Development — Introspection, Observation, Interview, Case study, Experimental, Cross sectional and Longitudinal
- Developmental tasks and Hazards

2. Understanding Learning

- Concept, Nature of Learning — input — process — outcome
- Factors of Learning — Personal and Environmental
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- Dimensions of Learning — Cognitive, Affective and Performance.
- Motivation and Sustenance —its role in learning.
- Memory & Forgetting
- Transfer of Learning

3. Pedagogical Concerns

- Teaching and its relationship with learning and learner.
- Learners in Contexts: Situating learner in the socio-political and cultural context
- Children from diverse contexts—Children With Special Needs (CWSN), Inclusive Education.
- Understanding of pedagogic methods — Enquiry based learning, Project based learning, Survey, Observation and Activity based learning, Cooperative and collaborative learning.
- Individual and Group learning: Issues and concerns with respect to organizing learning in class room like Study habits, Self learning and Learning to learn skills.
- Organizing learning in heterogeneous class room groups — Socio-economic background, Abilities and Interest.

- Paradigms of organizing Learning-Teacher centric, Subject centric and Learner centric.
- Theory of instruction – Bruner
- Teaching as Planned activity — Elements of Planning
- Phases of Teaching — Pre active, Interactive and Post active
- General and Subject related skills, competencies required in teaching and attributes of good facilitator.
- Learning resources — Self, Home, School, Community, Technology.
- Class room Management: Role of student, teacher, Leadership style of teacher, Creation of non threatening learning environment, Managing behaviour problems, Guidance & Counselling, Punishment and its legal implications, Rights of a child, Time Management.
- Distinction between Assessment for Learning & Assessment of Learning, School based Assessment, Continuous & Comprehensive Evaluation : Perspective & Practice.
- Understanding teaching & learning in the context of NCF, 2005 & Right to Education Act, 2009.

Part - IV

Content (Marks: 50)

1. **Units And Measurements**: Systems of Measurement, Units of Measurements, Measurement of Length, Measurement of time, Accuracy, precision of instruments errors in measurement, Significant figures, Measurement of Mass and Density, Units and Dimensions Fundamental and derived physical quantities, Systems of units, Multiples and submultiples of SI units. Dimensions Dimensional formulae and dimensional equations, dimensional constants and dimensionless quantities, principle of homogeneity of dimensions. Application of dimensional method of analysis. Conversion of one system of units into another.

2. **Motion In A Straight Line**
   Position, path length and displacement, Average velocity and average speed, Instantaneous velocity and speed, Acceleration, Kinematic equations for uniformly accelerated motion, Relative velocity, Velocity-time and position-time graphs, Kinematical Equations of motion by graphical Method, Scalars and Vectors, laws of addition of vectors, subtraction of vectors. Resolution of vectors, Motion in a plane, Motion in a plane with constant acceleration, Relative velocity in two dimensions, Projectile motion.

3. **Laws Of Motion**
   The law of inertia, Newton's second law of motion, Newton's third law of motion. Force – Types of Force, Free Body Diagrams. Newton's Universal Gravitation, Centre of Mass, Centre of Gravity, Stability, Applications, Equations of Motion, Motion of a body under gravity - Acceleration due to Gravity "g", Equations of Motion for a freely falling body, Equations of Motion for a body thrown upwards. Equations, Applications and problems. Universal law of gravitation, The gravitational constant, Kepler's laws, Acceleration due to gravity of the earth, Acceleration due to gravity below and above the
   surface of earth, Gravitational potential energy, Escape speed, Earth satellite, Energy of an orbiting satellite, Geostationary and polar satellites, Weightlessness. Work, Power, Energy, Conservation of Energy and Transformation of Energy, Renewable and Non-Renewable sources of Energy, Impulse, Law of conservation of linear momentum, Potential Energy (PE), Kinetic Energy (KE). Relation between KE and Linear momentum. Notions of work and kinetic energy: The work-energy theorem, The work-

energy theorem for a variable force, The conservation of mechanical energy, The potential energy of a spring, Power, Collisions, Circular Motion, uniform circular motion, angular displacement, angular velocity, and angular acceleration, relationship between linear velocity and angular velocity, centripetal and centrifugal force, torque, couple, vector representation of torque, Vector product of two vectors, Equilibrium of a rigid body, Moment of inertia, Theorems of perpendicular and parallel axes, Dynamics of rotational motion about a fixed axis, Rolling motion. Simple harmonic motion and uniform circular motion, Velocity and acceleration in simple harmonic motion, Force law for Simple harmonic Motion, Energy in simple harmonic motion, Energy in simple harmonic motion, some systems executing Simple. Harmonic Motion, Damped simple harmonic motion, Forced oscillations and resonance Simple Pendulum, Law of conservation of energy in case of a simple pendulum. Elasticity - Elasticity and plasticity, stress and strain, Hooke's law, Moduli of elasticity. Fluid Mechanics Laws of Floatation, Principle of Buoyancy, pressure in a fluid. Stream line flow Bernoulli's theorem and its applications. Viscosity, Reynolds number, Surface tension, Simple Machines and Moments Moment of a Force, Wheel and Axle, Screw Jack, Gears, Friction, Causes of friction, advantages of friction, disadvantages of friction, methods of reducing friction, Fluid friction, Ball – Bering Principal.

4. **Ray And Optical Instruments**

Light - Sources & Nature of Light, Propagation of Light, Reflection, Refraction, Laws of Reflection, Sign convention for reflection by spherical mirrors, Image formed by Plane Mirror, Spherical Mirrors (Ray diagrams), Mirror formula and Magnification, Refraction of Light through Prism and lenses (convex, concave), Refractive index, Snell's Law, Refractive index of material of prism by minimum deviation Method, Image formation by lenses (Ray Diagrams), Sign convention for spherical lenses, Lens formula, Len's Makers formula and magnification, Power of lenses, Refraction of light through prism and Glass Slab, Dispersion of light and formation of Rainbow, Scattering of light – Raman Effect. Atmospheric refraction (Twinkling of stars, Advanced sunrise and delayed sunset), the Human eye and Colourful world, Structure of Human Eye Defects of Vision, Critical angle, Total Internal Reflection - Relation between Critical angle and Refractive Index, application of total internal reflection to Optical fibers, Lasers. Newton's Corpuscular Theory, Huygens' Wave Theory, Electromagnetic spectrum. Huygens' Explanation of Reflection, Refraction, interference and diffraction of plane waves at a plane surface. Polrisation Optical Instruments-Microscope, Telescope, Formula for magnification of microscope, Astronomical and Terrestrial Telescopes.

5. **Waves**: Transverse and longitudinal waves, Displacement relation in a progressive wave, The speed of a travelling wave, The principle of superposition of waves, Reflection of waves, Beats, Doppler effect, Characteristics of Sound, Speed of sound in different media, Reflection of sound, Echoes, standing waves, nodes & antinodes, measurement of wavelength, Multiple reflection of sound, its uses, Hearing and audibility of a sound, Ultrasound, uses, Sound -Propagation of sound, Musical Instruments, Velocity of Sound in Gases, Solids & Liquids, Progressive & stationary waves. Forced Vibrations, Natural Vibrations – Resonance with examples, Loudness and pitch of sound their relation with amplitude and frequency, Audible and inaudible sounds, Noise and music, Noise pollution: sources, control and reduction.

6. **Thermal Properties Of Matter**

Sources of Heat, Transmission of Heat, Heat and Temperature, Temperature and Kinetic Energy, Measurement of Temperature, Fahrenheit and Centigrade scales, Different types of thermometers, Effects of Heat Expansion of solids, liquids, gaseus, Change of state, Change of density with temperature, Examples in daily life, Applications of specific heat capacity, Evaporation, Condensation, Humidity, Dew and Fog, Boiling, Melting and Freezing. Expansion of Solids and liquids-coefficients of expansion of Solids and liquids. Anomalous expansion of water, its significance in nature. Kelvin scale of temperature, Boyle's and Charle's laws. Ideal gas equation. Heat capacity, specific heat, experimental determination of specific heat by method of mixtures. Specific heat of gas (Cp and Cv), Calorimetry - specific heat of solids and liquids, latent heat of fusion and latent heat of vaporization, External work done by a gas during its expansion. Relation between Cp and Cv (derivation) Latent heat, Determination of latent heat of vaporization of water. Newton's law of cooling, Thermal equilibrium , Zeroth law of thermodynamics , Heat, internal energy and work , First law of thermodynamics, Specific heat capacity, Thermodynamic state variables and equation of State, Thermodynamic processes, Heat engines, Refrigerators and heat pumps, Second law of thermodynamics, Reversible and irreversible processes, Carnot engine, Carnot's theorem. Kinetic Theory, Introduction, Molecular nature of matter, Behaviour of gases, Kinetic theory of an ideal gas, Law of equipartition of energy, Specific heat capacity, Mean free path.

7. **Electricity**

Electrostatics - Electrification by friction, Charges, Coulomb's Law: Permittivity of Free Space and Medium, Electric Field - Electric lines of force, their properties – Electric Flux, Electric Dipole, Dipole in a Uniform External Field, Continuous Charge Distribution, Gauss's Law, Application of Gauss's Law, Electric intensity, Electrostatic Potential, Relation between electrostatic potential and electric intensity. Capacitance and capacitors, The Parallel Plate Capacitor, Combination of Capacitors, Van de Graaff Generator, Dielectric constant, Condenser, its uses -Dielectric Strength - Effect of dielectric on capacitance of capacitors. Current electricity - Electric Current and Potential, EMF, Primary Cells-Series and Parallel connection-Electric circuits, Electrical Resistance, Ohm's Law and its verification, Electric shock. Ohmic and Non Ohmic elements, Resistance Resistances in Series and Parallel, Kirchhoff’s Laws. Wheatstone Bridge, Meter Bridge, Potentiometer, Heating Effects of Electric Current-Joule's Law, Faraday's Laws of Electrolysis, Electric current - Flow of Electric charges in a metallic conductor - Drift velocity and mobility - Relation between electric current and drift velocity, Specific Resistance, Resistivity, Conductance, Electrical Energy – Power, Electrical Energy consumption.

8. **Electromagnetism** – Magnets and their properties, Magnetic field and field lines, Oersted's Experiment, Ampere's Law, Magnetic field near a long straight wire and magnetic field at the Center of a circular coil carrying current, Field on the axis of circular coil carrying current, Force on a moving charge in a magnetic field - Force on a current carrying conductor placed in a magnetic field. Force between two long straight

parallel conductors carrying current, Definition of Ampere. Fleming's Left Hand Rule. Current loop as magnetic dipole, force and Torque on Current loop in an uniform magnetic field, magnetic dipole moment of a revolving electron. The Moving Coil Galvanometer, Electromagnetic induction, Magnetic Flux, Induced EMF, Faraday's and Lenz's Law. Fleming's Right Hand Rule, Self Inductance, Mutual Inductance, Principle of Transformer, Working of Electric motor, AC, Electric Generator, DC Electric Generator, Eddy Currents, Electromagnetic Waves, Displacement Current, Electromagnetic Waves, Electromagnetic Spectrum, AC Voltage Applied to a Resistor, Representation of AC Current and Voltage by Rotating Vectors — Phasors, AC Voltage Applied to an Inductor, AC Voltage Applied to a Capacitor, AC Voltage Applied to a Series LCR Circuit, Power in AC Circuit: The Power Factor, LC Oscillations.

9. **Modern Physics -** Alpha-particle Scattering and Rutherford's Nuclear Model of Atom, Atomic Spectra, Bohr Model of the Hydrogen Atom, The Line Spectra of the Hydrogen Atom, DE Broglie's Explanation of Bohr's Second Postulate of Quantization, Atomic Masses and Composition of Nucleus, Size of the Nucleus, Mass-Energy and Nuclear Binding Energy, Nuclear Force, Radioactivity, Nuclear Energy, Electron Emission, Photoelectric Effect, Experimental Study of Photoelectric Effect, Photoelectric Effect and Wave Theory of Light, Einstein's Photoelectric Equation: Energy Quantum of Radiation, Particle Nature of Light: The Photon, Wave Nature of Matter, Davisson and Germer Experiment, Classification of Metals, Conductors and Semiconductors, Intrinsic Semiconductor, Extrinsic Semiconductor, p-n Junction, Semiconductor diode, Application of Junction Diode as a Rectifier, Special Purpose p-n Junction Diodes, Junction Transistor, Digital Electronics and Logic Gates, Integrated Circuits, Elements of a Communication System, Basic Terminology Used in Electronic Communication Systems, Bandwidth of Signals, Bandwidth of Transmission Medium, Propagation of Electromagnetic Waves, Modulation and its Necessity, Amplitude Modulation, Production of Amplitude Modulated Wave, Detection of Amplitude Modulated Wave.

10. **Natural Phenomena** – Lightning: Charging by rubbing, Types of charges and nature of interaction of charged bodies, Transfer of charge: electroscope as a detector of charging, Lightning: discharge, earthling, lightning conductors, Safety measures during a thunder storm. Earthquake: Earthquake, Causes of an earthquake, Seismic fault zone, Protection to damage caused by earthquakes, Measurement of intensity of earthquake, Seismograph,

11. **Our Universe**: Constellations, Zodiac, Solar System, The Sun, Planets, Their Sizes, Masses and distance from Sun, Source of Energy, The Moon its phases surface, Stars, Meteors and Comets, Asteroids, Light year, Life on the Planet - Earth.

12. **States Of Mater – Physical Nature Of Matter -** Composition of matter: particles (Historical introduction), Characterization of matter in terms of physical properties, Characteristics of particles of matter: space between them, attraction between them, their continuous motion, States of matter: solids, liquids and gasses, Shape, mass, volume and density of matter, Change of state of matter with temperature and pressure, Evaporation and condensation: factors effecting the rate of condensation/evaporation- surface area, temperature, humidity, wind speed. Evaporation and cooling with examples. Mixtures, type of mixtures, homogeneous and hetero generous, Solution, components, properties, concentration, dilute and saturated Solutions, Mass / Mass percentage; Mass / volume percentage, Suspension, properties of suspensions, Colloidal solution, properties of colloids, Tyndall effect, Separating the components of a mixture, Separating components of blue / black ink,

evaporation, Cream from milk by churning, centrifugation, Separating immiscible liquids, Separation by sublimation Separation by chromatography, Separation by distillation (miscible liquids), fractional distillation, Separating components of air, Obtaining pure copper sulphate from impure samples Applications of crystallization, Water purification system in water works, Physical and chemical change, Types of pure substances, elements, compounds, Comparison between mixture and compounds **Solids**- Metals and Non-metals, Physical properties of metals, luster, malleability, electrical conductivity, ductility, sonorous, heat conductors, Physical properties of non-metals Chemical properties of metals - Metals burnt in air, Metal reacts with water, Reaction with acids, Reactions with solutions of other metal salt solutions, Reactivity series, Reactions of metals and non-metals – formation of cation, anion and ionic compounds, Properties of Ionic compounds, Physical nature, Melting and boiling points, Solubility Conduction of electricity, Occurrence of metals, Extractions of metals – General Principles Of Metallurgy Occurrence and Relative Abundance of metals in earth's crust, The Metallurgy of Iron & Extraction, Protection of Metals and Prevention of Corrosion, Principles and methods of extraction - concentration, reduction by chemical and electrolytic methods and refining. Reaction with oxygen, acidic, basic nature of products, Reaction with water, Reaction with acid, Reaction with Base, Reactivity of metals in displacement reactions, Uses of metals and non-metals – FLUIDS- Electric Conductivity of Fluids, determination of good and poor conducting fluids, Chemical effects of electric current, Electrolytic cell: its construction and electroplating: Measurable Properties of Gases, Gas Laws, Graham's law of diffusion - Daltons law of partial pressures, Avogadro's law and Mole Concept, Ideal behavior, empirical derivation of gas equation, ideal gas equation, Kinetic molecular theory of gases, Kinetic gas equation (No derivation) - deduction of gas laws, Air, Composition of air, Measurement of Atmospheric Pressure, Air Pollution, Volumetric Composition of Water, Hardness of Water, Drinking Water and Supply, Water Pollution, Cyclone, Pascal's Law, Archimedes' Principle, Boyle's Law, Bernoulli's Principle, Wind, Rainfall.

13. **Atomic Structure:** Matter - Its Structure, Cathode Rays, Canal Rays, Discovery of Neutron, Atomic Models - Arrangement of Sub Atomic Particles, Rutherford's model of atom and its drawbacks, Bohr's model of Hydrogen atom and its limitations, Sommerfeld's elliptical model, Schrodinger wave equation, Sub Energy Levels - Quantum Numbers, Atomic Orbitals, Relative energies of the atomic orbitals, Electronic configuration of Atoms, Some Physical Quantities of Atoms, Nature of Electromagnetic Radiation, Planck's Quantum theory. Explanation of Photo electric effect. Features of Atomic Spectra. Characteristics of Hydrogen Spectrum. Bohr's explanation of Spectral Lines, Wave-particle nature of electron, De Brogile's hypothesis, Heisenberg's uncertainly principle, Important feature of the quantum mechanical model of an atom, Electronic configurations of atoms - Explanation of stability of half filled and completely filled orbitals. Isotopes, Isobars and Isotones, Applications of Radio Isotopes.

14. **Classification Of Elements**: Symbols and formulae, Radicals and their formulae, Chemical equation, Meaning, Calculations based on equations and relationship of reactants and products by weights, History of Classification of Elements, The Periodic Law, Modern Periodic Table, The significance of atomic number and electronic configuration, Classification of elements into s, p, d, f blocks and their characteristics, Period trends in physical and chemical properties of elements, Periodic trends of elements with respect to atomic radii, ionic radii, inert gas radii, ionization energy, electron gain energy, electro negativity, Valency.

15. **Chemical Bonding And Molecular Structure:**
Types of Bonds, Inter Molecular Attractions, Energy changes during a chemical reaction, Exotherimic and Endothermic Relations, ionic bond, Electronic theory valence by Lewis and Kossel, energy changes in ionic bond formation, Properties of ionic Compounds, Covalent Bond, Multiple Covalent Bonds, Shapes of some molecules. VSEPR theory, The valence bond approach for the formation of covalent bonds, Directional nature of covalent bond, Properties of covalent bond, Different types of hybridization involving s, p and d orbitals and draw shapes of simple covalent molecules, Definition of coordinate covalent bond with examples, Description of molecular orbital theory of homo nuclear diatomic molecules. Hydrogen bonding-cause of formation of hydrogen bond- Types of hydrogen bonds-inter and intra molecular-General properties of hydrogen bonds.

16. **Chemical Kinetics, Energitics:** Chemical Calculations And Stoichiometry Chemical combination, Chemical decomposition, Chemical displacement, Chemical Double decomposition, Slow and Fast reactions, Rate of a Reaction, Factors affecting the reaction rate, Reversible and Irreversible Reactions, Law of conservation of mass, Law of definite proportions, Law of multiple proportions, Rate law, units of rate constant, Collision theory of reaction rates (elementary ideas), concepts of activation energy. Stoichiometry - Meaning of Chemical Equations, Thermochemical Equations, Problems Based on Equations, Laws of chemical combination, principles and examples, Different kinds of fuels burning with flame and without flame, Combustion of fuels, solid, liquid, gas, Ignition temperature, Matchstick – red , white phosphorous and antimony tri sulphide, ignition temperatures, Inflammable substances, Methods of controlling fire, fire extinguisher, Types of combustion, rapid, spontaneous, explosive. Flame, materials forming flames, structure of flame, Fuel, ideal fuel, fuel efficiencies, calorific value, Harmful products of burning fuels , global warming and acid rain. Molar mass, concept of equivalent weight with examples, Percentage composition of compounds and calculations of empirical and molecular formula of compounds, Oxidation number concept, Balancing of redox reactions by ion electron method and oxidation number method, Types of redox reactions, Applications of redox reactions in titrimetric quantitative analysis and redox reactions in electrode process, Numerical calculations based on equations. Equilibrium - Differences between Physical and Chemical change, Equilibrium in physical and chemical process, Dynamic nature of equilibrium, law of mass action, Equilibrium Constant, Factors affecting equilibrium.

17. **Solutions, Acids, And Bases:**
Solutions, Types, Solubility and Factors affecting concentration of solutions, Ionization of Substances in Water, Classification of solutions - Methods of expressing concentration of solutions - Molarity, Normality, Molality, Mole Fraction, Preparation of Acids and Bases, General properties of Acids an Bases, The Strengths of Acids and Bases, Neutralisation and Heat of Neutralization, Ionization of acids and bases, strong and weak electrolytes, degree of ionization, ionic product of water, Concept of pH., pH of some common fluids, Importance of pH in everyday life, Sensitive of plants and animals to pH, pH of soils, pH in digestive system, pH-tooth decay, Self defense by animal and plants through chemical warfare. Some naturally occurring acids. Salts - Family of salts, pH of salts, Sources of common salt, Common salt – a raw material for chemicals, NaoH, Bleaching powder, baking soda, NaHco3 uses washing soda and its uses, Salt crystals / crystallization, Plaster of Paris, Equilibrium in Physical process, Equilibrium in chemical process - Dynamic Equilibrium, Law of chemical Equilibrium - Law of mass action and Equilibrium constant. Homogeneous Equilibria, Equilibrium constant in gaseous systems. Relationship between KP and Kc, Heterogeneous Equilibria. Applications of

Equilibrium constant. Relationship between Equilibrium constant K, reaction quotient Q and Gibbs energy G. Factors affecting Equilibria.-Le-chatlieprinciple application to industrial synthesis of Ammonia and Sulphur trioxide. Acids, bases and salts-Arrhenius, Bronsted-Lowry and Lewis concepts of acids and bases. Ionisation of Acids and Bases -Ionisation constant of water and it's ionic product- pH scale-ionisation constants of weak acids-ionisation of weak bases-relation between Ka and Kb-Di and poly basic acids and di and poly acidic Bases-Factors affecting acid strength-Common ion effect in the ionization of acids and bases-Hydrolysis of salts and pH of their solutions. Buffer solutions-designing of buffer solution-Preparation of Acidic buffer Solubility Equilibria of sparingly soluble salts. Solubility product constant Common ion effect on solubility of Ionic salts.

18. Hydrogen And Its Compounds

Position of hydrogen in the periodic table. Dihydrogen-Occurance and Isotopes. Preparation of Dihydrogen, Properties of Dihydrogen, Hydrides: Ionic, covalent, and non-stiochiometric hydrides. Water: Physical properties; structure of water, ice. Chemical properties of water; hard and soft water, Temporary and permanent hardness of water, Hydrogen peroxide: Preparation; Physical properties; structure and chemical properties; storage and uses. Heavy Water, Hydrogen as a fuel.

19. S - Block Elements

Alkali metals; Electronic configurations; Atomic and Ionic radii; Ionization enthalpy; Hydration enthalpy; Physical properties; Chemical properties; Uses, General characteristics of the compounds of the alkali, metals: Oxides; Halides; Salts of Oxy Acids. Anomalous properties of Lithium: Differences and similarities with other alkali metals. Diagonal relationship; similarities between Lithium and Magnesium. Some important compounds of Sodium: Sodium Carbonate; Sodium Chloride; Sodium Hydroxide; Sodium hydrogen carbonate. Biological importance of Sodium and Potassium. Alkaline earth elements; Electronic configuration; Ionization enthalpy; Hydration enthalpy; Physical properties, Chemical properties; Uses. General characteristics of compounds of the Alkaline Earth Metals: Oxides, hydroxides, halides, salts of Oxyacids (Carbonates; Sulphates and Nitrates). Anomalous behavior of Beryllium; its diagonal relationship with Aluminum. Some important compounds of calcium: Preparation and uses of Calcium Oxide ; Calcium Hydroxide; Calcium Carbonate;Plaster of Paris; Cement. Biological importance of Calcium and Magnesium.

20. P - Block Elements

General introduction - Electronic configuration, Atomic radii, Ionization enthalpy, Electro negativity; Physical & Chemical properties. Important trends and anomalous properties of boron. Some important compounds of boron - Borax, Ortho boric acid, diborane. Uses of boron, aluminium and their compounds. General introduction - Electronic configuration, Atomic radii, Ionization enthalpy, Electro negativity; Physical & Chemical properties. Important trends and anomalous properties of carbon. Allotropes of carbon. Uses of carbon. Some important compounds of carbon and silicon – carbon monoxide, carbon dioxide, Silica, silicones, silicates and zeolites.

21. Organic Chemistry

Allotropic forms of Carbon, Oxides of Carbon, Uniqueness of Carbon and Source of Carbon Compounds, Anomalous behavior of first element namely Carbon, Carbon-catenation, allotropic forms, physical and chemical properties and uses, Bonding in carbon, Covalent bond, Catenation, Saturated and unsaturated carbon compounds, Chains, branches and rings, Bonding of carbon with other elements, Functional groups in carbon compounds, Homologous series.

Nomenclature of carbon compounds, Chemical properties of carbon compounds, Combustion, Blue flame, Sooty flame, Oxidation, Addition reaction, Substitution reaction, Important carbon compounds, Ethanol, Ethanoic acid, properties of ethanol – General properties, reaction of ethanol with sodium, reaction with hot concentrated sulphuric acid, Properties of ethanoic acid – General properties. Esterification reaction, Reaction with a base, sodium hydroxide, sodium carbonate and sodium hydrogen carbonate, Soaps and detergents, Micelles. . Classification and nomenclature, Nature of C-X bond, Methods of preparation : Alkyl halides and aryl halides-from alcohols, from hydrocarbons (a)by free radical halogenation -(b) by electrophilic substitution (c) by replacement of diazonium group(Sand-Meyer reaction) (d) by the addition of hydrogen halides and halogens to alkenes-by halogen exchange(Finkelstein reaction), Physical properties-melting and boiling points,density and solubility, Chemical reactions, Reactions of haloalkanes (i)Nucleophilic substitution reactions (a) $\mathbf{Sn^2}$ mechanism (b) $\mathbf{Sn^1}$ mechanism (c) stereochemical aspects of nucleophilic substitution reactions - optical activity (ii) Elimination reactions (iii) Reaction with metals-Reactions of haloarenes: (i) Nucleophilic substitution (ii)Electrophilic substitution and (iii) Reaction with metals, Polyhalogen compounds: Uses and environmental effects of dichloro methane, trichloromethane, triiodomethane, tetrachloro methane, freons and DDT. Alcohols,phenols and ethers –classification, Nomenclature: (a)Alcohols, (b)phenols and (c)ethers, Structures of hydroxy and ether functional groups, Methods of preparation: Alcohols from alkenes and carbonyl compounds- Phenols from haloarenes, benzene sulphonic acid, diazonium salts, cumene, Physical propertics of alcohols and phenols, Chemical reactions of alcohols and phenols (i) Reactions involving cleavage of O-H bond-Acidity of alcohols and phenols, esterification (ii) Reactions involving cleavage of C-O bond- reactions with HX, PX3, dehydration and oxidation (iii) Reactions of phenols- electrophili aromatic substitution, Kolbe's reaction, Reimer - Tiemann reaction, reaction with zinc dust, oxidation, Commercially important alcohols (methanol,ethanol), Ethers-Methods of preparation: By dehydration of alcohols, Williamson synthesis- Physical properties-Chemical reactions: Cleavage of C-O bond and electrophilic substitution of aromatic ethers. Nomenclature and structure of carbonyl group, Preparation of aldehydes and ketones-(1) by oxidation of alcohols (2) by dehydrogenation of alcohols (3) from hydrocarbons -Preparation of aldehydes (1) from acyl chlorides (2) from nitriles and esters(3)from hydrocarbons-Preparation of ketones(1) from acyl chlorides (2)from nitriles (3)from benzene or substituted benzenes, Physical properties of aldehydes and ketones, Chemical reactions of aldehydes and ketones-nucleophilic addition, reduction, oxidation, reactions due to -Hydrogen and other reactions (Cannizzaro reaction,electrophilic substitution reaction), Uses of aldehydes and ketones, CARBOXYLIC ACIDS, Nomenclature and structure of carboxylgroup, Methods of preparation of carboxylic acids- (1)from primary alcohols and aldehydes (2) from alkylbenzenes(3)from nitriles and amides (4)from Grignard reagents (5) from acyl halides and anhydrides (6) from esters, Physical properties, Chemical reactions: (i) Reactions involving cleavage of OH bond-acidity, reactions with metals and alkalies (ii) Reactions involving cleavage of C-OH bond-formation of anhydride, reactions with PCl5, PCl3, SOCl2, esterification and reaction with ammonia (iii) Reactions involving -COOH group-reduction, decarboxylation (iv) Substitution reactions in the hydrocarbon part - halogenation and ring substitution, Uses of carboxylic acids. Structure of amines, Classification, Nomenclature, Preparation of amines:reduction of nitro compounds, ammonolysis of alkyl halides, reduction of nitriles,reduction of amides, Gabriel phthalimide synthesis and Hoffmann bromamide degradation reaction. Physical properties, Chemical reactions:basic character of amines, alkylation, acylation, carbyl amine reaction, reaction with nitrous acid, reaction with aryl

sulphonyl chloride, electrophilic substitution of aromatic amines-bromination, nitration and sulphonation. DIAZONIUM SALTS - Methods of preparation of diazonium salts (by diazotization), Physical properties. Chemical reactions: Reactions involving CYANIDES AND ISOCYANIDES - Structure and nomenclature of cyanides and isocyanides, Preparation, physical properties and chemical reactions of cyanides and isocyanides

22. Polymers:

Classification of Polymers -Classification based on source, structure, mode of polymerization, molecular forces and growth polymerization. Types of polymerization reactions-addition polymerization or chain growth polymerization-ionic polymerization, free radical mechanism-preparation of addition polymers-polythene, teflon and polyacrylonitrile-condensation polymerization or step growth polymerization-polyamides-preparation of Nylon 6,6 and nylon 6-poly esters- erylene - bakelite, melamine, formaldehyde polymer- copolymerization-Rubber-natural rubber-vulcanisation of rubber-Synthetic rubbers-preparation of neoprene and buna-N. Molecular mass of polymers-number average and weight average molecular masses-poly dispersity index (PDI). Biodegradable polymers-PHBV, Nylon 2-nylon 6. Polymers of commercial importance-poly propene, poly styrene,poly vinyl chloride(PVC), urea-formaldehyde resin, glyptal, bakelite- their monomers, structures and uses. Natural and artificial fibres, Synthetic fibre, Types of synthetic fibres - Rayon, Nylon, Polyster and acrylic, Characteristics of synthetic fibres, Plastics, polythene, Thermo plastics, Thermo setting plastic, Plastics as materials of choice: Non-reactive, light, strong and durable and poor conducting plastics, Plastics and environment – Bio degradable, non-bio degradable. Carbohydrates - Classification of carbohydrates-Monosaccharides: preparation of glucose from sucrose and starch- Properties and structure of glucose- D,L and (+), (-) configurations of glucose- Structure of fructose Disaccharides: Sucrose- preparation, structure-Invert sugar- Structures of maltose and lactose-Polysaccharides: Structures of starch cellulose and glycogen- Importance of carbohydrates. Aminoacids: Natural aminoacids-classification of aminoacids -structures and D and L forms-Zwitter ions Proteins: Structures, classification, fibrous and globular- primary, secondary, tertiary and quarternary structures of proteins- Denaturation of proteins. Enzymes: Enzymes,mechanism of enzyme action. Vitamins: Explanation-names- classification of vitamins - sources of vitamins-deficiency diseases of different types of vitamins. Nucleic acids: chemical composition of nucleic acids ,structures of nucleic acids, DNA finger printing biological functions of nucleic acids. Hormones: Definition, different types of hormones, their production, biological activity, diseases due to their abnormal activities.

23. Chemistry In Everyday Life

Drugs and their classification: (a) Classification of drugs on the basis of pharmocological effect (b) Classification of drugs on the basis of drug action (c) Classification of drugs on the basis of chemical structure (d) Classification of drugs on the basis of molecular targets. Drug-Target interaction-Enzymes as drug targets(a) Catalytic action of enzymes (b) Drug-enzyme interaction Receptors as drug targets. Therapeutic action of different classes of drugs: antacids, antihistamines, neurologically active drugs: tranquilizers, analgesics-non-narcotic,narcotic analgesics, antimicrobials-antibiotics,antiseptics and disinfectants- antifertility drugs. Chemicals in food-artificial sweetening agents, food preservatives, antioxidants in food. Cleansing agents-soaps and synthetic detergents.

24. Environmental chemistry:

Sources of energy, Conventional sources of energy, Fossil fuels, Petroleum formation, refining of petroleum, constituents of petroleum, Natural gas, Petrochemicals, Thermal power plant, Hydro power plants, Improvements in the technology for using conventional sources of energy, Bio-Mass, Wind energy, Alternative or non-conventional sources of energy, Solar energy, Energy from sea, Tidal energy, Wave energy, Ocean thermal energy, Geothermal energy, Nuclear energy, Environmental consequences of production and consumption of energy, Sustainability of energy sources. Pollution: Air, Water and Soil Pollution, Oxides of Carbon, Carbon Monoxide, Oxides of nitrogen and Sulphur, Chlorofluro carbons, Chemical reactions in atmosphere, smogs, major atmospheric pollutants, acid rain, Ozone and its reactions, effects of depletion of ozone layer, Green house effect and global warming, Pollution due to industrial wastes, Green chemistry as an alternative tool for reducing pollution with two examples.

Methodology (Marks: 20)

1. The Nature of Science: Nature and scope of science, Science, ideology and Society, Structure of Science (a) Substantive structure - Empirical knowledge, Theoretical Knowledge - (Facts, Concepts, hypothesis, theory, Principle Law), (b)Syntactic Structure of Science - Scientific inquiry, Processes of Science, Attitudes of inquiry
2. The History and Development of Science: A brief introduction to oriental and western science, Contribution of the following Scientists in the Development of Science: Aryabhatta, BhaskaraCharya, Aristotle, Copernicus, Newton, Einstein, C.V.Raman, Various organizations working for the development of science in India
3. Aims and Values of teaching Physical Sciences: Aims of teaching Physical Sciences, Values of teaching Physical Science, Correlation of Physics and Chemistry with other subjects
4. Objectives of teaching Physical Sciences: Meaning and importance of objectives, Bloom's Taxonomy of Educational objectives, Specific / Behavioral objectives / (Instructional objectives), Critique on Bloom's Taxonomy
5. Approaches and Methods of teaching Physical Sciences: Inductive and Deductive Approaches, Micro Teaching, Team Teaching, Lecture Method, Lecture cum Demonstration Method, Historical Method, Heuristic Method, Project Method, Laboratory method, Problem Solving Method, Scientific Method, Multimedia Approach in Teaching Learning process, Programmed Learning, CAI and CAL
6. Planning for effective instruction in Science: Year Plan, Unit Plan, Lesson Plan, Learning experience, characteristics, classification, source and relevance.
7. Teaching Learning Material (TLM): Characteristics and Importance of TLM, Classification and Types of TLM, Hardware and Software in TLM, TLM-Principles to be followed, Edgar Dale's cone of learning experience.
8. Science laboratories: Importance of Practical work in science, Planning of Science laboratories, Procurement, care and maintenance of laboratory equipment, Registers, Management of safety and science kits, Development of improvised Apparatus.
9. Physical Science Curriculum: Principles of Curriculum Construction, Defects in the existing school science curriculum, Qualities of a good Science Text Book.
10. Non-formal Science Education: Science Clubs, Science Fairs - purposes, levels, organization, advantages, Science Library, Role of NGOs and State in popularizing Science
11. Evaluation: Concept and Process of Evaluation, Tools of Evaluation, Preparation of Scholastic Achievement Test (SAT), Analysis and interpretation of Scores.

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training
Category of Post: PGT
Paper II – BIOLOGICAL Science Syllabus

Part – I

General Knowledge and Current Affairs (Marks: 10)

Part – II

Perspectives in Education (Marks: 10)

1. **History of Education :**
   - The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
   - Education in Pre Independent era - Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944).
   - Education in Post Independent era - Mudaliar Commission (1952-53), Kothari Commission (1964-66), Ishwarbhai Patel committee (1977), NPE-1986, POA-1992
2. **Teacher Empowerment:**
   - Need, interventions for empowerment, Professional code of conduct for teachers, Teacher motivation, Professional development of Teachers and Teacher organizations, National / State Level Organizations for Teacher Education, Maintenance of Records and Registers in Schools.
3. **Educational Concerns in Contemporary India:**
   - Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities.
   - Economics of Education, Education as Human Capital, Education and Human Resource Development, Literacy - Saakshar Bharat Mission.
   - Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
   - Inclusive Education - Classroom Management in Inclusive Education
   - Role of Education in view of Liberalization, Privatization and Globalization
   - Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs, Model Schools.
   - Incentives and special provisions – Mid Day Meals, Free Books, Scholarship, Awards, Welfare Hostels, Transportation.
   - Current Trends in Education – Badi pelusthondi, Badi ki Vasta, Mavuru – Mana Badi, Vidyanjali, Swacha Patasala, Inspire, Kalavutsav.
4. **Acts / Rights:**
   - Right of Children to Free and Compulsory Education Act - 2009
   - Right to Information Act - 2005

- Child Rights
- Human Rights.

5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

Part - III

Educational Psychology (Marks: 10)

1. Development of Child

- Development, Growth & Maturation — Concept & Nature
- Principles of development and their education implication
- Factors influencing Development — Biological, Psychological, Sociological, emotional.
- Dimensions of Development and their interrelationships — Physical & Motor, Cognitive, Emotional, Social, Moral, Language relating to Infancy, early Childhood, late Child hood, dolescence.
- Understanding Development — Piaget, Kohlberg, Chomsky, Carl Rogers, Erikson
- Individual differences — Infra & Inter Individual differences in the areas of Attitudes, Aptitude, Interest, Habits, Intelligence and their Assessment.
- Development of Personality — Concept, Factors effecting development of personality, self concept.
- Adjustment, Behavioural problems, Mental Health, Defense mechanism.
- Methods and Approaches of Child Development — Introspection, Observation, Interview, Case study, Experimental, Cross sectional and Longitudinal
- Developmental tasks and Hazards

2. Understanding Learning

- Concept, Nature of Learning — input — process — outcome
- Factors of Learning — Personal and Environmental
- Approaches to Learning and their applicability—Behaviorism (Skinner, Pavlov, Thorndike) Constructivism (Piaget, Vygotsky), Gestalt(Kohler, Koffka) and Observational (Bandura)
- Dimensions of Learning — Cognitive, Affective and Performance.
- Motivation and Sustenance —its role in learning.
- Memory & Forgetting
- Transfer of Learning

3. Pedagogical Concerns

- Teaching and its relationship with learning and learner.
- Learners in Contexts: Situating learner in the socio-political and cultural context
- Children from diverse contexts—Children With Special Needs (CWSN), Inclusive Education.
- Understanding of pedagogic methods — Enquiry based learning, Project based learning, Survey, Observation and Activity based learning, Cooperative and collaborative learning.
- Individual and Group learning: Issues and concerns with respect to organizing learning in class room like Study habits, Self learning and Learning to learn skills.

- Organizing learning in heterogeneous class room groups — Socio-economic background, Abilities and Interest.
- Paradigms of organizing Learning-Teacher centric, Subject centric and Learner centric.
- Theory of instruction – Bruner
- Teaching as Planned activity — Elements of Planning
- Phases of Teaching — Pre active, Interactive and Post active
- General and Subject related skills, competencies required in teaching and attributes of good facilitator.
- Learning resources — Self, Home, School, Community, Technology.
- Class room Management: Role of student, teacher, Leadership style of teacher, Creation of non threatening learning environment, Managing behaviour problems, Guidance & Counselling, Punishment and its legal implications, Rights of a child, Time Management.

- Distinction between Assessment for Learning & Assessment of Learning, School based Assessment, Continuous & Comprehensive Evaluation : Perspective & Practice.
- Understanding teaching & learning in the context of NCF, 2005 & Right to Education Act, 2009.

Part - IV

Content (Marks: 50)

1. **Biological Sciences:** Importance and Human Welfare, Branches of Biology, Biologists.
2. **Living World:** Life and its Characteristics, Classification of Living Organisms, Nomenclature, different types of classification. Need for classification, Biological classification levels and Hierarchy of classification, species concept. Animal diversity, invertebrates, Chordates.
3. **Microbial World:** Virus, Bacteria, Algae, Fungi and Protozoan, Useful and Harmful Micro-organisms. Immunity, vaccination, Immunological disorders. Infections,
   life style diseases.
4. **Cell & Tissues:** Cell – Structure cell theory , cell organelles and their functions, differences between prokaryotic and Eukaryotic cells, plant cell and animal cell, cell cycle, cell division , Mitosis and Meiosis, tissues, structure, functions and types of plant and Animal tissues, Cancer biology, stem cells. Transportation of materials through the cells. Internal organization of plants, histology - anatomy of flowering plants.
5. **Plant World :** Morphology of a Typical Plant - Root, Stem, Leaf, Flower, Inflorescence, Fruit - their Structure, Types and Functions, Parts of a Flower, Seed dispersal Modifications of Root, Stem and Leaf, Photosynthesis, Transpiration, Transportation in plants (Ascent of Sap), Respiration, Excretion and Reproduction in Plants, Plant Hormones, food from the plants. Economic importance of Plants, Wild and Cultivated Plants, Agricultural Operations, Crop diseases and Control measures, Improvement in Crop yield, Storage,

Preservation and Protection of Food and Plant Products. Single cell proteins (SCP), plant enzymes, mineral nutrition, plant growth and development.

6. **Animal World:** Organs and Organ Systems including man - Their Structure and Functions Digestive, Respiratory in human, type studies of the animals. Circulatory, . Immunology, Excretory, Locomotion in protozoa and humans - Muscular, Skeletal Systems, Nervous, Control and Coordination and Reproductive: Sexual, a sexual fission, syngamy, conjugation. Reproductive health – Birth control methods, Sense Organs: Structure and Functions of Eye, Ear, Nose, Tongue and Skin. Nutrition in man - Nutrients and their functions, Balanced Diet, Deficiency diseases, Health - Tropical diseases (Viral, Bacterial, Protozoan, Helminth, Arthropod), Skin diseases (Fungal), Blindness in man: Causes, Prevention and Control, Health agencies, First Aid - Bites: Insect, Scorpion and Snakes, Fractures, Accidents, Life skills, Wild and Domesticated animals, Economic Importance of Animals, Animal Husbandry - Pisciculture, Sericulture, Poultry, Breeding of Cows and Buffaloes, animal behavior.
7. **Heredity and Evolution**: Terms, Mendel laws, Sex determination in humans, In heritance of Blood Groups, Erythroblastosis foetalis, Theories of Evolution, Speciation, Evidences of Evolution, Human Evolution, sex linkage, genetic disorders, syndromes, human genome project, evolutionary forces, DNA and finger printing.
8. **Our Environment – Ecology:** Abiotic and Biotic factors of Ecosystems, Ecosystem - Types, components, adaptations, Food chains, Food web and Ecological pyramids, Natural Resources
   - Type of water managements, soil waste land management, forests, sustainable development, fossil fuels and bio fuels, 4Rs, bio-geo-chemical cycles, pollution, air, water, soil, global environmental issues – global warming – (Green House Effect), acid rains and depletion of Ozone layer; Population - interaction in Eco-system, plant ecology.
9. **Recent Trends in Biology:** Hybridization, Gene - Genetic material, DNA , RNA, Genetic Engineering, Gene Bank, Gene Therapy, Tissue Culture and Bio-Technology – applications. Transgenic animals and plants, cloning, molecular diagnosis, bio medical technology, bio molecules, molecular biology.
10. **Biodiversity – Conservation:** Biodiversity – levels of bio diversity, conservation, wild life, sanctuaries, national parks in India, importance of species, diversity to the Ecosystem.

Teaching Methodology (Marks: 20)

1. The Nature & Scope of Science: A brief introduction of Oriental and Western Science, Nature of Science, Scope of Science, Substantive and Syntactic Structure of Science.
2. Aims and Values of Teaching Biological Sciences: Aims of teaching Biological Sciences, Values of teaching Biological Sciences.

3. Objectives of Teaching Biological Sciences: Importance of Objectives of Teaching Biological Sciences, Bloom's Taxonomy of Educational Objectives and limitations, Writing Instructional Objectives and Specifications.
4. Academic Standards in Biological Science.
5. Approaches and Methods of Teaching Biological Sciences: Inductive Approach and Deductive Approach, Methods of Teaching 1. Lecture Method, 2. Lecture cum Demonstration Method, 3. Heuristic Method, 4. Project Method, 5. Experimental Method, 6. Laboratory Method.
6. Planning for effective Instruction: Year Plan, Unit Plan, Lesson Plan - Herbartian and Bloom's Approach, Criteria for Evaluation of Lesson Plan. Self Evaluation and Peer Evaluation, Learning experiences - Characteristics, Classification, Sources and Relevance, Teaching - Learning Material and Resources in Biological Sciences.
7. Science Laboratories: Importance of Practical work in Biological Sciences, Planning Science Laboratory, Procurement, Care and Maintenance of Laboratory Equipment, Maintenance of different Registers, Safety and First aid, Development of Improvised Apparatus
8. Science Curriculum: Principles of Curriculum Construction, Defects in the existing School Science Curriculum, Correlation of Biological Sciences with other School Subjects, Qualities of a good Biological Science Text-book.
9. Biological Science Teacher: Qualities of a good Biological Sciences Teacher, Roles and Responsibilities
10. Non-formal Science Education: Science club, Eco-club, Blue-club, Red ribbon club, Science fairs - Objectives, levels of organizations, importance, Science Laboratories, Role of NGOS and State in popularizing science.
11. Evaluation: Concept and process of Measurement and Evaluation, Continuous Comprehensive Evaluation, Tools of Evaluation, Preparation of Scholastic Achievement Test(SAT), Analysis and interpretation of scores.

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training
Category of Post: PGT
Paper II – BOTANY Syllabus

Part – I

General Knowledge And Current Affairs (Marks: 10)

Part – II

Perspectives in Education (Marks: 10)

1. **History of Education :**
   - The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
   - Education in Pre Independent era - Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944).
   - Education in Post Independent era - Mudaliar Commission (1952-53), Kothari Commission (1964-66), Ishwarbhai Patel committee (1977), NPE-1986, POA-1992
2. **Teacher Empowerment:**
   - Need, interventions for empowerment, Professional code of conduct for teachers, Teacher motivation, Professional development of Teachers and Teacher organizations, National / State Level Organizations for Teacher Education, Maintenance of Records and Registers in Schools.
3. **Educational Concerns in Contemporary India:**
   - Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities.
   - Economics of Education, Education as Human Capital, Education and Human Resource Development, Literacy - Saakshar Bharat Mission.
   - Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
   - Inclusive Education - Classroom Management in Inclusive Education
   - Role of Education in view of Liberalization, Privatization and Globalization
   - Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs, Model Schools.
   - Incentives and special provisions – Mid Day Meals, Free Books, Scholarship, Awards, Welfare Hostels, Transportation.
   - Current Trends in Education – Badi pelusthondi, Badi ki Vasta, Mavuru – Mana Badi, Vidyanjali, Swacha Patasala, Inspire, Kalavutsav.
4. **Acts / Rights:**
   - Right of Children to Free and Compulsory Education Act - 2009
   - Right to Information Act - 2005
   - Child Rights

- Human Rights.

5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

Part - III

Educational Psychology (Marks: 10)

1. Development Of Child

- Development, Growth & Maturation — Concept & Nature
- Principles of development and their education implication
- Factors influencing Development — Biological, Psychological, Sociological, emotional.
- Dimensions of Development and their interrelationships — Physical & Motor, Cognitive, Emotional, Social, Moral, Language relating to Infancy, early Childhood, late Child hood, dolescence.
- Understanding Development — Piaget, Kohlberg, Chomsky, Carl Rogers, Erikson
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- Adjustment, Behavioural problems, Mental Health, Defense mechanism.
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- Concept, Nature of Learning — input — process — outcome
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- Dimensions of Learning — Cognitive, Affective and Performance.
- Motivation and Sustenance —its role in learning.
- Memory & Forgetting
- Transfer of Learning

3. Pedagogical Concerns

- Teaching and its relationship with learning and learner.
- Learners in Contexts: Situating learner in the socio-political and cultural context
- Children from diverse contexts—Children With Special Needs (CWSN), Inclusive Education.
- Understanding of pedagogic methods — Enquiry based learning, Project based learning, Survey, Observation and Activity based learning, Cooperative and collaborative learning.
- Individual and Group learning: Issues and concerns with respect to organizing learning in class room like Study habits, Self learning and Learning to learn skills.
- Organizing learning in heterogeneous class room groups — Socio-economic background, Abilities and Interest.

- Paradigms of organizing Learning-Teacher centric, Subject centric and Learner centric.
- Theory of instruction – Bruner
- Teaching as Planned activity — Elements of Planning
- Phases of Teaching — Pre active, Interactive and Post active
- General and Subject related skills, competencies required in teaching and attributes of good facilitator.
- Learning resources — Self, Home, School, Community, Technology.
- Class room Management: Role of student, teacher, Leadership style of teacher, Creation of non threatening learning environment, Managing behaviour problems, Guidance & Counselling, Punishment and its legal implications, Rights of a child, Time Management.
- Distinction between Assessments for Learning & Assessment of Learning, School based Assessment, Continuous & Comprehensive Evaluation: Perspective & Practice.
- Understanding teaching & learning in the context of NCF, 2005 & Right to Education Act, 2009.

Part - IV

Content (Marks: 50)

1. Classification of Plant Kingdom
2. Branches of Botany
3. Bacteria and Viruses: General account of Viruses: Characteristics, Chemistry, Ultra structure, Composition, Replication, Bacteriophage, Transmission of plant viruses. General account of Bacteria: Characteristics, Shape, Ultra structure of the cell, Nutrition, Reproduction, Classification and Importance.
4. Algae: Introduction and general classification of algae, criteria for the classification, thallus organisation of algae, economic importance of algae, general characteristics structure, reproduction, pigments, phylogeny, life cycles of Chlamedomonas, Volvox, Oedogonium, Chara, Vauchaeria, Ecocarpus, Polysiphonia.
5. Fungi: General characteristics of fungi, occurrence, thallus structure of fungi, modes of nutrition, reproduction, phylogeny of these types: Albugo, Mucor, Penicillium, Puccinia, Peziza, Alternaria. General account of Lichens, Economic importance of Fungi.
6. Bryophyta: General characteristics of Bryophyta, sporophyte, evolution in Bryophyta, classification of Bryophyta, structure, reproduction in Marchantia, Anthoceros, Polytrichum.
7. Pteridophyta: General characteristics of Pteridophyta, classification of Pteridophyta, structure, reproduction in Rhynia, Lycopodium, Equisetum and Marsilea.
8. Palaeobotany: Origin & evolution of land plants, Homospory, Heterospory, origin of seed, Telome theory and Origin of Sporophyte.
9. Gymnosperms: Characteristics and classification of Gymnosperms, Morphology, Life History & affinities of Cycas, Pinus & Gnetum.
10. Angiosperms: Taxonomy of Angiosperms, Systems of Classification: Hutchinson, Takhtajan, Pressey, Engler & Prantl, Bentham & Hooker. Principles of taxonomy: Criteria of classification, categories of classification, International code of

Botanical Nomenclature, principles, typification, citation & authority. Study of the following families with reference to their characteristics, economic importance and attributes etc. a) Annonaceae b) Malvaceae c) Fabaceae d) Caesalpinaceae e) Mimosaceae f) Cucurbitaceae g) Asclepiadaceae h) Euphorbiaceae i) Orchidaceae j) Rubiaceae k) Poaceae

11. Cell Biology and Anatomy: Ultra structure of cell and cell organelles, cell wall structure, tissue and tissue systems, meristems, shoot & root apices, normal & anomalous secondary growth.
12. Cytology, genetics and Evolution: Mitosis and Meiosis; Chromosome (Morphology, Structure, importance); concept of gene laws of inheritance; gene action; genetic code; linkage and crossing over; general account of mutations; polyploidy and its role in crop improvement, Concept of Primitive flower; development of anther and ovule; general account of embryosac and types of embryo; fertilization; endosperm morphology and types; polyembryony and apomixes.
13. Ecology: Ecosystem: Concept, biotic & abiotic components, ecological pyramids, productivity. Biogeochemical cycles (Carbon, Nitrogen, Sulphur, Phosphorous cycles), Plant succession – Xerosere and Hydrosere Bio-diversity and conservation.
14. Physiology
    Absorption and translocation of water; Transpiration and stomatal behaviour; Absorption and uptake of Ions, Donnan's equilibrium; Role of micronutrients in plant growth; Translocation of solutes; Photosynthesis (Light and dark reaction, Red drop, Emerson effect, Two pigment systems, Mechanism of Hydrogen transfer, Calvin cycle, Enzymes of CO_2 reduction, Hatch and slack cycle, C4 cycle, CAM Pathway, Factors affecting photosynthesis, Pigments.); Respiration (Glycolysis, Pentose phosphate shunt, structure and role of mitochondria, Kreb's cycle, Oxidative Phosphorylation, Photorespiration, respiratory quotient, fermentation, Pasteur effect, factors affecting.); The enzymes (Nomenclature and classification, structure and composition, Mode of enzyme action , Factors affecting.); Nitrogen metabolism and bio synthesis of proteins, Nitrogen fixation, Nitrogen cycle, (Physical and Biological); Nitrogen assimilation, Amino acid metabolism, Plant Hormones(Auxins, Gibberellins, Cytokinins, Abscissic acid – general account.)
15. Economic Botany: Utilisation of plants, food plants, fibres, vegetable oils, wood yielding plants, spices, medicinal plants, beverages and rubber.

16. Recent aspects of Botany: Genetic Engineering; Plant tissue culture; Social forestry; Environmental Pollution (Water, Soil, Air) Health hazards and control, Biotechnology.

Teaching Methodology (Marks: 20)

1. The Nature & Scope of Science: A brief introduction of Oriental and Western Science, Nature of Science, Scope of Science, Substantive and Syntactic Structure of Science.
2. Aims and Values of Teaching Biological Sciences: Aims of teaching Biological Sciences, Values of teaching Biological Sciences.
3. Objectives of Teaching Biological Sciences: Importance of Objectives of Teaching Biological Sciences, Bloom's Taxonomy of Educational Objectives and limitations, Writing Instructional Objectives and Specifications.

4. Approaches and Methods of Teaching Biological Sciences: Inductive Approach and Deductive Approach, Methods of Teaching 1. Lecture Method, 2. Lecture cum Demonstration Method, 3. Heuristic Method, 4. Project Method, 5. Experimental Method, 6. Laboratory Method.
5. Planning for effective Instruction: Year Plan, Unit Plan, Lesson Plan – Herbartian and Bloom's Approach, Criteria for Evaluation of Lesson Plan. Self Evaluation and Peer Evaluation, Learning experiences – Characteristics, Classification, Sources and Relevance, Teaching – Learning Material and Resources in Biological Sciences.
6. Science Laboratories: Importance of Practical work in Biological Sciences, Planning Science Laboratory, Procurement, Care and Maintenance of Laboratory Equipment, Maintenance of different Registers, Safety and First aid, Development of Improvised Apparatus.
7. Science Curriculum: Principles of Curriculum Construction, Defects in the existing School Science Curriculum, Correlation of Biological Sciences with other School Subjects, Qualities of a good Biological Science Text-book.
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10. Evaluation: Concept and process of Measurement and Evaluation,
    Continuous Comprehensive Evaluation, Tools of Evaluation, Preparation of Scholastic Achievement Test (SAT), Analysis and interpretation of scores.

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training
Category of Post: PGT
Paper II – CIVICS Syllabus

Part – I

General Knowledge and Current Affairs (Marks: 10)

Part – II

Perspectives in Education (Marks: 10)

1. **History of Education :**
   - The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
   - Education in Pre Independent era - Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944).
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2. **Teacher Empowerment:**
   - Need, interventions for empowerment, Professional code of conduct for teachers, Teacher motivation, Professional development of Teachers and Teacher organizations, National / State Level Organizations for Teacher Education, Maintenance of Records and Registers in Schools.
3. **Educational Concerns in Contemporary India:**
   - Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities.
   - Economics of Education, Education as Human Capital, Education and Human Resource Development, Literacy - Saakshar Bharat Mission.
   - Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
   - Inclusive Education - Classroom Management in Inclusive Education
   - Role of Education in view of Liberalization, Privatization and Globalization
   - Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs, Model Schools.
   - Incentives and special provisions – Mid Day Meals, Free Books, Scholarship, Awards, Welfare Hostels, Transportation.
   - Current Trends in Education – Badi pelusthondi, Badi ki Vasta, Mavuru – Mana Badi, Vidyanjali, Swacha Patasala, Inspire, Kalavutsav.
4. **Acts / Rights:**
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   - Right to Information Act - 2005
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5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

Part - III

Educational Psychology (Marks: 10)

1. Development Of Child

- Development, Growth & Maturation — Concept & Nature
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- Theory of instruction – Bruner
- Teaching as Planned activity — Elements of Planning
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- Distinction between Assessment for Learning & Assessment of Learning, School based Assessment, Continuous & Comprehensive Evaluation : Perspective & Practice.
- Understanding teaching & learning in the context of NCF, 2005 & Right to Education Act, 2009.

Part - IV

Content (Marks: 50)

I.

1. Concepts, Theories and Institutions:
   a. Introduction: Definition, Scope and importance of political Science
   b. State: Nation formation and its functions
   c. Law: Sources of Law
   d. Liberty and Equality: Their relationship
   e. Kinds of rights
2. Ideologies; Individualism, Anarchism, Fascism and Socialism
3. Forms of Government
   a. Democracy: Direct and Indirect
   b. Unitary and Federal
   c. Parliamentary and Presidential

   Organs of Government
   a. Legislature
   b. Executive
   c. Judiciary

II. Indian Government and policies

1. Evolution of Indian Constitution
2. Indian Federation: Centre State relations
3. Fundamental rights, duties, Constitutional remedies.
4. President: Election, Powers functions, Prime Minister and Council of Minister.
5. Parliament Composition Powers, Judicial review
6. Judiciary: Supreme Court, Powers, Judicial review.
7. Election commission: Electoral reforms, Voting Behaviour.
8. Local Government: 73rd and 74th Amendments.

III. Political Thought

1. Indian Political Thought
   a. Manu
   b. Koutilya
   c. Gandhi

d. Ambedkar

IV. Control over Administration

1. Legislative control
2. Executive control
3. Judicial Control
4. Lok Pal
5. Lokayukta

V. Government and Politics in Andhra Pradesh

1. Historical Background of the A.P.: Socio – Political Struggle in Hyderabad State
2. States Reorganization and Formation of Andhra Pradesh Party System: National and Regional Parties pressure Groups.

Teaching Methodology (Marks: 20)

1. Social Studies – Meaning, Nature and Scope: Defining Social Studies, Main features of Social Studies, Social Studies and Social Sciences differentiated, Scope of Social Studies – Types of Subject material and learning experiences included in the study of Social Studies, Need and importance of Social Studies.

2. Values, Aims and Objectives of Teaching Social Studies: Values of teaching Social Studies, Aims of teaching Social Studies at Secondary Level, Instructional Objectives of teaching Social Studies, Relationship of instructional objectives with general aims and objectives of Social Studies, Taxonomy of Educational and instructional objectives, Writing objectives in behavioural terms.

3. Social Studies Curriculum: Social Studies as a Core subject, Principles of Curriculum Construction in Social Studies, Organization of subject matter – different approaches correlated, integrated, topical, concentric, unit and chronological.
4. Instructional Strategies in Social Studies: Techniques, devices and maxims, Different methods of teaching Social Studies - Story telling, lecture, source, discussion, project, problem, inductive, deductive, observation, assignment – socialized recitation, Team teaching, Supervised study.

5. Planning for Instruction: Developing teaching skills through Micro-teaching, Year Planning, Unit Planning, Lesson Planning

6. Instructional Material and Resources: Text books, work books, supplementary material syllabus, curriculum guides, hand books, Audio visual, Social Studies laboratory, library, clubs and museum, Utilizing community resources.

7. Social Studies Teacher: Qualities of a good Social Studies teacher, Roles and responsibilities.

8. Evaluation in Social Studies: Concept and purpose, Types of Evaluation, Evaluation as a continuous and comprehensive process, Different techniques of Evaluation, Preparation for Scholastic Achievement test

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training

Category of Post: PGT

Paper II – COMMERCE Syllabus

Part – I

General Knowledge and Current Affairs (Marks: 10)

Part – II

Perspectives in Education (Marks: 10)

1. **History of Education :**
   - The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
   - Education in Pre Independent era - Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944).
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3. **Educational Concerns in Contemporary India:**
   - Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities.
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   - Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
   - Inclusive Education - Classroom Management in Inclusive Education
   - Role of Education in view of Liberalization, Privatization and Globalization
   - Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs, Model Schools.
   - Incentives and special provisions – Mid Day Meals, Free Books, Scholarship, Awards, Welfare Hostels, Transportation.
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Part - III

Educational Psychology (Marks: 10)

1. Development of Child

- Development, Growth & Maturation — Concept & Nature
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- Factors influencing Development — Biological, Psychological, Sociological, emotional.
- Dimensions of Development and their interrelationships — Physical & Motor, Cognitive, Emotional, Social, Moral, Language relating to Infancy, early Childhood, late Child hood, dolescence.
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- Methods and Approaches of Child Development — Introspection, Observation, Interview, Case study, Experimental, Cross sectional and Longitudinal
- Developmental tasks and Hazards

2. Understanding Learning

- Concept, Nature of Learning — input — process — outcome
- Factors of Learning — Personal and Environmental
- Approaches to Learning and their applicability—Behaviorism (Skinner, Pavlov, Thorndike) Constructivism (Piaget, Vygotsky), Gestalt(Kohler, Koffka) and Observational (Bandura)
- Dimensions of Learning — Cognitive, Affective and Performance.
- Motivation and Sustenance —its role in learning.
- Memory & Forgetting
- Transfer of Learning

3. Pedagogical Concerns

- Teaching and its relationship with learning and learner.
- Learners in Contexts: Situating learner in the socio-political and cultural context
- Children from diverse contexts—Children With Special Needs (CWSN), Inclusive Education.
- Understanding of pedagogic methods — Enquiry based learning, Project based learning, Survey, Observation and Activity based learning, Cooperative and collaborative learning.
- Individual and Group learning: Issues and concerns with respect to organizing learning in class room like Study habits, Self learning and Learning to learn skills.
- Organizing learning in heterogeneous class room groups — Socio-economic background, Abilities and Interest.

- Paradigms of organizing Learning-Teacher centric, Subject centric and Learner centric.
- Theory of instruction – Bruner
- Teaching as Planned activity — Elements of Planning
- Phases of Teaching — Pre active, Interactive and Post active
- General and Subject related skills, competencies required in teaching and attributes of good facilitator.
- Learning resources — Self, Home, School, Community, Technology.
- Class room Management: Role of student, teacher, Leadership style of teacher, Creation of non threatening learning environment, Managing behaviour problems, Guidance & Counselling, Punishment and its legal implications, Rights of a child, Time Management.
- Distinction between Assessment for Learning & Assessment of Learning, School based Assessment, Continuous & Comprehensive Evaluation: Perspective & Practice.
- Understanding teaching & learning in the context of NCF, 2005 & Right to Education Act, 2009.

Part - IV

Content (Marks: 50)

1. Business Studies And Management

- Introduction to Business– Concepts, characteristics, objectives. Classification of business as industry and commerce. Distinctive features of business - Business, profession and employment. Choice of Form of Organization .Large Scale and Small Scale Business-.Assistance by Government to Small Scale Sector and Micro enterprises.
- Form of Business Organizations – Sole Proprietors, Joint Hindu Family, Partnership, Joint Stock Company and its formation, Cooperative organization.
- Business ownership– Private, public and Joint sector. Public Enterprises, Role-dynamics of Public Sector, Global Enterprises (Multinational Companies), Joint Ventures.
- Business Services – banking, insurance, transportation, warehousing, communication, Impact of Technology on Business Services.
- Trade: Internal Trade - Retail and Wholesale trade, Emerging modes of business-franchising, E-business and Outsourcing. International Business– Export-Import – Procedure and documentation, EPZ/SEZ. International Trade Institutions and Agreements – WTO, UNCTAD, World-Bank, IMF, GATS (General Agreement of Trade in Services).
- Business Finance: Sources – owners and borrowed fund, Sources of raising finance, Equity and preference Shares, GDR(Global Deposit Receipts), ADR (American Deposit Receipts), Debentures, Bonds – Retained Profit, Public Deposits, Loan from Financial Institutions and commercial banks, Credit-rating and rating agencies, Trade credit, Micro-credit.
- Social Responsibility of Business, Business Ethics, Corporate Governance,

Environment protection.

- Management – concept, objectives, nature of management as Science, Art and Profession, levels, Principles of Management general and scientific.
- Business Environment – meaning, importance, dimensions, changing business environment–special reference to liberalization, privatization and globalization, Business - a Futuristic vision.
- Management Functions – Planning, organizing, staffing, directing, controlling and coordination
- Business Finance: Financial Management – meaning, scope, role and objectives, financial planning, Capital structure, leverage, Fixed and working capital – meaning and factors affecting its requirements.
- Financial Markets – Money Market-nature, instruments, Capital Market-Primary and secondary, Stock exchange, NSEI, OTCEI, Procedures, SEBI.
- Human Resource Management– meaning , importance, man-power estimation , Recruitment and selection, Training and development , Compensation, Performance Evaluation
- Marketing – meaning, functions and role, Levels of Marketing, Changing facets of marketing, Product-mix, Models of Marketing.
- Organizational Behaviors: Individual behaviors, Motivation–concepts and applications, Personality perception, Learning and attitude, Leadership and its approaches, Communication, Group dynamics.

- Emerging Trends in Management – Business Process Reengineering, Total Quality Management, Quality Circles, Benchmarking, Strategic Management, Knowledge Management.
- Consumer Protection – Meaning, importance, consumers' rights, Consumers' responsibilities, Consumer awareness and Legal redressal with special reference to consumer Protection Act, Role of consumer organization and NGOs.

2. Financial Accounting And Financial Statement Analysis

- Accounting: Meaning, objectives, qualitative characteristics of Accounting information, Accounting Principles, Accounting concepts, Accounting standards, Cash and Accrual Basis of Accounting.
- Accounting Standards – growing importance in global accounting environment – International Accounting Standards (IAS) – International Financial Reporting Standards (IFRS) – US Generally Accepted Accounting Principles (GAAP).
- Process of Accounting :Voucher, transaction ,Accounting Equation, Rules of Debit and Credit, Book of original entry-Journal and Special Purpose Books, Ledger ,posting from Journal and subsidiary books, Balancing of Accounts, Trial Balance and Rectification of Errors .Bank Reconciliation Statement.
- Accounting for depreciation, Provisions and Reserves ,Bills of Exchange, Non-Profit Organization , Partnership Firms - Reconstitution of Partnership (Admission, Retirement ,Death and Dissolution), Account of Incomplete Records (Single entry, Hire Purchase & Instalment), Consignment and Joint ventures.

- Accounting of Joint stock Companies: Share capital types of shares, accounting for issue, allotment forfeiture and re-issue of shares. Debentures – types, issue and method of redemption. Final Accounts of Sole proprietor and Joint Stock Companies. Emerging trends of presentation of Final Accounts.

  Valuation of Good will, Liquidation, Amalgamation & Reconstruction. Bank Accounts and Accounts of Insurance Companies.

  Accounts of Government Companies.
- Accounting for liquidation.
- Financial Statement Analysis: Meaning, significance, limitation .Tools for Financial Statement Analysis-comparative statements, common size statements, Trend analysis, accounting ratios.
- Funds Flow Statement and Cash Flow Statement: Meaning, objectives, preparation as per revised standard issued by ICAI.
- Computers In Accounting: Introduction to Computers and Accounting Information System, Application of Computers in Accounting, Automation of Accounting process, designing accounting reports, MIS reporting, data exchange with other information system. Readymade, customized and tailor made Accounting Systems.

- Accounting and Database Management System –Meaning, concept of entity and relationship in an accounting system, Data Base Management System (DBMS) in accounting.
- Inflation accounting and Accounting for Human Resource of an Organization and Social Responsibility.

Teaching Methodology (Marks: 20)

1. Social Studies – Meaning, Nature and Scope: Defining Social Studies, Main features of Social Studies, Social Studies and Social Sciences differentiated, Scope of Social Studies – Types of Subject material and learning experiences included in the study of Social Studies, Need and importance of Social Studies.
2. Values, Aims and Objectives of Teaching Social Studies: Values of teaching Social Studies, Aims of teaching Social Studies at Secondary Level, Instructional Objectives of teaching Social Studies, Relationship of instructional objectives with general aims and objectives of Social Studies, Taxonomy of Educational and instructional objectives, Writing objectives in behavioural terms.
3. Social Studies Curriculum: Social Studies as a Core subject, Principles of Curriculum Construction in Social Studies, Organization of subject matter – different approaches correlated, integrated, topical, concentric, unit and chronological.

4. Instructional Strategies in Social Studies: Techniques, devices and maxims, Different methods of teaching Social Studies - Story telling, lecture, source, discussion, project, problem, inductive, deductive, observation, assignment – socialized recitation, Team teaching, Supervised study.
5. Planning for Instruction: Developing teaching skills through Micro-teaching, Year Planning, Unit Planning, Lesson Planning.

6. Instructional Material and Resources: Text books, work books, supplementary material syllabus, curriculum guides, hand books, Audio visual, Social Studies laboratory, library, clubs and museum, Utilizing community resources.
7. Social Studies Teacher: Qualities of a good Social Studies teacher, Roles and responsibilities.
8. Evaluation in Social Studies: Concept and purpose, Types of Evaluation, Evaluation as a continuous and comprehensive process, Different techniques of Evaluation, Preparation for Scholastic Achievement test

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training

Category of Post: PGT

Paper II – ECONOMICS Syllabus

Part – I

General Knowledge and Current AffairS (Marks: 10)

Part – II

Perspectives in Education (Marks: 10)

1. **History of Education :**
   - The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
   - Education in Pre Independent era - Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944).
   - Education in Post Independent era - Mudaliar Commission (1952-53), Kothari Commission (1964-66), Ishwarbhai Patel committee (1977), NPE-1986, POA-1992
2. **Teacher Empowerment:**
   - Need, interventions for empowerment, Professional code of conduct for teachers, Teacher motivation, Professional development of Teachers and Teacher organizations, National / State Level Organizations for Teacher Education, Maintenance of Records and Registers in Schools.
3. **Educational Concerns in Contemporary India:**
   - Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities.
   - Economics of Education, Education as Human Capital, Education and Human Resource Development, Literacy - Saakshar Bharat Mission.
   - Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
   - Inclusive Education - Classroom Management in Inclusive Education
   - Role of Education in view of Liberalization, Privatization and Globalization
   - Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs, Model Schools.
   - Incentives and special provisions – Mid Day Meals, Free Books, Scholarship, Awards, Welfare Hostels, Transportation.
   - Current Trends in Education – Badi pelusthondi, Badi ki Vasta, Mavuru – Mana Badi, Vidyanjali, Swacha Patasala, Inspire, Kalavutsav.
4. **Acts / Rights:**
   - Right of Children to Free and Compulsory Education Act - 2009
   - Right to Information Act - 2005
   - Child Rights
   - Human Rights.
5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

Part - III

Educational Psychology (Marks: 10)

1. Development of Child

- Development, Growth & Maturation — Concept & Nature
- Principles of development and their education implication
- Factors influencing Development — Biological, Psychological, Sociological, emotional.
- Dimensions of Development and their interrelationships — Physical & Motor, Cognitive, Emotional, Social, Moral, Language relating to Infancy, early Childhood, late Child hood, dolescence.
- Understanding Development — Piaget, Kohlberg, Chomsky, Carl Rogers, Erikson
- Individual differences — Infra & Inter Individual differences in the areas of Attitudes, Aptitude, Interest, Habits, Intelligence and their Assessment.
- Development of Personality — Concept, Factors effecting development of personality, self concept.
- Adjustment, Behavioural problems, Mental Health, Defense mechanism.
- Methods and Approaches of Child Development — Introspection, Observation, Interview, Case study, Experimental, Cross sectional and Longitudinal
- Developmental tasks and Hazards

2. Understanding Learning

- Concept, Nature of Learning — input — process — outcome
- Factors of Learning — Personal and Environmental
- Approaches to Learning and their applicability—Behaviorism (Skinner, Pavlov, Thorndike) Constructivism (Piaget, Vygotsky), Gestalt(Kohler, Koffka) and Observational (Bandura)
- Dimensions of Learning — Cognitive, Affective and Performance.
- Motivation and Sustenance —its role in learning.
- Memory & Forgetting
- Transfer of Learning

3. Pedagogical Concerns

- Teaching and its relationship with learning and learner.
- Learners in Contexts: Situating learner in the socio-political and cultural context
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- Paradigms of organizing Learning-Teacher centric, Subject centric and Learner centric.
- Theory of instruction – Bruner
- Teaching as Planned activity — Elements of Planning
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- Learning resources — Self, Home, School, Community, Technology.
- Class room Management: Role of student, teacher, Leadership style of teacher, Creation of non threatening learning environment, Managing behaviour problems, Guidance & Counselling, Punishment and its legal implications, Rights of a child, Time Management.

- Distinction between Assessment for Learning & Assessment of Learning, School based Assessment, Continuous & Comprehensive Evaluation : Perspective & Practice.
- Understanding teaching & learning in the context of NCF, 2005 & Right to Education Act, 2009.

Part - IV

Content (Marks: 50)

1. Consumer Behaviour and Demand: Consumer`s Equilibrium – Meaning and attainment of equilibrium through utility approach and Indifference approach, Demand, Market Demand, Determinants of Demand, Demand Curve, Movement along and Shifts in Demand Curve, Law of Demand, and its exceptions, Price, Elasticity of Demand, Measurement of Price Elasticity of Demand, Methods.

2. Producer Behaviour and Supply: Agents of Production, Production Function, Cost of Revenue – Meaning and Various types of Costs and revenue. Isoquants

   – Supply, Market Supply, Determinants of Supply, Supply Curve, Movement along shifts in Supply Curve. Price elasticity of Supply and its Measurement, Components and theories of Distribution. Welfare Economics – Pare to optimality, Private and Social Products, Consumer Surplus, Production Possibility Curve and Opportunity Cost.
3. Forms of Market and Price Determination: Forms of Market – Meaning and features – Price determination under Perfect Competition, and Imperfect Competition – Monopoly, Duopoly, Monopolistic Competition, Oligopoly.
4. National Income and Related Aggregates: Macro Economics : Meaning, Circular flow of income, Concepts of GDP, GNP, NDP, NNP (at Market price and factor cost), National Disposable and Personal Disposable income – Measurement of National income.
5. Determination of income and Employment: Aggregate demand, Aggregate Supply and their Components. Propensity to consume and propensity to save. Involuntary Unemployment and full Employment. Determination of income and employment. Concept of Investment Multiplier and it's working. Inflation: Meaning, Causes and remedies.
6. Money and Banking: Money – Meaning, evolution and functions – Classification of money – M_1, M_2, M_3 & M_4. Central Bank – meaning and functions methods of

credit control. Commercial Banks – Meaning and functions. Recent Significant reforms and issues in Indian Banking system.

7. Indian Public Finance; Salient Features of Indian Tax System – Direct and Indirect Taxes. Sources of Public revenue, GST, VAT – Tax and Expenditure Reforms. Government budget – Meaning and its components. Objectives of Government budget. Classification of receipts; Classification of expenditure. Types of budget – meaning and implications; Measures to control different deficits. Downsizing the role of Government.
8. International Economics: Theories if International trade, the basis of International Trade – Classical theories of Trade – Adam Smith, Ricardo; Neo – Classical Theories – Herberler's opportunity Cost approaches; modern Theories of Trade – Hecksher and Ohlin Model; Factor Price Equalization Theorem; Rybezynski Theorem; Leontief's Paradox. Balance of Payments – Meaning and Components – Foreign Exchange rate – Meaning (Fixed and Flexible), Merits and demerits. IMF – the World Bank & its associates. WTO.
9. Concepts of Shares, debentures, SEBI, NSEW, BSE and various indices.
10. A.P.Economy: State income: Sectoral Contribution, Population, Programmes initiated by the State Government towards Rural Development Programmes, Special Economic Zones, APIIC in the process of industrial development of Andhra Pradesh.
11. Introduction and Collection, Organization of data: Meaning, Scope and importance of Statistics in Economics. Collection and Organization of data. Census of India and national Sample Survey Organization. Statistical Tools and Interpretation: Measures of Central Tendency, Measures of Dispersion, Measures of Correlation – Karl Pearson's Method, Spearman's rank correlation.
12. Economic Growth and Development – Concepts – Factors affecting economic growth – A brief introduction of the State of Indian Economy on the eve of independence. Common goals of Five Year plans, Major Controversies on Planning in India. Main Features, Problems and Policies of Agriculture, industry and Foreign Trade.
13. Economic activities from 1950 to 1990, Economic Reforms since 1991: Need and Main features, liberalization, Globalization and Privatization; an appraisal of LPG Policies.
14. Current Challenges facing Indian Economy: Poverty and Unemployment – Meaning and Types programmes for alleviation of poverty and Unemployment – Rural development; Key issues – Credit and Marketing – Role of Cooperatives; Agricultural Diversification; Alternative Farming – Organic Farming, Human Capital Formation. Growth of Education Sector in India.

    Employment: Opportunities and other related issues. Infrastructural Problems and Policies. Sustainable Economic Development: Meaning; Effects of Economic Development on Resources and Environment.
15. Sectors of Indian Economy, consumer rights, Infrastructure, Rural Development.

Teaching Methodology (Marks: 20)

1. Social Studies – Meaning, Nature and Scope: Defining Social Studies, Main features of Social Studies, Social Studies and Social Sciences differentiated, Scope of Social Studies – Types of Subject material and learning experiences included in the study of Social Studies, Need and importance of Social Studies.
2. Values, Aims and Objectives of Teaching Social Studies: Values of teaching Social Studies, Aims of teaching Social Studies at Secondary Level, Instructional Objectives of teaching Social Studies, Relationship of instructional objectives with general aims and objectives of Social Studies, Taxonomy of Educational and instructional objectives, Writing objectives in behavioural terms.
3. Social Studies Curriculum: Social Studies as a Core subject, Principles of Curriculum Construction in Social Studies, Organization of subject matter – different approaches correlated, integrated, topical, concentric, unit and chronological.
4. Instructional Strategies in Social Studies: Techniques, devices and maxims, Different methods of teaching Social Studies - Story telling, lecture, source, discussion, project, problem, inductive, deductive, observation, assignment – socialized recitation, Team teaching, Supervised study.
5. Planning for Instruction: Developing teaching skills through Micro-teaching, Year Planning, Unit Planning, Lesson Planning.
6. Instructional Material and Resources: Text books, work books, Supplementary material syllabus, curriculum guides, hand books, Audio visual, Social Studies laboratory, library, clubs and museum, Utilizing community resources.
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Paper II – ENGLISH Syllabus

Part – I

General Knowledge and Current Affairs (Marks: 10)

Part – II

Perspectives in Education (Marks: 10)

1. **History of Education :**
   - The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
   - Education in Pre Independent era - Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944).
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2. **Teacher Empowerment:**
   - Need, interventions for empowerment, Professional code of conduct for teachers, Teacher motivation, Professional development of Teachers and Teacher organizations, National / State Level Organizations for Teacher Education, Maintenance of Records and Registers in Schools.
3. **Educational Concerns in Contemporary India:**
   - Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities.
   - Economics of Education, Education as Human Capital, Education and Human Resource Development, Literacy - Saakshar Bharat Mission.
   - Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
   - Inclusive Education - Classroom Management in Inclusive Education
   - Role of Education in view of Liberalization, Privatization and Globalization
   - Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs, Model Schools.
   - Incentives and special provisions – Mid Day Meals, Free Books, Scholarship, Awards, Welfare Hostels, Transportation.
   - Current Trends in Education – Badi pelusthondi, Badi ki Vasta, Mavuru – Mana Badi, Vidyanjali, Swacha Patasala, Inspire, Kalavutsav.
4. **Acts / Rights:**
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5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

Part - III

Educational Psychology (Marks: 10)

1. Development of Child

- Development, Growth & Maturation — Concept & Nature
- Principles of development and their education implication
- Factors influencing Development — Biological, Psychological, Sociological, emotional.
- Dimensions of Development and their interrelationships — Physical & Motor, Cognitive, Emotional, Social, Moral, Language relating to Infancy, early Childhood, late Child hood, dolescence.
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- Adjustment, Behavioural problems, Mental Health, Defense mechanism.
- Methods and Approaches of Child Development — Introspection, Observation, Interview, Case study, Experimental, Cross sectional and Longitudinal
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2. Understanding Learning

- Concept, Nature of Learning — input — process — outcome
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- Dimensions of Learning — Cognitive, Affective and Performance.
- Motivation and Sustenance —its role in learning.
- Memory & Forgetting
- Transfer of Learning

3. Pedagogical Concerns

- Teaching and its relationship with learning and learner.
- Learners in Contexts: Situating learner in the socio-political and cultural context
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- Paradigms of organizing Learning-Teacher centric, Subject centric and Learner centric.
- Theory of instruction – Bruner
- Teaching as Planned activity — Elements of Planning
- Phases of Teaching — Pre active, Interactive and Post active
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- Learning resources — Self, Home, School, Community, Technology.
- Class room Management: Role of student, teacher, Leadership style of teacher, Creation of non threatening learning environment, Managing behaviour problems, Guidance & Counselling, Punishment and its legal implications, Rights of a child, Time Management.

- Distinction between Assessment for Learning & Assessment of Learning, School based Assessment, Continuous & Comprehensive Evaluation : Perspective & Practice.
- Understanding teaching & learning in the context of NCF, 2005 & Right to Education Act, 2009.

Part - IV

Content: English (Marks: 50)

I. Reading Comprehension of an unseen prose text

II. Language and Communication

- Parts of Speech
- Articles-Determiners
- Conjunctions (Linkers/Connectors/ Cohesive devices).
- Prepositions
- Adverbs –Types and their order in sentenses.
- Tense and Time
- Adjectives including Degrees of Comparison
- Modals
- Word Order in Sentences
- Clauses
- Types of Sentences
- Voice
- Direct and Indirect Speech
- Non-finites (Infinitives, Gerunds and Participles)
- Complex and Compound Sentences
- Phrasal Verbs/Idioms/Prepositional Phrases
- Punctuation Marks
- Phonetics -Sounds, Stress and Intonation, Minimal Pairs, Minimal Contrastive Pairs
- Composition- Letter writing, Message writing, Notice writing, Report writing, Article writing, Paragraph writing and Precis writing

III. Literature

A. Detailed study of English Literature from 1798 to 1900 with special reference to

Wordsworth, S.T.Coleridge, John Keats , Shelley, Lord Byron, Charles Lamb, Charles Dickens, William Hazlitt, Alfred Lord Tennyson, Robert Browning, Mathew Arnold, George Eliot, Thomas Carlyle and John Ruskin.

B. Reading Comprehension of a literary Prose and Poem.

C. Poetry

Name of the Poet	Title
William Shakespeare	-Let Me Not To The Marriage of True Minds(A sonnet)
John Milton	On Time On Shakespeare
William Wordsworth	The Solitary Reaper Education of Nature A Slumber Did My Spirit Seal The World Is Too Much With Us
William Blake	A Poison Tree The Divine Image The School Boy
John Keats	On The Grasshopper and The Cricket Ode to The Nightingale Ode to Autumn
John Donne	A Literature Upon the Shadow The Sunne Rising
W.B.Yeats	The Wild Swans of Coole Byzantium The Second Coming
S.T.Coleridge	The Rime of The Ancient Mariner
Emily Dickinson	Trees
Robert Frost	The Road Not Taken Dust of Snow Stopping By Woods on a Snowy Evening
Rabindranath Tagore	The Last Bargain Where The Mind is Without Fear From Lover's Gift
Sarojini Naidu	The Bangle Sellers

D. Prose (Essay/Short Story/Novel)

Name of the Essayist/Writer/Novelist	Title
Francis Bacon	Of Studies
Charles Lamb	Dream Children-A Reverie
Oscar Wilde	The Nightingale and The Rose
Stephen Leacock	How to Live to be 200 The Conjuror's Revenge

E.V.Lucas	The face on the Wall
O'Henry	After Twenty Years
Isaac Asimov	Robots and People
A.G.Gardiner	On Shaking Hands
R.K. Laxman	The Gold Frame
Ruskin Bond	How Far is the River
George Orwell	Animal Farm (Original version)
R.K.Narayan	Next Sunday The Guide
Jane Austen	Pride and Prejudice
Jawahar Lal Nehru	Chapter III (The Quest) of Discovery of India

E. Drama

Name of the Writer	Title
William Shakespeare	The Tempest Macbeth Julius Caesar Hamlet
J.B.Priestly	Mother's Day(one act play)
Fritz Karinthy	The Refund
Mahaswtha Devi	Mother of 1084

Note: The candidates are expected to have a thorough knowledge of the above mentioned poets, essayists, novelists and dramatists and their respective works mentioned at the level that is expected of a student of literature.

F. Literary Criticism

Mathew Arnold: The Study of Poetry
T.S.Eliot: Function of Criticism

Teaching Methodology (Marks: 20)

1. Aspects of English language- History, Nature and Importance of English.
2. Problems and Principles of Teaching English.
3. Objectives of Teaching English.
4. Approaches, Methods and Techniques of Teaching English.
5. Developing Language Skills-Listening, Speaking, Reading and Writing.
6. Teaching – Learning Material – development, preparation and use (including use of ICT).
7. Developing Study and Reference Skills.
8. Remedial Teaching.
9. Evaluation in teaching / learning process.
10. Planning - Lesson planning.
11. Curriculum and Textbooks- Development and Use.

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Paper II – MATHEMATICS Syllabus

Part – I

General Knowledge and Current Affairs (Marks: 10)

Part – II

Perspectives in Education (Marks: 10)

1. **History of Education :**
   - The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
   - Education in Pre Independent era - Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944).
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   - Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
   - Inclusive Education - Classroom Management in Inclusive Education
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   - Incentives and special provisions – Mid Day Meals, Free Books, Scholarship, Awards, Welfare Hostels, Transportation.
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Part - III

Educational Psychology (Marks: 10)

1. Development Of Child

- Development, Growth & Maturation — Concept & Nature
- Principles of development and their education implication
- Factors influencing Development — Biological, Psychological, Sociological, emotional.
- Dimensions of Development and their interrelationships — Physical & Motor, Cognitive, Emotional, Social, Moral, Language relating to Infancy, early Childhood, late Child hood, dolescence.
- Understanding Development — Piaget, Kohlberg, Chomsky, Carl Rogers, Erikson
- Individual differences — Infra & Inter Individual differences in the areas of Attitudes, Aptitude, Interest, Habits, Intelligence and their Assessment.
- Development of Personality — Concept, Factors effecting development of personality, self concept.
- Adjustment, Behavioural problems, Mental Health, Defense mechanism.
- Methods and Approaches of Child Development — Introspection, Observation, Interview, Case study, Experimental, Cross sectional and Longitudinal
- Developmental tasks and Hazards

2. Understanding Learning

- Concept, Nature of Learning — input — process — outcome
- Factors of Learning — Personal and Environmental
- Approaches to Learning and their applicability—Behaviorism (Skinner, Pavlov, Thorndike) Constructivism (Piaget, Vygotsky), Gestalt(Kohler, Koffka) and Observational (Bandura)
- Dimensions of Learning — Cognitive, Affective and Performance.
- Motivation and Sustenance —its role in learning.
- Memory & Forgetting
- Transfer of Learning

3. Pedagogical Concerns

- Teaching and its relationship with learning and learner.
- Learners in Contexts: Situating learner in the socio-political and cultural context
- Children from diverse contexts—Children With Special Needs (CWSN), Inclusive Education.
- Understanding of pedagogic methods — Enquiry based learning, Project based learning, Survey, Observation and Activity based learning, Cooperative and collaborative learning.
- Individual and Group learning: Issues and concerns with respect to organizing learning in class room like Study habits, Self learning and Learning to learn skills.

- Organizing learning in heterogeneous class room groups — Socio-economic background, Abilities and Interest.
- Paradigms of organizing Learning-Teacher centric, Subject centric and Learner centric.
- Theory of instruction – Bruner
- Teaching as Planned activity — Elements of Planning
- Phases of Teaching — Pre active, Interactive and Post active
- General and Subject related skills, competencies required in teaching and attributes of good facilitator.
- Learning resources — Self, Home, School, Community, Technology.
- Class room Management: Role of student, teacher, Leadership style of teacher, Creation of non threatening learning environment, Managing behaviour problems, Guidance & Counselling, Punishment and its legal implications, Rights of a child, Time Management.
- Distinction between Assessment for Learning & Assessment of Learning, School based Assessment, Continuous & Comprehensive Evaluation : Perspective & Practice.
- Understanding teaching & learning in the context of NCF, 2005 & Right to Education Act, 2009.

Part - IV

Content (Marks: 50)

1. **Sets:** Sets and their representations. Union and Intersection of sets, Difference of sets, Complement of a set.
2. **Relations & Functions:** Definition of relation, domain, co-domain and range of a relation. Function as a special kind of relation from one set to another. Domain, co-domain & range of a function, Real valued function of the real variable, domain and range of these functions, constant, identity, polynomial, rational, modulus, signum and greatest integer functions. Sum, difference, product and quotients of functions. Union, intersection and complements of sets, and their algebraic properties, Relations, equivalence relations, mappings, one-one, into and onto mappings, composition of mappings.
3. **Principle of Mathematical Induction:** Processes of the proof by induction.
4. **Permutations & Combinations:** Fundamental principle of counting. Factorial n, Permutations and combinations, derivation of formulae and their connections, simple applications.
5. **Complex Numbers:** Algebraic properties of complex numbers, Argand plane and polar representation of complex numbers, Statement of Fundamental Theorem of Algebra, solution of quadratic equations in the complex number system. Modulus and Argument of a complex number, square root of a complex number, Cube roots of unity, triangle inequality.
6. **Linear Inequalities**: Algebraic solutions of linear inequalities in one variable and their representation on the number line. Graphical solution of linear inequalities in two variables, Solution of system of linear inequalities in two variables – graphically, Absolute value, Inequality of means, Cauchy-Schwarz Inequality, Tchebychef's Inequality
7. **Binomial Theorem:** Statement and proof of the binomial theorem for positive integral indices. Pascal's triangle, general and middle term in binomial expansion, simple applications. Binomial Theorem for any index, Properties of Binomial Co-efficients, Simple applications for approximations.
8. **Sequence and Series:** Arithmetic, Geometric and Harmonic progressions, General

terms and sum to n terms of A.P., G.P. and H.P. Arithmetic Mean (A.M.), Geometric Mean (G.M.), and Harmonic Mean (H.M.), Relation between A.M., G.M. and H.M. Insertion of Arithmetic, Geometric and Harmonic means between two given numbers. Special series, Sum to n terms of the special series. Arithmetico-Geometric Series, Exponential and Logarithmic series.

9. **Elementary Number Theory:** Peano's Aximms, Principle of Induction; First Principal, Second Principle, Third Principle, Basic Representation Theorem, Greatest Integer Function Test of Divisibility, Euclid's algorithm, The Unique Factorisation Theorem, Congruence, Sum of divisors of a number. Euler's totient function, Theorems of Fermat and Wilson
10. **Quadratic Equations:** Quadratic equations in real and complex number system and their solutions. Relation between roots and co-efficients, nature of roots, formation of quadratic equations with given roots; Symmetric functions of roots, equations reducible to quadratic equations – application to practical problems. Polynomial functions, Remainder & Factor Theorems and their converse, Relation between roots and coefficients, Symmetric functions of the roots of an equation. Common roots.
11. **Matrices and Determinants:** Determinants and matrices of order two and three, properties of determinants, Evaluation of determinants. Area of triangles using determinants, Addition and multiplication of matrices, adjoint and inverse of matrix. Test of consistency and solution of simultaneous linear equations using determinants and matrices.
12. **Two dimensional Geometry:** Distance formula, section formula, area of a triangle, condition for the collinearity of three points, centroid and in-centre of a triangle, locus and its equation, translation of axes, slope of a line, parallel and perpendicular lines, intercepts of a line on the coordinate axes. Various forms of equations of a line, intersection of lines, angle between two lines, conditions for concurrence of three lines, distance of a point from a line, Equations of internal and external bisectors of angles between two lines, coordinates of centroid, orthocentre and circumcentre of a triangle, equation of family of lines passing through the point of intersection of two lines, homogeneous equation of second degree in x and y, angle between pair of lines through the origin, combined equation of the bisectors of the bisectors of the angles between a pair of lines, condition for the general second degree equation to represent a pair of lines, point of intersection and angle between pair of lines. Standard form of equation of a circle, general form of the equation of a circle, its radius and centre, equation of a circle in the parametric form, equation of a circle when the end points of a diameter are given, points of intersection of a line and a circle with the centre at the origin and condition for a line to be tangent to the circle, length of the tangent, equation of the tangent, equation of a family of circles through the intersection of two circles, condition for two intersecting circles to be orthogonal.

    Sections of cones, equations of conic sections (parabola, ellipse and hyperbola) in standard forms, condition for $y = mx + c$ to be a tangent and points(s) of tangency.

13. **Trigonometric Functions:** Positive and negative angles, Measuring angles in radians & in degrees and conversion from one measure to another. Definition of trigonometric functions with the help of unit circle. Expressing sin (x+y) and cos (x+y) in terms of sin x , sing y, cos x & cos y. Identities related to sin 2x, tan 2x, sin 3x and tan3x. Solution of trigonometric equations, proofs and simple applications of sine and cosine formulae. Solution of triangle. Heights and Distances.

Inverse Trigonometric Functions: Definition, range, domain, principal value branches. Graphs of inverse trigonometric functions. Elementary properties of inverse trigonometric functions.

14. **Differential Calculus:** Polynomials, rational, trigonometric, logarithmic and exponential functions, Inverse functions. Graphs of simple functions, Limits, Continuity and differentiability; Derivative, Geometrical interpretation of the derivative, Derivative of sum, difference, product and quotient of functions. Derivatives of polynomial and trigonometric functions, Derivatives of composite functions; chain rule, derivatives of inverse trigonometric functions, derivative of implicit function, Exponential and logarithmic functions and their derivatives, Logarithmic differentiation, Derivative of functions expressed in parametric forms. Second order derivatives. Rolle's and Lagrange's Mean Value Theorems and their geometric interpretations.

    Applications Of Derivatives: Applications of derivatives: rate of change, increasing / decreasing functions, tangents & normals, approximation, maxima and minima.

    Integral Calculus: Integral as an anti-derivative. Fundamental integrals involving algebraic, trigonometric, exponential and logarithmic functions, Integration by substitution, by parts and by partial fractions, Integration using trigonometric identities, Definite integrals as a limit of a sum, Fundamental Theorem of Calculus. Basic Properties of definite integrals and evaluation of definite integrals; Applications of definite integrals in finding the area under simple curves, especially lines, areas of circles / Parabolas / ellipses, area between the two curves.

15. **Differential Equations:** Definition, order and degree, general and particular solutions of differential equation, Formation of differential equation whose general solution is given, Solution of differential equations by method of separation of variables, homogeneous differential equations of first order and first degree, Solutions of linear differential equation.

16. **Vectors:** Vectors and scalars, magnitude and direction of a vector, Direction cosines / rations of vectors, Types of vectors (equal, unit, zero, parallel and collinear vectors), poison vector of a point, negative of a vector, components of a vector, addition of vectors, multiplications of a vector by a scalar, position vector of a point dividing a line segment in a given ration. Scalar (dot) product of vectors, projection of a vector on a line. Vector (cross) product of vectors.

17. **Solid Geometry:** Coordinates of a point in space, distance between two points
    Section formula, Direction cosines / ratios of a line joining two points -

    The Plane: Equation of Plane in terms of its intercepts on the axis through the given points, Length of the perpendicular from a given point to a given plane, Bisectors of angles between two Planes, Combined Equation of Two Planes, orthogonal projection on a plane.

    The Line: Equations of a Line, angle between a line and a Plane, the Condition that a given line may lie in a given plane, the condition that two given lines are coplanar, Number of arbitrary constants in the Equations of a Straight Line. Sets of Conditions which determine a line, the Shortest distance between two lines. The length and Equations of the line of Shortest distance between two straight lines, Length of the perpendicular from a given point to a given line, Intersection of three

planes, Triangular Prism, skew lines.

The Sphere: Definition and equation of the Sphere, Equation of the sphere through four given points, Plane section of the sphere, Intersection of Two Spheres; Equation of a Sphere through a given circle : Intersection of a sphere and a line. Power of a point; Tangent Plane; Plane of Contact, Polar Plane, Conjugate points, Conjugate planes: Angle of intersection of Two Spheres. Conditions for two spheres to be orthogonal: Radical Plane, Coaxial System of Spheres; Simplified form of the equation of Two Spheres.

Cones, cylinders and Conicoids: Definitions of a cone, vertex, guiding curve, generators, Equation of the cone with a given vertex and guiding curve, Enveloping cone of a sphere, Quadratic of cones with vertex at origin, Condition that the general equation of the second degree should represent a cone, Condition that a cone may have three mutually perpendicular generators, Intersection of a line and a quadric cone. Tangent lines and tangent plane at apoint. Condition that a plane may touch a cone. Reciprocal cones. Intersection of two cones with a common vertex. Right circular cone. Equation of the right circular cone with a given vertex, axis and semi-vertical angle.

Definition of a cylinder, Equation to the cylinder whose generators intersect a given conic and are parallel to a given line, enveloping cylinder of a sphere. The right circular cylinder, Equation of the right circular cylinder with a given axis and radius.

The general equation of the second degree shapes of some surfaces, Nature of Ellipsoid, Nature of Hyperboloid of one sheet.

18. **Statistics:** Measures of central tendency for grouped and ungrouped data. Measures of dispersion; for ungrouped / grouped data. Analysis of frequency distributions with equal means but different variances.
19. **Probability:** Random experiments: outcome, sample spaces. Events: occurrence of events, exhaustive events, mutually exclusive events, Probability of an event, probability of 'not', 'and' & 'or' events., Multiplication theorem on probability. Conditional probability, independent events, Baye's theorem, Random variable and its probability distribution, Binomial and Poisson distributions and their properties.

20. **Linear Algebra:** Examples of vector spaces, vector spaces and subspace, independence in vector spaces, existence of a Basis, the row and column spaces of a matrix, sum and intersection of subspaces. Linear Transformations and Matrices, Kernel, Image, and Isomorphism, change of bases, Similarity, Rank and Nullity. Inner Product spaces, orthonormal sets and the Gram-Schmidt Process, the Method of Least Squares. Basic theory of Eigenvectors and Eigenvalues, algebraic and geometric multiplicity of eigen value, diagonalization of matrices, application to system of linear differential equations. Generalized Inverses of matrices, Moore-Penrose generalized inverse. Real quadratic forms, reduction and classification of quadratic forms, index and signature, triangular reduction of a pair of forms, singular value decomposition, extrema of quadratic forms. Jordan canonical form, vector and matrix decomposition.

Field extensions, fundamental theorem of Galois theory, splitting fields, algebraic closure and normality, Galois group of a polynomial, finite fields, separability, cyclic extensions, solvability by radicals.

21. **Analysis:** Monotone functions and functions of bounded variation, Real valued functions, continuous functions, Absolute continuity of functions, standard properties. Uniform continuity, sequence of functions, uniform convergence, power series and radius of convergence, Riemann-Stieltjes integration, standard properties, multiple integrals and their evaluation by repeated integration, change of variable in multiple integration . Uniform convergence in improper integrals, differentiation under the sign of integral – Leibnitz rule, Dirichlet integral, Liouville's extension, Introduction to n-dimensional Euclidean space, open and closed intervals (rectangles), compact sets, Bolzano-Weierstrass theorem, Heine-Borel theorem. Maxima-minima of functions of several variables, constrained maxima-minima of functions, Analytic function, Cauchy-Riemann equations, singularities, Statement of Cauchy theorem and of Cauchy integral formula with applications, Residue Statement of Cauchy theorem and of Cauchy integral formula with applications, Residue and contour integration, Fourier and Laplace transforms, Mellin's inversion theorem.

    Conformal Mapping, Elliptic Function. Elementary Functions (Exponential, Logarithm, Complex Exponents, Trigs, Hyperbolic Functions) Integrals (Definite Integrals, Antiderivatives, Cauchy Goursat Theorem, Cauchy Integral Formula, Liouville's Theorem, Fundamental Theorem of Algebra, Maximum Modulus Principle) Series (Sequences, Convergence of Series, Taylor Series, Laurent Series, Absolute and Uniform Convergence, Power Series techniques) Residues and Poles (Residues, Cauchy's Residue Theorem, Residue at Infinity, Zeros of Analytic Functions.

22. **Abstract algebra and real analysis:**

    Groups: Binary operations – Definition and properties, of Groups –Finite groups and group composition tables, sub groups and cyclic sub-groups, cyclic groups, Elementary properties of cyclic groups, subgroups of finite cyclic groups.

    Rings: definitions and basic properties, homomorphism and isomorphism, fields, divisors of zero and cancellation laws, Integral Domain, the characteristic of a ring. Rings of polynomials. Polynomials in an indeterminate, Ideals and factor rings, Homomorphism and factor rings, Fundamental homomorphism theorem, Maximal and prime ideals.

Teaching Methodology (Marks: 20)

1. Meaning and Nature of Mathematics, History of Mathematics.
2. Contributions of Great Mathematicians – Aryabhatta, Bhaskaracharya, Srinivasa Ramanujan, Euclid, Pythagoras, George cantor.
3. Aims and Values of teaching Mathematics, Instructional objectives (Blooms taxonomy).
4. Mathematics curriculum: Principles, approaches of curriculum construction, Logical and Psychological, Topical and Concentric, Spiral approaches. Qualities of a good Mathematics text book.
5. Methods of teaching mathematics- Heuristic method, Laboratory method, Inductive and Deductive methods, Analytic and Synthetic methods, Project method and Problem Solving method.

6. Unit Plan, Year Plan, Lesson Planning in Mathematics.
7. Instructional materials, Edgar Dale's Cone of Experience.
8. Evolving strategies for the gifted students and slow learners.
9. Techniques of teaching mathematics like Oral work, Written work, Drilling, Assignment, Project, Speed and Accuracy.
10. Mathematics club, Mathematics structure, Mathematics order and pattern sequence.
11. Evaluation – Types, Tools and Techniques of Evaluation, Preparation of SAT Analysis, Characteristics of a good test.

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training
Category of Post: PGT
Paper II – PHYSICS Syllabus

Part – I

General Knowledge and Current Affairs (Marks: 10)

Part – II

Perspectives in Education (Marks: 10)

1. **History of Education :**
   - The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
   - Education in Pre Independent era - Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944).
   - Education in Post Independent era - Mudaliar Commission (1952-53), Kothari Commission (1964-66), Ishwarbhai Patel committee (1977), NPE-1986, POA-1992
2. **Teacher Empowerment:**
   - Need, interventions for empowerment, Professional code of conduct for teachers, Teacher motivation, Professional development of Teachers and Teacher organizations, National / State Level Organizations for Teacher Education, Maintenance of Records and Registers in Schools.
3. **Educational Concerns in Contemporary India:**
   - Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities.
   - Economics of Education, Education as Human Capital, Education and Human Resource Development, Literacy - Saakshar Bharat Mission.
   - Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
   - Inclusive Education - Classroom Management in Inclusive Education
   - Role of Education in view of Liberalization, Privatization and Globalization
   - Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs, Model Schools.
   - Incentives and special provisions – Mid Day Meals, Free Books, Scholarship, Awards, Welfare Hostels, Transportation.
   - Current Trends in Education – Badi pelusthondi, Badi ki Vasta, Mavuru – Mana Badi, Vidyanjali, Swacha Patasala, Inspire, Kalavutsav.
4. **Acts / Rights:**
   - Right of Children to Free and Compulsory Education Act - 2009
   - Right to Information Act - 2005
   - Child Rights
   - Human Rights.

5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

Part - III

Educational Psychology (Marks: 10)

1. Development of Child

- Development, Growth & Maturation — Concept & Nature
- Principles of development and their education implication
- Factors influencing Development — Biological, Psychological, Sociological, emotional.
- Dimensions of Development and their interrelationships — Physical & Motor, Cognitive, Emotional, Social, Moral, Language relating to Infancy, early Childhood, late Child hood, dolescence.
- Understanding Development — Piaget, Kohlberg, Chomsky, Carl Rogers, Erikson
- Individual differences — Infra & Inter Individual differences in the areas of Attitudes, Aptitude, Interest, Habits, Intelligence and their Assessment.
- Development of Personality — Concept, Factors effecting development of personality, self concept.
- Adjustment, Behavioural problems, Mental Health, Defense mechanism.
- Methods and Approaches of Child Development — Introspection, Observation, Interview, Case study, Experimental, Cross sectional and Longitudinal
- Developmental tasks and Hazards

2. Understanding Learning

- Concept, Nature of Learning — input — process — outcome
- Factors of Learning — Personal and Environmental
- Approaches to Learning and their applicability—Behaviorism (Skinner, Pavlov, Thorndike) Constructivism (Piaget, Vygotsky), Gestalt(Kohler, Koffka) and Observational (Bandura)
- Dimensions of Learning — Cognitive, Affective and Performance.
- Motivation and Sustenance —its role in learning.
- Memory & Forgetting
- Transfer of Learning

3. Pedagogical Concerns

- Teaching and its relationship with learning and learner.
- Learners in Contexts: Situating learner in the socio-political and cultural context
- Children from diverse contexts—Children With Special Needs (CWSN), Inclusive Education.
- Understanding of pedagogic methods — Enquiry based learning, Project based learning, Survey, Observation and Activity based learning, Cooperative and collaborative learning.
- Individual and Group learning: Issues and concerns with respect to organizing learning in class room like Study habits, Self learning and Learning to learn skills.
- Organizing learning in heterogeneous class room groups — Socio-economic background, Abilities and Interest.

- Paradigms of organizing Learning-Teacher centric, Subject centric and Learner centric.
- Theory of instruction – Bruner
- Teaching as Planned activity — Elements of Planning
- Phases of Teaching — Pre active, Interactive and Post active
- General and Subject related skills, competencies required in teaching and attributes of good facilitator.
- Learning resources — Self, Home, School, Community, Technology.
- Class room Management: Role of student, teacher, Leadership style of teacher, Creation of non threatening learning environment, Managing behaviour problems, Guidance & Counselling, Punishment and its legal implications, Rights of a child, Time Management.

- Distinction between Assessment for Learning & Assessment of Learning, School based Assessment, Continuous & Comprehensive Evaluation : Perspective & Practice.
- Understanding teaching & learning in the context of NCF, 2005 & Right to Education Act, 2009.

Content (marks: 50)

I. Mechanics: Vector Analysis: Scalar and Vector fields, Vector integration- Stokes, Gauss, and Green Theorems. Mechanics of Particles: Laws of motion, Motion of variable mass system, conservation of energy and momentum. Collisions in two and three dimension, Mechanics of Rigid Bodies: Rigid body- rotational kinematics relations, equation of motion for a rotating body, angular momentum and inertial tensor, Euler's equations, Mechanics of continuous media: Central Forces, Conservative nature of central forces, Equation of motion under a central force, Gravitational field, motion under inverse square law, derivation of Kepler's laws. Special Theory of Relativity: Galilean relativity, absolute frames, Michelson-Morley experiment, postulates of special theory of relativity, Lorentz transformation.

II. Waves and oscillations: Fundamentals of Vibrations: Simple harmonic motions, combination of two mutually perpendicular simple harmonic vibrations of same frequency and different frequencies, Lissajou's figures. Damped and force Oscillations: Damped harmonic oscillator, amplitude resonance, velocity resonance. Complex vibrations: Fourier theorem Coupled Oscillators, Vibrating strings: Transverse wave propagation along a stretched string, energy transport, transverse impedance. Ultrasonics: determination of wave length of ultrasonic waves, applications.

III. Thermodynamics: Kinetic theory of gases: Maxwell's law of distribution of molecular speeds, Toothed Wheel Experiment, Transport Phenomena –Viscosity of gases – thermal conductivity – diffusion of gases. Reversible and irreversible processes – Carnot's engine, Carnot's theorem – Second law of thermodynamics, Kelvin's and Claussius statements – Thermodynamic scale of temperature – Entropy, Change of Entropy, entropy (T-S) diagram. Thermodynamic potentials and Maxwell's equations: Derivation of Maxwell's thermodynamic relations –Clausius-Clayperon's equation – Derivation for ratio of specific heats –Derivation for difference of two specific heats for perfect gas. Joule Kelvin effect– expression for Joule Kelvin coefficient for perfect and Vanderwaal's gas; Low temperature Physics: Joule Kelvin effect – liquefaction of gas using porous plug experiment. Liquefaction of helium, Adiabatic demagnetization – Low temperatures – principle of Refrigeration, Refrigerator and Air conditioning

machines, Effects of Chloro and Fluro Carbons on Ozone layer; Black body-Ferry's black body – Wein's law, Rayleigh-Jean's law – Quantum theory of radiation - Planck's law – Measurement of radiation – Types of pyrometers – Solar constant, Temperature of sun. Statistical Mechanics: Ensembles, Phase space, Maxwell-Boltzmann's distribution law, Molecular energies in an ideal gas, Bose-Einstein Distribution law, Fermi-Dirac Distribution law, Black Body Radiation, Rayleigh-Jean's formula, Planck's radiation law, Weins Displacement, Stefan's Boltzmann's law from Planck's formula.

IV. Optics: The Matrix methods in paraxial optics: Matrix method, effect of translation, effect of refraction, imaging by a spherical refracting surface. Imaging by a co-axial optical system, Unit planes, Nodal planes, A system of two thin lenses. Aberrations and its types Interference: Principle of superposition, coherence, Interference of light Interference by division of wave front: Interference by division of amplitude, Diffraction: Fresnel and Fraunhoffer diffraction, Resolving Power of grating, Polarization: Brewster's law, Malu's law, Babinet's compensator. Laser, Fibre Optics and Holography: Laser, Laser principle, Types of Lasers and its Applications. Fibre Optics: Optical fibres, Types of optical fibres, Principles of fibre communication and advantages of fibre communication. Holography: Basic Principle of Holography – Gabor hologram and its limitations, Holography applications.

V. Electricity: Electrostatics: Gauss law, uniformly charged sphere, charged cylindrical conductor and an infinite conducting sheet of charge. Deduction of Coulomb's law from Gauss law, Mechanical force on a charged conductor Electric potential –Potential due to a charged spherical conductor, electric field strength from the electric dipole and an infinite line of charge, Potential of a uniformly charged circular disc. Dielectrics: An atomic view of dielectrics, potential energy of a dipole in an electric field. Polarization and charge density, Gauss's law for dielectric medium– Relation between D,E, and P. Dielectric constant, susceptibility and relation between them. Capacitance: Capacitance of concentric spheres and cylindrical condenser, capacitance of parallel plate condenser with and without dielectric. Electric energy stored in a charged condenser – force between plates of condenser, measurement of dielectric constant and potential difference.

VI. Magnetism And Electro Magnetism: Magnetism: Magnetic properties of para, dia and ferromagnetic materials. Langevin's theory of paramagnetism, Weiss' theory of ferromagnetism –Concepts of magnetic domains, anti ferromagnetism and ferrimagnetism ferrites and their applications, Magneto statics: Moving charge in electric and magnetic field: Hall effect, cyclotron, synchrocyclotron and synchrotron – force on a current carrying conductor placed in a magnetic field, force and torque on a current loop, Biot–Savart's law Electromagnetic induction: Faraday's law –Lenz's law – expression for induced emf – time varying magnetic fields – Betatron –Ballistic galvanometer – self and mutual inductance, coefficient of coupling, energy stored in magnetic field – transformer ,Varying and alternating currents: Growth and decay of currents in LR, CR and LCR circuits – Critical damping. Alternating current relation between current and voltage in pure R, C and L vector diagrams – Power in ac circuits, LCR series and parallel resonant circuit –Q-factor, Maxwell's equations and electromagnetic waves.

VII. Electronics: Basic Electronics: Energy bands in solids, Intrinsic and extrinsic semiconductors, p-n junction diode, half wave and full wave rectifiers, filters, ripple factor, Zener diode and its application, p-n-p and n-p-n transistors, current components in transistors, CB,CE and CC configurations, transistor as an amplifier – Positive and negative feedback, Barkhausen criterion, RC coupled amplifier and phase shift oscillator. Digital Principles: Binary and Hexa decimal number system and their conversion, Logic gates: OR, AND, NOT gates, truth tables, realization of these gates using discrete components. NAND, NOR as universal gates, Exclusive – OR gate, De Morgan's Laws, Half and Full adders, Parallel adder circuits.

VIII. Modern physics:

A) Atomic physics and Molecular physics: Atomic Spectra: Drawbacks of Bohr's atomic model - Sommerfeld's elliptical orbits, Stern & Gerlach experiment Vector atom model, L-S and j-j coupling schemes, Spectra of alkali atoms, Alkaline earth spectra, Zeeman Effect, Paschen-Back Effect and Stark Effect. Molecular Spectroscopy: determination of inter nuclear distance. Vibrational energies and spectrum of diatomic molecule, Raman Effect, Classical theory of Raman Effect.

B) Quantum Mechanics: Spectral radiation, Planck's law. Photoelectric effect, Einstien's photoelectric equation, Compton's effect, Matter Waves: de Broglie's hypothesis – wavelength of matter waves and their properties, Davisson and Germer experiment. Double slit experiment. Uncertainty Principle: Heisenberg's uncertainty principle for position and momentum, Energy and time. Schrodinger Wave Equation: Schrodinger time independent and time dependent wave equations, significance and its applications.

C) Nuclear Physics: Nuclear Structure: Properties of nucleus, Binding energy of nucleus, nuclear forces, nuclear models, Alpha and Beta Decays: Geiger – Nuttal law, Gammow's theory of alpha decay, Fermi's theory of -decay. Nuclear Reactions: Nuclear Detectors.

D) Solid State Physics: Crystal Structure: Crystalline nature of matter, Crystal lattice, Unit Cell, Elements of symmetry, Crystal systems, Bravais lattices, Miller indices, Simple crystal structures. X-ray Diffraction: Bragg's law, Laue's method and powder method. Nano materials, Superconductivity, superconductors,

Teaching Methodology (Marks: 20)

1. **The Nature of Science:** Nature and scope of science, Science, ideology and Society, Structure of Science (a) Substantive structure – Empirical knowledge, Theoretical Knowledge – (Facts, Concepts, hypothesis, theory, Principle Law), (b)Syntactic Structure of Science – Scientific inquiry, Processes of Science, Attitudes of inquiry.

2. **The History and Development of Science:** A brief introduction to oriental and western science, Contribution of the following Scientists in the Development of Science: Aryabhatta, Bhaskara Charya, Aristotle, Copernicus, Newton, Einstein, C.V.Raman, Various organizations working for the development of science in India.
3. **Aims and Values of teaching Physical Sciences:** Aims of teaching Physical Sciences, Values of teaching Physical Science, Correlation of Physics and with other subjects.

4. **Objectives of teaching Physical Sciences:** Meaning and importance of objectives, Bloom's Taxonomy of Educational objectives, Specific / Behavioural objectives / (Instructional objectives), Critique on Bloom's Taxonomy.
5. **Approaches and Methods of teaching Physical Sciences:** Inductive and Deductive Approaches, Micro Teaching, Team Teaching, Lecture Method, Lecture cum Demonstration Method, Historical Method, Heuristic Method, Project Method, Laboratory method, Problem Solving Method, Scientific Method, Multimedia Approach in Teaching Learning process, Programmed Learning, CAI and CAL.
6. **Planning for effective instruction in Science:** Year Plan, Unit Plan, Lesson Plan, Learning experience, characteristics, classification, source and relevance.
7. **Teaching Learning Material (TLM):** Characteristics and Importance of TLM, Classification and Types of TLM, Hardware and Software in TLM, TLM Principles to be followed, Edgar Dale's cone of learning experience.
8. **Science laboratories:** Importance of Practical work in science, Planning of Science laboratories, Procurement, care and maintenance of laboratory equipment, Registers, Management of safety and science kits, Development of improvised Apparatus.
9. **Physical Science Curriculum:** Principles of Curriculum Construction, Defects in the existing school science curriculum, Qualities of a good Science Text Book.
10. **Non-formal Science Education:** Science Clubs, Science Fairs – purposes, levels, organization, advantages, Science Library, Role of NGOs and State in popularizing Science.
11. **Evaluation:** Concept and Process of Evaluation, Tools of Evaluation, Preparation of Scholastic Achievement Test (SAT), Analysis and interpretation of Scores.

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training

Category of Post: PGT

Paper II – TELUGU Syllabus

Part – I

General Knowledge and Current Affairs (Marks: 10)

Part – II

Perspectives in Education (Marks: 10)

1. **History of Education :**
   - The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
   - Education in Pre Independent era - Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944).
   - Education in Post Independent era - Mudaliar Commission (1952-53), Kothari Commission (1964-66), Ishwarbhai Patel committee (1977), NPE-1986, POA-1992
2. **Teacher Empowerment:**
   - Need, interventions for empowerment, Professional code of conduct for teachers, Teacher motivation, Professional development of Teachers and Teacher organizations, National / State Level Organizations for Teacher Education, Maintenance of Records and Registers in Schools.
3. **Educational Concerns in Contemporary India:**
   - Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities.
   - Economics of Education, Education as Human Capital, Education and Human Resource Development, Literacy - Saakshar Bharat Mission.
   - Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
   - Inclusive Education - Classroom Management in Inclusive Education
   - Role of Education in view of Liberalization, Privatization and Globalization
   - Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs, Model Schools.
   - Incentives and special provisions – Mid Day Meals, Free Books, Scholarship, Awards, Welfare Hostels, Transportation.
   - Current Trends in Education – Badi pelusthondi, Badi ki Vasta, Mavuru – Mana Badi, Vidyanjali, Swacha Patasala, Inspire, Kalavutsav.
4. **Acts / Rights:**
   - Right of Children to Free and Compulsory Education Act - 2009
   - Right to Information Act - 2005
   - Child Rights
   - Human Rights.
5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

Part - III

Educational Psychology (Marks: 10)

1. Development of Child

- Development, Growth & Maturation — Concept & Nature
- Principles of development and their education implication
- Factors influencing Development — Biological, Psychological, Sociological, emotional.
- Dimensions of Development and their interrelationships — Physical & Motor, Cognitive, Emotional, Social, Moral, Language relating to Infancy, early Childhood, late Child hood, dolescence.
- Understanding Development — Piaget, Kohlberg, Chomsky, Carl Rogers, Erikson
- Individual differences — Infra & Inter Individual differences in the areas of Attitudes, Aptitude, Interest, Habits, Intelligence and their Assessment.
- Development of Personality — Concept, Factors effecting development of personality, self concept.
- Adjustment, Behavioural problems, Mental Health, Defense mechanism.
- Methods and Approaches of Child Development — Introspection, Observation, Interview, Case study, Experimental, Cross sectional and Longitudinal
- Developmental tasks and Hazards

2. Understanding Learning

- Concept, Nature of Learning — input — process — outcome
- Factors of Learning — Personal and Environmental
- Approaches to Learning and their applicability—Behaviorism (Skinner, Pavlov, Thorndike) Constructivism (Piaget, Vygotsky), Gestalt(Kohler, Koffka) and Observational (Bandura)
- Dimensions of Learning — Cognitive, Affective and Performance.
- Motivation and Sustenance —its role in learning.
- Memory & Forgetting
- Transfer of Learning

3. Pedagogical Concerns

- Teaching and its relationship with learning and learner.
- Learners in Contexts: Situating learner in the socio-political and cultural context
- Children from diverse contexts—Children With Special Needs (CWSN), Inclusive Education.
- Understanding of pedagogic methods — Enquiry based learning, Project based learning, Survey, Observation and Activity based learning, Cooperative and collaborative learning.
- Individual and Group learning: Issues and concerns with respect to organizing learning in class room like Study habits, Self learning and Learning to learn skills.
- Organizing learning in heterogeneous class room groups — Socio-economic background, Abilities and Interest.
- Paradigms of organizing Learning-Teacher centric, Subject centric and Learner centric.
- Theory of instruction – Bruner

- Teaching as Planned activity — Elements of Planning
- Phases of Teaching — Pre active, Interactive and Post active
- General and Subject related skills, competencies required in teaching and attributes of good facilitator.
- Learning resources — Self, Home, School, Community, Technology.
- Class room Management: Role of student, teacher, Leadership style of teacher, Creation of non threatening learning environment, Managing behaviour problems, Guidance & Counselling, Punishment and its legal implications, Rights of a child, Time Management.

- Distinction between Assessment for Learning & Assessment of Learning, School based Assessment, Continuous & Comprehensive Evaluation : Perspective & Practice.
- Understanding teaching & learning in the context of NCF, 2005 & Right to Education Act, 2009.

Part - IV

Content (Marks: 50)

1. తెలుగు భాషా పరిణామ చరిత్ర

   తెలుగు - ఇతర ద్రావిడ భాషలు.

   తెలుగుపై అన్యభాషల ప్రభావం

2. గ్రాంథిక వ్యావహారిక భాషావాదాలు - వివిధ భాషారూపాలు (శాసన, గ్రాంథిక, వ్యావహారిక, ఆధునిక ప్రామాణిక, ప్రసార మాధ్యమాల భాష)

3. ఎ) ప్రాచీన కవులు - కావ్యాలు

   ఇతిహాసం, పురాణం, ప్రబంధం, యక్షగానాలు, సంకీర్తనలు, చాటుపద్యాలు

   గద్యకావ్యాలు, ద్విపద కావ్యాలు

   బి) ఆధునిక కవులు - కావ్యాలు

   ఆధునిక కవిత్వ నిర్వచనం - లక్షణాలు, ఆధునిక కవితాధోరణులు. (భావ, అభ్యుదయ, విప్లవ, దిగంబర కవిత్వం మొదలగునవి)

4. శతక ప్రక్రియ - శతక సాహిత్య వికాసం - వివిధ శతకాలు, శతక కర్తలు

5. జానపదసాహిత్యం - వివిధ ప్రక్రియలు - జానపద విజ్ఞానం - వివిధ శాఖలు - జానపదసాహిత్యం - భాషావిశేషాలు - కళాకారులు

6. తెలుగు సాహిత్య ప్రక్రియలు (గద్యం)

   నవల, కథ, కథానిక, నాటకం/ నాటిక/ ఏకాంకిక, వ్యాసం, లేఖ, సంపాదకీయం, ఆత్మకథ, జీవితచరిత్ర, యాత్రాచరిత్ర, దినచర్య, విమర్శ, పీఠిక, గల్పిక

7. వివిధ రాజులు - సాహిత్యపోషణ - సాంస్కృతిక వికాసం

   శాతవాహనులు, పల్లవులు, విజయనగర రాజులు, నాయకరాజులు, రెడ్డిరాజులు, కాకతీయులు, గోల్కొండ నవాబులు.

8. సాహిత్య విమర్శ

   కవి, కావ్యం - నిర్వచనాలు, ప్రయోజనాలు, శైలి, రసం, అలంకారాలు

9. భాషాంశాలు

   వర్ణం, పదాంశం, పదం, వాక్యాంశం, వాక్యం, వాక్య భేదాలు, వాక్య భాగాలు, నిర్మాణం, క్రియలు - భేదాలు, ధ్వని పరిణామం, అర్థవిపరిణామం, వ్యాకరణ పరిభాష, పర్యాయపదాలు, నానార్థాలు, వ్యుత్పత్యర్థాలు, జాతీయాలు, సంధులు, సమాసాలు, ఛందస్సు

10. అనువాదం (ఆంగ్లం నుండి తెలుగు).

Teaching Methodology (Marks: 20)

1. భాష – వివిధ భావనలు, మాతృభాష – లక్ష్యాలు–స్పష్టీకరణలు, మాతృభాష ఉపాధ్యాయుడు.
2. భాషా నైపుణ్యాలు
3. ప్రణాళిక పతన – పాఠ్యగ్రంథాలు
4. విద్యాసాంకేతిక శాస్త్రం, సహపాఠ్య కార్యక్రమాలు
5. సాహిత్య ప్రక్రియలు, బోధన పద్ధతులు
6. మూల్యాంకనం – పరీక్షలు

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training

Category of Post: PGT

Paper II – ZOOLOGY Syllabus

Part – I

GENERAL KNOWLEDGE AND CURRENT AFFAIRS (Marks: 10)

Part – II

PERSPECTIVES IN EDUCATION (Marks: 10)

1. **History of Education :**
   - The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
   - Education in Pre Independent era - Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944).
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   - Need, interventions for empowerment, Professional code of conduct for teachers, Teacher motivation, Professional development of Teachers and Teacher organizations, National / State Level Organizations for Teacher Education, Maintenance of Records and Registers in Schools.
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   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
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   - Incentives and special provisions – Mid Day Meals, Free Books, Scholarship, Awards, Welfare Hostels, Transportation.
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4. **Acts / Rights:**
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   - Right to Information Act - 2005
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5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

Part - III

Educational Psychology (Marks: 10)

1. Development of Child

- Development, Growth & Maturation — Concept & Nature
- Principles of development and their education implication
- Factors influencing Development — Biological, Psychological, Sociological, emotional.
- Dimensions of Development and their interrelationships — Physical & Motor, Cognitive, Emotional, Social, Moral, Language relating to Infancy, early Childhood, late Child hood, dolescence.
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- Paradigms of organizing Learning-Teacher centric, Subject centric and Learner centric.
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- Teaching as Planned activity — Elements of Planning
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- Class room Management: Role of student, teacher, Leadership style of teacher, Creation of non threatening learning environment, Managing behaviour problems, Guidance & Counselling, Punishment and its legal implications, Rights of a child, Time Management.

- Distinction between Assessment for Learning & Assessment of Learning, School based Assessment, Continuous & Comprehensive Evaluation: Perspective & Practice.
- Understanding teaching & learning in the context of NCF, 2005 & Right to Education Act, 2009.

Part - IV

Content (Marks: 50)

1. Classification of Animal Kingdom
2. Non Chordata

   Classification of Non Chordata General characteristics and features of

Protozoa	: Polystomella, Trypanozoma type study.
Porifera	: Canal system, histology & Spicules.
Cnideria	: Obelia type study,
Platihelmenthes	: Fasciola type study,
Nematodes	: Ascaris
Annelida	: Earth worm, Leech type study
Arthropoda	: Palaemon type study
Mollusca	: Snail type study
Echinodermata	: Star fish type study

3. Chordata

   Classification of Chordata

   General characteristics and type study of the following with reference to skeletal system, respiratory system, circulatory system and nervous system.

Pisces	: Scoliodon
Amphibia	: Frog
Reptilia	: Calotes
Aves	: Pigeon
Mammalia	: Rabbit

4. Cell Biology: Ultra structure of the cell: Plasma membrane, mitochondria, Golgi bodies, Nucleus, Endoplasmic Reticulam, Ribosomes, Chromosomes and their fine structure, Mitosis and Meiosis, DNA & RNA and Genetic Code, Protein Synthesis, tissues.

5. Genetics: Mendel's Law of inheritance – critical view, Linkage, crossing-over, sex-linked inheritance, mutations, inborn errors of Metabolism, human Genetics and genetic engineering.
6. Physiology: Vitamins, Enzymes, Carbohydrates, Proteins and Lipids metabolism, Osmoregulation, Thermo-regulation, Excretion in vertebrates, muscle contraction, Nerve Impulse, vertebrate hormones and Mammalian reproduction.
7. Animal Behaviour: Taxis, reflexes, instinctive behaviour, motivatived behaviour, learning imprinting, habituation, classical conditioning, instrumental conditioning, trial and error learning, physiology and phylogeny of leaning, biological rhythms – circadian, lunar and circannual rhythms.
8. Developmental Biology: Gastrulation in Frog and Chick, Development of Chick upto 24 hrs, Foetal membranes of chick, Placenta in Mammals (Formation and types)
9. Evolution: Origin of Life – Modern concepts, theories of Evolution, Isolation, Speciation, Natural Selection, Hardy Weinberg's Law, population genetics and evolution, adaptations, evolution of Man.Zoogeographical realms of the world.
10. Ecology: Concept of Ecosystem, Biogeochemical cycles, influence of environmental factors on animals , energy flow in Ecosystem, food chains & tropic levels, community ecology. Ecological Succession, Environmental Pollution – Air, water, land, noise, radio active, thermal and visual; Effects of pollution on ecosystem, prevention of pollution.
11. Wild Life in India and Conservation of Wild Life.

Teaching Methodology (Marks: 20)

1. The Nature & Scope of Science: A brief introduction of Oriental and Western Science, Nature of Science, Scope of Science, Substantive and Syntactic Structure of Science.
2. Aims and Values of Teaching Biological Sciences: Aims of teaching Biological Sciences, Values of teaching Biological Sciences.
3. Objectives of Teaching Biological Sciences: Importance of Objectives of Teaching Biological Sciences, Bloom's Taxonomy of Educational Objectives and limitations, Writing Instructional Objectives and Specifications.
4. Approaches and Methods of Teaching Biological Sciences: Inductive Approach and Deductive Approach, Methods of Teaching 1. Lecture Method, 2. Lecture cum Demonstration Method, 3. Heuristic Method, 4. Project Method, 5. Experimental Method, 6. Laboratory Method.
5. Planning for effective Instruction: Year Plan, Unit Plan, Lesson Plan – Herbartian and Bloom's Approach, Criteria for Evaluation of Lesson Plan. Self Evaluation and Peer Evaluation, Learning experiences – Characteristics, Classification, Sources and Relevance, Teaching – Learning Material and Resources in Biological Sciences.
6. Science Laboratories: Importance of Practical work in Biological Sciences, Planning Science Laboratory, Procurement, Care and Maintenance of Laboratory Equipment, Maintenance of different Registers, Safety and First aid, Development of Improvised Apparatus.

7. Science Curriculum: Principles of Curriculum Construction, Defects in the existing School Science Curriculum, Correlation of Biological Sciences with other School Subjects, Qualities of a good Biological Science Text-book.
8. Biological Science Teacher: Qualities of a good Biological Sciences Teacher, Roles and Responsibilities.
9. Non-formal Science Education: Science club, Eco-club, Blue-club, Red ribbon club, Science fairs – Objectives, levels of organizations, importance, Science Laboratories, Role of NGO`S and State in popularizing science.
10. Evaluation: Concept and process of Measurement and Evaluation, Continuous Comprehensive Evaluation, Tools of Evaluation, Preparation of Scholastic Achievement Test(SAT), Analysis and interpretation of scores.

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training
Category of Post: TGT
Paper II – ENGLISH Syllabus

PART - I

I. General Knowledge And Current Affairs (Marks: 10)

PART - II

II. Perspectives in Education (Marks: 05)

1. History of Education :

- The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
- Education in Pre Independent era - Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944).
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2. Teacher Empowerment:

- Need, interventions for empowerment, Professional code of conduct for teachers, Teacher motivation, Professional development of Teachers and Teacher organizations, National / State Level Organizations for Teacher Education, Maintenance of Records and Registers in Schools.

3. Educational Concerns in Contemporary India:

- Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities.
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- Adolescence Education
- Value Education – Morel Value and Professional Eathics in Education.
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- Inclusive Education - Classroom Management in Inclusive Education
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- Current Trends in Education – Badi pelusthondi, Badi ki Vasta, Mavuru – Mana Badi, Vidyanjali, Swacha Patasala, Inspire, Kalavutsav.

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   - Child Rights
   - Human Rights.

5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

PART - III

III. Classroom Implications of Educational Psychology – 05m

1. **Individual differences:** Inter and intra individual differences, meaning, nature and theories of intelligence with special emphasis to multiple intelligence, IQ, assessment of intelligence, EQ, Creativity. Attitude, Aptitude, Interest, Habit and its Influence on Intelligence – Class room implementation.
2. **Learning:** Theories and approaches of learning, learning curves, Factors, Phases, Dimensions of learning, Types of learning, Transfer of learning. Memory, Forgetting, Learning and assessment– Class room implementation.
3. **Personality:** Nature, characteristics and theories of personality, factors of Personality, Assessment of Personality, Mental health, Adjustment, Stress – nature, Symptoms and management. Emotional intelligence, Management of emotions – Class room implementation.

PART – IV

IV. Content (40 Marks)

VOCABULARY		LEVEL OF TESTING
Synonyms		Identification of Shades of Meaning
Antonyms		Identifying Antonyms in a Context
Homophones		Identification & Usage
Homonyms		Identification & Usage
Hypernyms & Hyponyms		Identification & Usage
Spelling		Spelling
One-word Substitutes		Referring to Persons / Professions, Places, Collections
Phrasal Verbs		Identification of Meaning and usage
Idiomatic Expressions		Identification, Usage
Proverbs		Proverbs
Word Formation		Suffixes, Prefixes and other forms
Short Forms - Full Forms		Common Short Forms - Full Forms
Abbreviations - Full Forms		Common Abbreviations - Full Forms
Word Collocations		Word Collocations
Foreign Phrases Used in English		Standard and common Foreign Phrases Used in English
GRAMMAR		**LEVEL OF TESTING**
Helping Verbs		Form, Function & Contractions
Modal Auxiliaries		Form, Function & Contractions
Ordinary Verbs		Form, Function & Contractions
Articles		Use of Articles Including Omissions
Prepositions		Simple, Compound Prepositions Including Prepositions following Certain Words and Prepositional Phrases

Clauses		Main Clauses, sub-ordinate Clauses, Adjectival Clauses, Noun Clauses, Adverbial Clauses, Relative Clauses, Finite and Non-finite Clauses
Sentence Structures		Sentence Structures
Degrees of Comparison		Form, Function, Construction, Transformation
Language Functions		Language Functions with social norms (formal and informal)
Question Tags		Imperatives and Statements with semi negatives and indefinites subjects
Types of Sentences		Types of Sentences
Sentence Improvement		Sentence Improvement
Direct Speech & Indirect Speech		Statements, Questions, Imperatives and Exclamatory Sentences
Active Voice & Passive Voice		Active Voice & Passive Voice
Tenses		Use of tenses and framing including IF conditionals Type 1, 2 &3
Agreement between subject & Verb		Agreement between subject & Verb
Word Order		Word Order In a phrase or a sentence
Parts of Speech		Nouns, Pronouns, Adjectives, Adverbs, Conjunctions, Interjections - Types and functions
Linkers		Linkers
Transformation of Sentences		Simple. Compound and Complex Sentences
Common Errors		Based on all Vocabulary and Grammar Topics
MECHANICS OF WRITING		**LEVEL OF TESTING**
Punctuation and Capitalization		Use of capital letters, comma, full stop, question mark, exclamation mark and inverted commas

COMPOSITION		LEVEL OF TESTING
Writing of Discourses		Letter Writing, News Report, Diary Entry, Conversation, Description, Diary Entry, Biographical Sketch, Story, Script for a speech
DICTIONARY SKILLS		**LEVEL OF TESTING**
DICTIONARY SKILLS		DICTIONARY SKILLS
PRONUNCIATION		**LEVEL OF TESTING**
Phonetics, Stress & Intonation		Phonetic Transcription and stress marking including intonation in context
READING COMPREHENSION		LEVEL OF TESTING
Prose		Prose (GENERAL)
LITERATURE		**LEVEL OR AREA OF TESTING**
Background of English Literature		Poetical Types, Stanza forms, School and Movements, Dramatic Types, The Essay, The Novel, The Short Story
Literary Terms		*Parallelism, Prologue, epilogue, setting, the character, metre, diction, imagery, prosody, point of view, epic, mock epic, choreography, narration, classic, chorus, comedy, tragedy, conflict, plot, criticism, discourse, empathy, sympathy, style, theatre, feminism, soliloquy, folklore, structure; *Figures of Speech - Simile, Metaphor, Apostrophe, Personification, Metonymy, Synecdoche, irony and alliteration; *Rhyme Scheme

Poetry (Detailed Study)		1. Where the Mind Is without Fear (Rabindranath Tagore) 2. The cloud (P.B.Shelly) 3. The Nation's Strength (R.W.Emerson) 4. Palanquin Bearers (Sarojini Naidu) 5. The Road Not Taken (Robert Frost) 6. La Belle Dame Sans Merci (John Keats) 7. Telephone Conversation (Wole Soyinka) 8. The Night of the Scorpion (Nissim Ezekiel)
Prose / Essay (Detailed Study)		1. Of Truth (Francis Bacon) 2. Self-reliance (R.W.Emerson) 3. On Shaking Hands (A.G.Gardiner) 4. Robots and People (Isaac Asimov)
Novels (Detailed Study)		1. Pride and Prejudice (Jane Austen) 2. Swami and Friends (R.K.Narayan)
Drama (Detailed Study)		1. Macbeth (Shakespeare) 2. Murder in the Cathedral (T.S.Eliot)
Short Story (Detailed Study)		1. The Gold Watch (Mulk Raj Anand) 2. The Postmaster (Rabindranath Tagore) 3. After Twenty Years (O' Henry) 4. The Thief (Ruskin Bond)

V. METHODOLOGY (20 Marks)

1. Aspects of language (English Language History, Nature, Importance, Principles of English as Second language and problems of Teaching / learning English)
2. Objectives of Teaching English
3. Development of language Skills (Listening, Speaking, Reading and Writing; Communicative Skills and Imparting values through Communication
4. Approaches, Methods and Techniques of Teaching English (Introduction, Definition, Types of Approaches, Methods and Techniques of Teaching including Remedial Teaching)
5. Teaching of Structures, Vocabulary and Grammar
6. Teaching Learning Materials in English
7. Lesson Planning
8. Curriculum and Textbooks - Importance and need
9. Evaluation in English Language
10. Pronunciation, Phonetics and Phonetic Transcription

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training
Category of Post: TGT
Paper II – Genaral Science Syllabus

PART - I

I. General Knowledge and Current Affairs (Marks: 10)

PART - I

II. Perspectives in Education (Marks: 05)

1. **History of Education :**
   - The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
   - Education in Pre Independent era - Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944).
   - Education in Post Independent era - Mudaliar Commission (1952-53), Kothari Commission (1964-66), Ishwarbhai Patel committee (1977), NPE-1986, POA-1992
2. **Teacher Empowerment:**
   - Need, interventions for empowerment, Professional code of conduct for teachers, Teacher motivation, Professional development of Teachers and Teacher organizations, National / State Level Organizations for Teacher Education, Maintenance of Records and Registers in Schools.
3. **Educational Concerns in Contemporary India:**
   - Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities.
   - Economics of Education, Education as Human Capital, Education and Human Resource Development, Literacy - Saakshar Bharat Mission.
   - Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
   - Inclusive Education - Classroom Management in Inclusive Education
   - Role of Education in view of Liberalization, Privatization and Globalization
   - Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs, Model Schools.
   - Incentives and special provisions – Mid Day Meals, Free Books, Scholarship, Awards, Welfare Hostels, Transportation.
   - Current Trends in Education – Badi pelusthondi, Badi ki Vasta, Mavuru – Mana Badi, Vidyanjali, Swacha Patasala, Inspire, Kalavutsav.

4. **Acts / Rights:**
    - Right of Children to Free and Compulsory Education Act - 2009
    - Right to Information Act - 2005
    - Child Rights
    - Human Rights.

5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

III. Classroom implications Educational Psychology – 05Marks

1. **Individual differences:** Inter and intra individual differences, meaning, nature and theories of intelligence with special emphasis to multiple intelligence, IQ, assessment of intelligence, EQ, Creativity. Attitude, Aptitude, Interest, Habit and its Influence on Intelligence – Class room implementation.
2. **Learning:** Theories and approaches of learning, learning curves, Factors, Phases, Dimensions of learning, Types of learning, Transfer of learning. Memory, Forgetting, Learning and assessment– Class room implementation.
3. **Personality:** Nature, characteristics and theories of personality, factors of Personality, Assessment of Personality, Mental health, Adjustment, Stress – nature, Symptoms and management. Emotional intelligence, Management of emotions – Class room implementation.

PART - B

IV. Content Science (40Marks)

Physical Science (Marks: 20)

1. **Units And Measurements**: Systems of Measurement, Units of Measurements, Measurement of Length, Measurement of time, Accuracy, precision of instruments errors in measurement, Significant figures, Measurement of Mass and Density, Units and Dimensions Fundamental and derived physical quantities, Systems of units, Multiples and submultiples of SI units. Dimensions Dimensional formulae and dimensional equations, dimensional constants and dimensionless quantities, principle of homogeneity of dimensions. Application of dimensional method of analysis. Conversion of one system of units into another.

2. **Motion In A Straight Line**
   Position, path length and displacement, Average velocity and average speed, Instantaneous velocity and speed, Acceleration, Kinematic equations for uniformly accelerated motion, Relative velocity, Velocity-time and position-time graphs, Kinematical Equations of motion by graphical Method, Scalars and Vectors, laws of addition of vectors, subtraction of vectors. Resolution of vectors, Motion in a plane, Motion in a plane with constant acceleration, Relative velocity in two dimensions, Projectile motion.

3. **Laws Of Motion**
   The law of inertia, Newton's second law of motion, Newton's third law of motion. Force – Types of Force, Free Body Diagrams. Newton’s Universal Gravitation, Centre of Mass, Centre of Gravity, Stability, Applications, Equations of Motion, Motion of a body under gravity - Acceleration due to Gravity "g", Equations of Motion for a freely falling body, Equations of Motion for a body thrown upwards. Equations, Applications and

problems. Universal law of gravitation, The gravitational constant, Kepler's laws, Acceleration due to gravity of the earth, Acceleration due to gravity below and above the surface of earth, Gravitational potential energy, Escape speed, Earth satellite, Energy of an orbiting satellite, Geostationary and polar satellites, Weightlessness. Work, Power, Energy, Conservation of Energy and Transformation of Energy, Renewable and Non-Renewable sources of Energy, Impulse, Law of conservation of linear momentum, Potential Energy (PE), Kinetic Energy (KE). Relation between KE and Linear momentum. Notions of work and kinetic energy: The work-energy theorem, The work-energy theorem for a variable force, The conservation of mechanical energy, The potential energy of a spring, Power, Collisions, Circular Motion, uniform circular motion, angular displacement, angular velocity, and angular acceleration, relationship between linear velocity and angular velocity, centripetal and centrifugal force, torque, couple, vector representation of torque, Vector product of two vectors, Equilibrium of a rigid body, Moment of inertia, Theorems of perpendicular and parallel axes, Dynamics of rotational motion about a fixed axis, Rolling motion. Simple harmonic motion and uniform circular motion, Velocity and acceleration in simple harmonic motion, Force law for Simple harmonic Motion, Energy in simple harmonic motion, Energy in simple harmonic motion, some systems executing Simple. Harmonic Motion, Damped simple harmonic motion, Forced oscillations and resonance Simple Pendulum, Law of conservation of energy in case of a simple pendulum. Elasticity - Elasticity and plasticity, stress and strain, Hooke's law, Moduli of elasticity. Fluid Mechanics Laws of Floatation, Principle of Buoyancy, pressure in a fluid. Stream line flow Bernoulli's theorem and its applications. Viscosity, Reynolds number, Surface tension, Simple Machines and Moments Moment of a Force, Wheel and Axle, Screw Jack, Gears, Friction, Causes of friction, advantages of friction, disadvantages of friction, methods of reducing friction, Fluid friction, Ball – Bering Principal.

4. **Ray and Optical Instruments**

   Light - Sources & Nature of Light, Propagation of Light, Reflection, Refraction, Laws of Reflection, Sign convention for reflection by spherical mirrors, Image formed by Plane Mirror, Spherical Mirrors (Ray diagrams), Mirror formula and Magnification, Refraction of Light through Prism and lenses (convex, concave), Refractive index, Snell’s Law, Refractive index of material of prism by minimum deviation Method, Image formation by lenses (Ray Diagrams), Sign convention for spherical lenses, Lens formula, Len’s Makers formula and magnification, Power of lenses, Refraction of light through prism and Glass Slab, Dispersion of light and formation of Rainbow, Scattering of light – Raman Effect. Atmospheric refraction (Twinkling of stars, Advanced sunrise and delayed sunset), the Human eye and Colourful world, Structure of Human Eye Defects of Vision, Critical angle, Total Internal Reflection - Relation between Critical angle and Refractive Index, application of total internal reflection to Optical fibers, Lasers. Newton's Corpuscular Theory, Huygens' Wave Theory, Electromagnetic spectrum. Huygens' Explanation of Reflection, Refraction, interference and diffraction of plane waves at a plane surface. Polrisation Optical Instruments-Microscope, Telescope, Formula for magnification of microscope, Astronomical and Terrestrial Telescopes.

5. **Waves**: Transverse and longitudinal waves, Displacement relation in a progressive wave, The speed of a travelling wave, The principle of superposition of waves, Reflection of waves, Beats, Doppler effect, Characteristics of Sound, Speed of sound in different media, Reflection of sound, Echoes, standing waves, nodes & antinodes, measurement of wavelength, Multiple reflection of sound, its uses, Hearing and audibility of a sound, Ultrasound, uses, Sound -Propagation of sound, Musical

Instruments, Velocity of Sound in Gases, Solids & Liquids, Progressive & stationary waves. Forced Vibrations, Natural Vibrations – Resonance with examples, Loudness and pitch of sound their relation with amplitude and frequency, Audible and inaudible sounds, Noise and music, Noise pollution: sources, control and reduction.

6. **Thermal Properties Of Matter**
Sources of Heat, Transmission of Heat, Heat and Temperature, Temperature and Kinetic Energy, Measurement of Temperature, Fahrenheit and Centigrade scales, Different types of thermometers, Effects of Heat Expansion of solids, liquids, gaseus, Change of state, Change of density with temperature, Examples in daily life, Applications of specific heat capacity, Evaporation, Condensation, Humidity, Dew and Fog, Boiling, Melting and Freezing. Expansion of Solids and liquids-coefficients of expansion of Solids and liquids. Anomalous expansion of water, its significance in nature. Kelvin scale of temperature, Boyle's and Charle's laws. Ideal gas equation. Heat capacity, specific heat, experimental determination of specific heat by method of mixtures. Specific heat of gas (Cp and Cv), Calorimetry - specific heat of solids and liquids, latent heat of fusion and latent heat of vaporization, External work done by a gas during its expansion. Relation between Cp and Cv (derivation) Latent heat, Determination of latent heat of vaporization of water. Newton's law of cooling, Thermal equilibrium , Zeroth law of thermodynamics , Heat, internal energy and work , First law of thermodynamics, Specific heat capacity, Thermodynamic state variables and equation of State, Thermodynamic processes, Heat engines, Refrigerators and heat pumps, Second law of thermodynamics, Reversible and irreversible processes, Carnot engine, Carnot's theorem. Kinetic Theory, Introduction, Molecular nature of matter, Behaviour of gases, Kinetic theory of an ideal gas, Law of equipartition of energy, Specific heat capacity, Mean free path.

7. **Electricity**
Electrostatics - Electrification by friction, Charges, Coulomb's Law: Permittivity of Free Space and Medium, Electric Field - Electric lines of force, their properties – Electric Flux, Electric Dipole, Dipole in a Uniform External Field, Continuous Charge Distribution, Gauss's Law, Application of Gauss's Law, Electric intensity, Electrostatic Potential, Relation between electrostatic potential and electric intensity. Capacitance and capacitors, The Parallel Plate Capacitor, Combination of Capacitors, Van de Graaff Generator, Dielectric constant, Condenser, its uses -Dielectric Strength - Effect of dielectric on capacitance of capacitors. Current electricity - Electric Current and Potential, EMF, Primary Cells-Series and Parallel connection-Electric circuits, Electrical Resistance, Ohm's Law and its verification, Electric shock. Ohmic and Non Ohmic elements, Resistance Resistances in Series and Parallel, Kirchhoff's Laws. Wheatstone Bridge, Meter Bridge, Potentiometer, Heating Effects of Electric Current-Joule's Law, Faraday's Laws of Electrolysis, Electric current - Flow of Electric charges in a metallic conductor - Drift velocity and mobility - Relation between electric current and drift velocity, Specific Resistance, Resistivity, Conductance, Electrical Energy – Power, Electrical Energy consumption.

8. **Electromagnetism** – Magnets and their properties, Magnetic field and field lines, Oersted's Experiment, Ampere's Law, Magnetic field near a long straight wire and magnetic field at the Center of a circular coil carrying current, Field on the axis of circular coil carrying current, Force on a moving charge in a magnetic field - Force on a current carrying conductor placed in a magnetic field. Force between two long straight parallel conductors carrying current, Definition of Ampere. Fleming's Left Hand Rule. Current loop as magnetic dipole, force and Torque on Current loop in an uniform

magnetic field, magnetic dipole moment of a revolving electron. The Moving Coil Galvanometer, Electromagnetic induction, Magnetic Flux, Induced EMF, Faraday's and Lenz's Law. Fleming's Right Hand Rule, Self Inductance, Mutual Inductance, Principle of Transformer, Working of Electric motor, AC, Electric Generator, DC Electric Generator, Eddy Currents, Electromagnetic Waves, Displacement Current, Electromagnetic Waves, Electromagnetic Spectrum, AC Voltage Applied to a Resistor, Representation of AC Current and Voltage by Rotating Vectors — Phasors, AC Voltage Applied to an Inductor, AC Voltage Applied to a Capacitor, AC Voltage Applied to a Series LCR Circuit, Power in AC Circuit: The Power Factor, LC Oscillations.

9. **Modern Physics -** Alpha-particle Scattering and Rutherford's Nuclear Model of Atom, Atomic Spectra, Bohr Model of the Hydrogen Atom, The Line Spectra of the Hydrogen Atom, DE Broglie's Explanation of Bohr's Second Postulate of Quantization, Atomic Masses and Composition of Nucleus, Size of the Nucleus, Mass-Energy and Nuclear Binding Energy, Nuclear Force, Radioactivity, Nuclear Energy, Electron Emission, Photoelectric Effect, Experimental Study of Photoelectric Effect, Photoelectric Effect and Wave Theory of Light, Einstein's Photoelectric Equation: Energy Quantum of Radiation, Particle Nature of Light: The Photon, Wave Nature of Matter, Davisson and Germer Experiment, Classification of Metals, Conductors and Semiconductors, Intrinsic Semiconductor, Extrinsic Semiconductor, p-n Junction, Semiconductor diode, Application of Junction Diode as a Rectifier, Special Purpose p-n Junction Diodes, Junction Transistor, Digital Electronics and Logic Gates, Integrated Circuits, Elements of a Communication System, Basic Terminology Used in Electronic Communication Systems, Bandwidth of Signals, Bandwidth of Transmission Medium, Propagation of Electromagnetic Waves, Modulation and its Necessity, Amplitude Modulation, Production of Amplitude Modulated Wave, Detection of Amplitude Modulated Wave.

10. **Natural Phenomena** – Lightning: Charging by rubbing, Types of charges and nature of interaction of charged bodies, Transfer of charge: electroscope as a detector of charging, Lightning: discharge, earthling, lightning conductors, Safety measures during a thunder storm. Earthquake: Earthquake, Causes of an earthquake, Seismic fault zone, Protection to damage caused by earthquakes, Measurement of intensity of earthquake, Seismograph,

11. **Our Universe**: Constellations, Zodiac, Solar System, The Sun, Planets, Their Sizes, Masses and distance from Sun, Source of Energy, The Moon its phases surface, Stars, Meteors and Comets, Asteroids, Light year, Life on the Planet - Earth.

12. **States Of Mater – Physical Nature Of Matter -** Composition of matter: particles (Historical introduction), Characterization of matter in terms of physical properties, Characteristics of particles of matter: space between them, attraction between them, their continuous motion, States of matter: solids, liquids and gasses, Shape, mass, volume and density of matter, Change of state of matter with temperature and pressure, Evaporation and condensation: factors effecting the rate of condensation/evaporation-surface area, temperature, humidity, wind speed. Evaporation and cooling with examples. Mixtures, type of mixtures, homogeneous and hetero generous, Solution, components, properties, concentration, dilute and saturated Solutions, Mass / Mass percentage; Mass / volume percentage, Suspension, properties of suspensions, Colloidal solution, properties of colloids, Tyndall effect, Separating the components of a mixture, Separating components of blue / black ink, evaporation, Cream from milk by churning, centrifugation, Separating immiscible liquids, Separation by sublimation Separation by chromatography, Separation by distillation (miscible liquids), fractional distillation, Separating components of air, Obtaining pure copper sulphate from impure

samples Applications of crystallization, Water purification system in water works, Physical and chemical change, Types of pure substances, elements, compounds, Comparison between mixture and compounds **Solids**- Metals and Non-metals, Physical properties of metals, luster, malleability, electrical conductivity, ductility, sonorous, heat conductors, Physical properties of non-metals Chemical properties of metals - Metals burnt in air, Metal reacts with water, Reaction with acids, Reactions with solutions of other metal salt solutions, Reactivity series, Reactions of metals and non-metals – formation of cation, anion and ionic compounds, Properties of Ionic compounds, Physical nature, Melting and boiling points, Solubility Conduction of electricity, Occurrence of metals, Extractions of metals – General Principles Of Metallurgy Occurrence and Relative Abundance of metals in earth's crust, The Metallurgy of Iron & Extraction, Protection of Metals and Prevention of Corrosion, Principles and methods of extraction - concentration, reduction by chemical and electrolytic methods and refining. Reaction with oxygen, acidic, basic nature of products, Reaction with water, Reaction with acid, Reaction with Base, Reactivity of metals in displacement reactions, Uses of metals and non-metals – FLUIDS- Electric Conductivity of Fluids, determination of good and poor conducting fluids, Chemical effects of electric current, Electrolytic cell: its construction and electroplating: Measurable Properties of Gases, Gas Laws, Graham's law of diffusion - Daltons law of partial pressures, Avogadro's law and Mole Concept, Ideal behavior, empirical derivation of gas equation, ideal gas equation, Kinetic molecular theory of gases, Kinetic gas equation (No derivation) - deduction of gas laws, Air, Composition of air, Measurement of Atmospheric Pressure, Air Pollution, Volumetric Composition of Water, Hardness of Water, Drinking Water and Supply, Water Pollution, Cyclone, Pascal's Law, Archimedes' Principle, Boyle's Law, Bernoulli's Principle, Wind, Rainfall.

13. **Atomic Structure:** Matter - Its Structure, Cathode Rays, Canal Rays, Discovery of Neutron, Atomic Models - Arrangement of Sub Atomic Particles, Rutherford's model of atom and its drawbacks, Bohr's model of Hydrogen atom and its limitations, Sommerfeld's elliptical model, Schrodinger wave equation, Sub Energy Levels - Quantum Numbers, Atomic Orbitals, Relative energies of the atomic orbitals, Electronic configuration of Atoms, Some Physical Quantities of Atoms, Nature of Electromagnetic Radiation, Planck's Quantum theory. Explanation of Photo electric effect. Features of Atomic Spectra. Characteristics of Hydrogen Spectrum. Bohr's explanation of Spectral Lines, Wave-particle nature of electron, De Brogile's hypothesis, Heisenberg's uncertainly principle, Important feature of the quantum mechanical model of an atom, Electronic configurations of atoms - Explanation of stability of half filled and completely filled orbitals. Isotopes, Isobars and Isotones, Applications of Radio Isotopes.

14. **Classification of Elements**: Symbols and formulae, Radicals and their formulae, Chemical equation, Meaning, Calculations based on equations and relationship of reactants and products by weights, History of Classification of Elements, The Periodic Law, Modern Periodic Table, The significance of atomic number and electronic configuration, Classification of elements into s, p, d, f blocks and their characteristics, Period trends in physical and chemical properties of elements, Periodic trends of elements with respect to atomic radii, ionic radii, inert gas radii, ionization energy, electron gain energy, electro negativity, Valency.

15. **Chemical Bonding And Molecular Structure:**
Types of Bonds, Inter Molecular Attractions, Energy changes during a chemical reaction, Exotherimic and Endothermic Relations, ionic bond, Electronic theory

valence by Lewis and Kossel, energy changes in ionic bond formation, Properties of ionic Compounds, Covalent Bond, Multiple Covalent Bonds, Shapes of some molecules. VSEPR theory, The valence bond approach for the formation of covalent bonds, Directional nature of covalent bond, Properties of covalent bond, Different types of hybridization involving s, p and d orbitals and draw shapes of simple covalent molecules, Definition of coordinate covalent bond with examples, Description of molecular orbital theory of homo nuclear diatomic molecules. Hydrogen bonding-cause of formation of hydrogen bond- Types of hydrogen bonds-inter and intra molecular-General properties of hydrogen bonds.

16. **Chemical Kinetics, Energitics:** Chemical Calculations And Stoichiometry Chemical combination, Chemical decomposition, Chemical displacement, Chemical Double decomposition, Slow and Fast reactions, Rate of a Reaction, Factors affecting the reaction rate, Reversible and Irreversible Reactions, Law of conservation of mass, Law of definite proportions, Law of multiple proportions, Rate law, units of rate constant, Collision theory of reaction rates (elementary ideas), concepts of activation energy. Stoichiometry - Meaning of Chemical Equations, Thermochemical Equations, Problems Based on Equations, Laws of chemical combination, principles and examples, Different kinds of fuels burning with flame and without flame, Combustion of fuels, solid, liquid, gas, Ignition temperature, Matchstick – red , white phosphorous and antimony tri sulphide, ignition temperatures, Inflammable substances, Methods of controlling fire, fire extinguisher, Types of combustion, rapid, spontaneous, explosive. Flame, materials forming flames, structure of flame, Fuel, ideal fuel, fuel efficiencies, calorific value, Harmful products of burning fuels , global warming and acid rain. Molar mass, concept of equivalent weight with examples, Percentage composition of compounds and calculations of empirical and molecular formula of compounds, Oxidation number concept, Balancing of redox reactions by ion electron method and oxidation number method, Types of redox reactions, Applications of redox reactions in titrimetric quantitative analysis and redox reactions in electrode process, Numerical calculations based on equations. Equilibrium - Differences between Physical and Chemical change, Equilibrium in physical and chemical process, Dynamic nature of equilibrium, law of mass action, Equilibrium Constant, Factors affecting equilibrium.

17. **Solutions, Acids, And Bases:**
Solutions, Types, Solubility and Factors affecting concentration of solutions, Ionization of Substances in Water, Classification of solutions - Methods of expressing concentration of solutions - Molarity, Normality, Molality, Mole Fraction, Preparation of Acids and Bases, General properties of Acids an Bases, The Strengths of Acids and Bases, Neutralisation and Heat of Neutralization, Ionization of acids and bases, strong and weak electrolytes, degree of ionization, ionic product of water, Concept of pH., pH of some common fluids, Importance of pH in everyday life, Sensitive of plants and animals to pH, pH of soils, pH in digestive system, pH-tooth decay, Self defense by animal and plants through chemical warfare. Some naturally occurring acids. Salts - Family of salts, pH of salts, Sources of common salt, Common salt – a raw material for chemicals, NaoH, Bleaching powder, baking soda, NaHco3 uses washing soda and its uses, Salt crystals / crystallization, Plaster of Paris, Equilibrium in Physical process, Equilibrium in chemical process - Dynamic Equilibrium, Law of chemical Equilibrium - Law of mass action and Equilibrium constant. Homogeneous Equilibria, Equilibrium constant in gaseous systems. Relationship between KP and Kc, Heterogeneous Equilibria. Applications of Equilibrium constant. Relationship between Equilibrium constant K, reaction quotient Q and Gibbs energy G. Factors affecting Equilibria.-Le-chatlieprinciple application to industrial synthesis of Ammonia and Sulphur trioxide. Acids, bases and salts- Arrhenius, Bronsted-Lowry and Lewis

concepts of acids and bases. Ionisation of Acids and Bases -Ionisation constant of water and it's ionic product- pH scale-ionisation constants of weak acids-ionisation of weak bases-relation between Ka and Kb-Di and poly basic acids and di and poly acidic Bases-Factors affecting acid strength-Common ion effect in the ionization of acids and bases-Hydrolysis of salts and pH of their solutions. Buffer solutions-designing of buffer solution-Preparation of Acidic buffer Solubility Equilibria of sparingly soluble salts. Solubility product constant Common ion effect on solubility of Ionic salts.

18. Hydrogen And Its Compounds

Position of hydrogen in the periodic table. Dihydrogen-Occurance and Isotopes. Preparation of Dihydrogen, Properties of Dihydrogen, Hydrides: Ionic, covalent, and non-stiochiometric hydrides. Water: Physical properties; structure of water, ice. Chemical properties of water; hard and soft water, Temporary and permanent hardness of water, Hydrogen peroxide: Preparation; Physical properties; structure and chemical properties; storage and uses. Heavy Water, Hydrogen as a fuel.

19. S - Block Elements

Alkali metals; Electronic configurations; Atomic and Ionic radii; Ionization enthalpy; Hydration enthalpy; Physical properties; Chemical properties; Uses, General characteristics of the compounds of the alkali, metals: Oxides; Halides; Salts of Oxy Acids. Anomalous properties of Lithium: Differences and similarities with other alkali metals. Diagonal relationship; similarities between Lithium and Magnesium. Some important compounds of Sodium: Sodium Carbonate; Sodium Chloride; Sodium Hydroxide; Sodium hydrogen carbonate. Biological importance of Sodium and Potassium. Alkaline earth elements; Electronic configuration; Ionization enthalpy; Hydration enthalpy; Physical properties, Chemical properties; Uses. General characteristics of compounds of the Alkaline Earth Metals: Oxides, hydroxides, halides, salts of Oxyacids (Carbonates; Sulphates and Nitrates). Anomalous behavior of Beryllium; its diagonal relationship with Aluminum. Some important compounds of calcium: Preparation and uses of Calcium Oxide ; Calcium Hydroxide; Calcium Carbonate;Plaster of Paris; Cement. Biological importance of Calcium and Magnesium.

20. P - Block Elements

General introduction - Electronic configuration, Atomic radii, Ionization enthalpy, Electro negativity; Physical & Chemical properties. Important trends and anomalous properties of boron. Some important compounds of boron - Borax, Ortho boric acid, diborane. Uses of boron, aluminium and their compounds. General introduction - Electronic configuration, Atomic radii, Ionization enthalpy, Electro negativity; Physical & Chemical properties. Important trends and anomalous properties of carbon. Allotropes of carbon. Uses of carbon. Some important compounds of carbon and silicon – carbon monoxide, carbon dioxide, Silica, silicones, silicates and zeolites.

21. Organic Chemistry

Allotropic forms of Carbon, Oxides of Carbon, Uniqueness of Carbon and Source of Carbon Compounds, Anomalous behavior of first element namely Carbon, Carbon-catenation, allotropic forms, physical and chemical properties and uses, Bonding in carbon, Covalent bond, Catenation, Saturated and unsaturated carbon compounds, Chains, branches and rings, Bonding of carbon with other elements, Functional groups in carbon compounds, Homologous series. Nomenclature of carbon compounds, Chemical properties of carbon compounds, Combustion, Blue flame, Sooty flame, Oxidation, Addition reaction, Substitution reaction, Important carbon compounds, Ethanol, Ethanoic acid, properties of ethanol – General properties,

reaction of ethanol with sodium, reaction with hot concentrated sulphuric acid, Properties of ethanoic acid – General properties. Esterification reaction, Reaction with a base, sodium hydroxide, sodium carbonate and sodium hydrogen carbonate, Soaps and detergents, Micelles. . Classification and nomenclature, Nature of C-X bond, Methods of preparation : Alkyl halides and aryl halides-from alcohols, from hydrocarbons (a)by free radical halogenation -(b) by electrophilic substitution (c) by replacement of diazonium group(Sand-Meyer reaction) (d) by the addition of hydrogen halides and halogens to alkenes-by halogen exchange(Finkelstein reaction), Physical properties-melting and boiling points,density and solubility, Chemical reactions, Reactions of haloalkanes (i)Nucleophilic substitution reactions (a) $\mathbf{Sn^2}$ mechanism (b) $\mathbf{Sn^1}$ mechanism (c) stereochemical aspects of nucleophilic substitution reactions -optical activity (ii) Elimination reactions (iii) Reaction with metals-Reactions of haloarenes: (i) Nucleophilic substitution (ii)Electrophilic substitution and (iii) Reaction with metals, Polyhalogen compounds: Uses and environmental effects of dichloro methane, trichloromethane, triiodomethane, tetrachloro methane, freons and DDT. Alcohols,phenols and ethers –classification, Nomenclature: (a)Alcohols, (b)phenols and (c)ethers, Structures of hydroxy and ether functional groups, Methods of preparation: Alcohols from alkenes and carbonyl compounds- Phenols from haloarenes, benzene sulphonic acid, diazonium salts, cumene, Physical propertics of alcohols and phenols, Chemical reactions of alcohols and phenols (i) Reactions involving cleavage of O-H bond-Acidity of alcohols and phenols, esterification (ii) Reactions involving cleavage of C-O bond-reactions with HX, PX3, dehydration and oxidation (iii) Reactions of phenols-electrophili aromatic substitution, Kolbe's reaction, Reimer - Tiemann reaction, reaction with zinc dust, oxidation, Commercially important alcohols (methanol,ethanol), Ethers-Methods of preparation: By dehydration of alcohols, Williamson synthesis- Physical properties-Chemical reactions: Cleavage of C-O bond and electrophilic substitution of aromatic ethers. Nomenclature and structure of carbonyl group, Preparation of aldehydes and ketones-(1) by oxidation of alcohols (2) by dehydrogenation of alcohols (3) from hydrocarbons -Preparation of aldehydes (1) from acyl chlorides (2) from nitriles and esters(3)from hydrocarbons-Preparation of ketones(1) from acyl chlorides (2)from nitriles (3)from benzene or substituted benzenes, Physical properties of aldehydes and ketones, Chemical reactions of aldehydes and ketones-nucleophilic addition, reduction, oxidation, reactions due to -Hydrogen and other reactions (Cannizzaro reaction,electrophilic substitution reaction), Uses of aldehydes and ketones, CARBOXYLIC ACIDS, Nomenclature and structure of carboxylgroup, Methods of preparation of carboxylic acids- (1)from primary alcohols and aldehydes (2) from alkylbenzenes(3)from nitriles and amides (4)from Grignard reagents (5) from acyl halides and anhydrides (6) from esters, Physical properties, Chemical reactions: (i) Reactions involving cleavage of OH bond-acidity, reactions with metals and alkalies (ii) Reactions involving cleavage of C-OH bond-formation of anhydride, reactions with PCl5, PCl3, SOCl2, esterification and reaction with ammonia (iii) Reactions involving -COOH group-reduction, decarboxylation (iv) Substitution reactions in the hydrocarbon part - halogenation and ring substitution, Uses of carboxylic acids. Structure of amines, Classification, Nomenclature, Preparation of amines:reduction of nitro compounds, ammonolysis of alkyl halides, reduction of nitriles,reduction of amides, Gabriel phthalimide synthesis and Hoffmann bromamide degradation reaction. Physical properties, Chemical reactions:basic character of amines, alkylation, acylation, carbyl amine reaction, reaction with nitrous acid, reaction with aryl sulphonyl chloride, electrophilic substitution of aromatic amines-bromination,

nitration and sulphonation. DIAZONIUM SALTS - Methods of preparation of diazonium salts (by diazotization), Physical properties. Chemical reactions: Reactions involving CYANIDES AND ISOCYANIDES - Structure and nomenclature of cyanides and isocyanides, Preparation, physical properties and chemical reactions of cyanides and isocyanides

22. Polymers:

Classification of Polymers -Classification based on source, structure, mode of polymerization, molecular forces and growth polymerization. Types of polymerization reactions-addition polymerization or chain growth polymerization-ionic polymerization, free radical mechanism-preparation of addition polymers-polythene, teflon and polyacrylonitrile-condensation polymerization or step growth polymerization-polyamides-preparation of Nylon 6,6 and nylon 6-poly esters- erylene - bakelite, melamine, formaldehyde polymer- copolymerization-Rubber-natural rubber-vulcanisation of rubber-Synthetic rubbers-preparation of neoprene and buna-N. Molecular mass of polymers-number average and weight average molecular masses-poly dispersity index (PDI). Biodegradable polymers-PHBV, Nylon 2-nylon 6. Polymers of commercial importance-poly propene, poly styrene,poly vinyl chloride(PVC), urea-formaldehyde resin, glyptal, bakelite- their monomers, structures and uses. Natural and artificial fibres, Synthetic fibre, Types of synthetic fibres - Rayon, Nylon, Polyster and acrylic, Characteristics of synthetic fibres, Plastics, polythene, Thermo plastics, Thermo setting plastic, Plastics as materials of choice: Non-reactive, light, strong and durable and poor conducting plastics, Plastics and environment – Bio degradable, non-bio degradable. Carbohydrates - Classification of carbohydrates-Monosaccharides: preparation of glucose from sucrose and starch-Properties and structure of glucose- D,L and (+), (-) configurations of glucose-Structure of fructose Disaccharides: Sucrose- preparation, structure-Invert sugar-Structures of maltose and lactose-Polysaccharides: Structures of starch cellulose and glycogen- Importance of carbohydrates. Aminoacids: Natural aminoacids-classification of aminoacids -structures and D and L forms-Zwitter ions Proteins: Structures, classification, fibrous and globular- primary, secondary, tertiary and quarternary structures of proteins- Denaturation of proteins. Enzymes: Enzymes,mechanism of enzyme action. Vitamins: Explanation-names- classification of vitamins - sources of vitamins-deficiency diseases of different types of vitamins. Nucleic acids: chemical composition of nucleic acids ,structures of nucleic acids, DNA finger printing biological functions of nucleic acids. Hormones: Definition, different types of hormones, their production, biological activity, diseases due to their abnormal activities.

23. Chemistry In Everyday Life

Drugs and their classification: (a) Classification of drugs on the basis of pharmocological effect(b) Classification of drugs on the basis of drug action (c) Classification of drugs on the basis of chemical structure (d) Classification of drugs on the basis of molecular targets. Drug-Target interaction-Enzymes as drug targets(a) Catalytic action of enzymes (b) Drug-enzyme interaction Receptors as drug targets. Therapeutic action of different classes of drugs: antacids, antihistamines, neurologically active drugs: tranquilizers, analgesics-non-narcotic,narcotic analgesics, antimicrobials-antibiotics,antiseptics and disinfectants- antifertility drugs. Chemicals in food-artificial sweetening agents, food preservatives, antioxidants in food. Cleansing agents-soaps and synthetic detergents.

24. Environmental Chemistry:

Sources of energy, Conventional sources of energy, Fossil fuels, Petroleum formation, refining of petroleum, constituents of petroleum, Natural gas, Petrochemicals, Thermal power plant, Hydro power plants, Improvements in the technology for using conventional sources of energy, Bio-Mass, Wind energy, Alternative or non-conventional sources of energy, Solar energy, Energy from sea, Tidal energy, Wave energy, Ocean thermal energy, Geothermal energy, Nuclear energy, Environmental consequences of production and consumption of energy, Sustainability of energy sources. Pollution: Air, Water and Soil Pollution, Oxides of Carbon, Carbon Monoxide, Oxides of nitrogen and Sulphur, Chlorofluro carbons, Chemical reactions in atmosphere, smogs, major atmospheric pollutants, acid rain, Ozone and its reactions, effects of depletion of ozone layer, Green house effect and global warming, Pollution due to industrial wastes, Green chemistry as an alternative tool for reducing pollution with two examples.

Biology Content (Marks: 20)

1. **Biological Sciences:** Importance and Human Welfare, Branches of Biology, Biologists.
2. **Living World:** Life and its Characteristics, Classification of Living Organisms, Nomenclature, different types of classification. Need for classification, Biological classification levels and Hierarchy of classification, species concept. Animal diversity, invertebrates, Chordates.
3. **Microbial World:** Virus, Bacteria, Algae, Fungi and Protozoan, Useful and Harmful Micro-organisms. Immunity, vaccination, Immunological disorders. Infections, life style diseases.
4. **Cell & Tissues:** Cell – Structure cell theory , cell organelles and their functions, differences between prokaryotic and Eukaryotic cells, plant cell and animal cell, cell cycle, cell division , Mitosis and Meiosis, tissues, structure, functions and types of plant and Animal tissues, Cancer biology, stem cells. Transportation of materials through the cells. Internal organization of plants, histology - anatomy of flowering plants.
5. **Plant World :** Morphology of a Typical Plant - Root, Stem, Leaf, Flower, Inflorescence, Fruit - their Structure, Types and Functions, Parts of a Flower, Seed dispersal Modifications of Root, Stem and Leaf, Photosynthesis, Transpiration, Transportation in plants (Ascent of Sap), Respiration, Excretion and Reproduction in Plants, Plant Hormones, food from the plants. Economic importance of Plants, Wild and Cultivated Plants, Agricultural Operations, Crop diseases and Control measures, Improvement in Crop yield, Storage, Preservation and Protection of Food and Plant Products. Single cell proteins (SCP), plant enzymes, mineral nutrition, plant growth and development.
6. **Animal World:** Organs and Organ Systems including man - Their Structure and Functions Digestive, Respiratory in human, type studies of the animals. Circulatory, . Immunology, Excretory, Locomotion in protozoa and humans - Muscular, Skeletal Systems, Nervous, Control and Coordination and Reproductive: Sexual, a sexual fission, syngamy, conjugation. Reproductive health – Birth control methods, Sense Organs: Structure and Functions of Eye, Ear, Nose, Tongue and Skin. Nutrition in man - Nutrients and their functions, Balanced Diet, Deficiency diseases, Health - Tropical diseases (Viral, Bacterial, Protozoan, Helminth, Arthropod), Skin diseases (Fungal), Blindness in man: Causes, Prevention and Control, Health agencies, First Aid - Bites:

Insect, Scorpion and Snakes, Fractures, Accidents, Life skills, Wild and Domesticated animals, Economic Importance of Animals, Animal Husbandry - Pisciculture, Sericulture, Poultry, Breeding of Cows and Buffaloes, animal behavior.

7. **Heredity and Evolution**: Terms, Mendel laws, Sex determination in humans, In heritance of Blood Groups, Erythroblastosis foetalis, Theories of Evolution, Speciation, Evidences of Evolution, Human Evolution, sex linkage, genetic disorders, syndromes, human genome project, evolutionary forces, DNA and finger printing.
8. **Our Environment – Ecology:** Abiotic and Biotic factors of Ecosystems, Ecosystem - Types, components, adaptations, Food chains, Food web and Ecological pyramids, Natural Resources

   - Type of water managements, soil waste land management, forests, sustainable development, fossil fuels and bio fuels, 4Rs, bio-geo-chemical cycles, pollution, air, water, soil, global environmental issues – global warming – (Green House Effect), acid rains and depletion of Ozone layer; Population - interaction in Eco-system, plant ecology.
9. **Recent Trends in Biology:** Hybridization, Gene - Genetic material, DNA , RNA, Genetic Engineering, Gene Bank, Gene Therapy, Tissue Culture and Bio-Technology – applications. Transgenic animals and plants, cloning, molecular diagnosis, bio medical technology, bio molecules, molecular biology.
10. **Biodiversity – Conservation:** Biodiversity – levels of bio diversity, conservation, wild life, sanctuaries, national parks in India, importance of species, diversity to the Ecosystem.

V. Methodology (Marks: 20)

1. The Nature of Science: Nature and scope of science, Science, ideology and Society, Structure of Science (a) Substantive structure - Empirical knowledge, Theoretical Knowledge - (Facts, Concepts, hypothesis, theory, Principle Law), (b)Syntactic Structure of Science - Scientific inquiry, Processes of Science, Attitudes of inquiry
2. The History and Development of Science: A brief introduction to oriental and western science, Contribution of the following Scientists in the Development of Science: Aryabhatta, BhaskaraCharya, Aristotle, Copernicus, Newton, Einstein, C.V.Raman, Various organizations working for the development of science in India
3. Aims and Values of teaching Sciences: Aims of teaching Sciences, Values of teaching Science, Correlation of Science with other subjects
4. Objectives of teaching Sciences: Meaning and importance of objectives, Bloom's Taxonomy of Educational objectives, Specific / Behavioral objectives / (Instructional objectives), Critique on Bloom's Taxonomy
5. Approaches and Methods of teaching Sciences: Inductive and Deductive Approaches, Micro Teaching, Team Teaching, Lecture Method, Lecture cum Demonstration Method, Historical Method, Heuristic Method, Project Method, Laboratory method, Problem Solving Method, Scientific Method, Multimedia Approach in Teaching Learning process, Programmed Learning, CAI and CAL
6. Planning for effective instruction in Science: Year Plan, Unit Plan, Lesson Plan, Learning experience, characteristics, classification, source and relevance.
7. Teaching Learning Material (TLM): Characteristics and Importance of TLM, Classification and Types of TLM, Hardware and Software in TLM, TLM-Principles to be followed, Edgar Dale's cone of learning experience.

8. Science laboratories: Importance of Practical work in science, Planning of Science laboratories, Procurement, care and maintenance of laboratory equipment, Registers, Management of safety and science kits, Development of improvised Apparatus.
9. Physical Science Curriculum: Principles of Curriculum Construction, Defects in the existing school science curriculum, Qualities of a good Science Text Book.
10. Non-formal Science Education: Science Clubs, Science Fairs - purposes, levels, organization, advantages, Science Library, Role of NGOs and State in popularizing Science
11. Evaluation: Concept and Process of Evaluation, Tools of Evaluation, Preparation of Scholastic Achievement Test (SAT), Analysis and interpretation of Scores.

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training
Category of Post: TGT
Paper II – HINDI Syllabus

PART - I

I. General Knowledge and Current Affairs (Marks: 10)

PART - II

II. Perspectives in Education (Marks: 05)

1. **History of Education :**
   - The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
   - Education in Pre Independent era - Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944).
   - Education in Post Independent era - Mudaliar Commission (1952-53), Kothari Commission (1964-66), Ishwarbhai Patel committee (1977), NPE-1986, POA-1992
2. **Teacher Empowerment:**
   - Need, interventions for empowerment, Professional code of conduct for teachers, Teacher motivation, Professional development of Teachers and Teacher organizations, National / State Level Organizations for Teacher Education, Maintenance of Records and Registers in Schools.
3. **Educational Concerns in Contemporary India:**
   - Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities.
   - Economics of Education, Education as Human Capital, Education and Human Resource Development, Literacy - Saakshar Bharat Mission.
   - Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
   - Inclusive Education - Classroom Management in Inclusive Education
   - Role of Education in view of Liberalization, Privatization and Globalization
   - Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs, Model Schools.
   - Incentives and special provisions – Mid Day Meals, Free Books, Scholarship, Awards, Welfare Hostels, Transportation.
   - Current Trends in Education – Badi pelusthondi, Badi ki Vasta, Mavuru – Mana Badi, Vidyanjali, Swacha Patasala, Inspire, Kalavutsav.

4. **Acts / Rights:**
    - Right of Children to Free and Compulsory Education Act - 2009
    - Right to Information Act - 2005
    - Child Rights
    - Human Rights.

5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

PART - III

III. Classroom implications of Educational Psychology – 05Marks

1. **Individual differences:** Inter and intra individual differences, meaning, nature and theories of intelligence with special emphasis to multiple intelligence, IQ, assessment of intelligence, EQ, Creativity. Attitude, Aptitude, Interest, Habit and its Influence on Intelligence – Class room implementation.
2. **Learning:** Theories and approaches of learning, learning curves, Factors, Phases, Dimensions of learning, Types of learning, Transfer of learning. Memory, Forgetting, Learning and assessment– Class room implementation.
3. **Personality:** Nature, characteristics and theories of personality, factors of Personality, Assessment of Personality, Mental health, Adjustment, Stress – nature, Symptoms and management. Emotional intelligence, Management of emotions – Class room implementation.

PART - IV

IV. Content (Marks: 40)

1. **हिंदी साहित्य का इतिहास**: काल विभाजन - विभिन्न विद्वानों के विचार आदिकाल, भक्ति काल, रीति काल और आधुनिक काल
2. **आधुनिक साहित्य**: विभिन्न प्रवृत्तियाँ और प्रमुखवाद (छायावाद, प्रगतिवाद,प्रयोगवाद, रहस्यवाद आदि) साहित्यक विधाएँ (कविता, कहानी, उपन्यास, नाटक आदि)
3. **हिंदी भाषा का इतिहास**: उद्भव और विकास: हिंदी राष्ट्र भाषा, राजभाषा और विश्व भाषा के रुप में हिंदी देवनागरी लिपि का विकास, देश की एकता और हिंदी।
4. **हिंदी भाषा का क्षेत्र**: उपभाषाएँ और बोलियाँ
5. **भारतीय काव्यशास्त्र**: अर्थ, परिभाषा, प्रयोजन और लक्षण, रस, छंद, अलंकार
6. **भाषा तत्व और व्याकरण**: वर्णमाला : (स्वर, व्यंजन भेद वर्णों का उच्चारण स्थान) **शब्दभेद**: (रूप परिवर्तन के अधार पर विकारी अविकारी शब्द व्युत्पत्ति के आधार पर शब्द भेद रूढी,यौगिक, योग रूढ) उपसर्ग, प्रत्यय, लिंग वचन, कारक - काल - संधि - समास। पर्यायावाची शब्द, विलोम शब्द, शब्द परिचय तत्सम, तद्भव, देशी, विदेशी, क्रिया - सकर्मक, अकर्मक प्रेरणार्थक क्रियाएँ - मुहावरे, लोकोक्ति, कहावत, विराम चिह्न। वाक्य भेद, वाक्य और प्रयोग, वाक्य संरचना, भेद वाच्य कर्तृ वाच्य, कर्म वाच्य और भाव वाच्य पद-परिचय
7. हिंदी पाठ्य पुस्तकें (द्वितीय भाषा) छठवीं कक्षा से दसवीं कक्षा सहित (उपवाचक और पठनहेतु साहित)

V. Methodology (Marks: 20)

1. भाषा-अर्थ, परिभाषा, महत्व, प्रकृति और स्वरूप, ध्वनि विज्ञान, शब्द विज्ञान, व ाक्य विज्ञान, विवध स्तरों पर हिंदी शिक्षण के लक्ष्य और उद्देश्य, प्रथम भाषा के रूप में हिंदी द्वितीय भाषा के रूप में हिंदी, त्रिभाषा सूत्र, भारतीय संविधान में ि हंदी का स्थान।
2. हिंदी भाषा शिक्षण प्राथमिक, माध्यमिक और उच्च माध्यमिक स्तर पर
   (1) हिंदी भाषा - शिक्षण के उद्धेश्य
   (2) अच्छे शिक्षण और अच्छे शिक्षण की विशेषताएँ।
   (3) हिंदी अध्यापक और शिक्षण की विशेषताएँ
   (4) भाषा - शिक्षण के सामान्य सिद्धांत
   (5) भाषा शिक्षण प्रणालियाँ
   (6) भाषा शिक्षण की पद्धतियाँ (प्रत्यक्ष, परोक्ष, खेल माँन्तेसरी, निर्देशित, डाल्टन, आगमन, सूक्ष्म शिक्षण आदि)
   (7) शिक्षण सूत्र
3. **शिक्षण में भाषा - कौशलों का महत्व**
   सुनना - ध्वनि की उत्पत्ति - ध्वनि और श्रवण का पारस्परिक संबंध
   बोलना - शब्दोच्चारण, वाक्यंत्र, शुदुधोच्चारण का अभ्यास, मौखिक अभिव्यक्ति, पाठशाला में वार्तालाप का अभ्यास।
   पढना: वाचन की विशेषताएँ, प्रकार दोष और उपचार
   लिखना: महत्व, नियम विधियाँ, प्रकार, अक्षर-विन्यास
4. **पाठ्यक्रम और सहगामी क्रियाएँ**
   पाठ्यक्रम-पाठ्य पुस्तक, पुस्तकालय - दृश्य - श्रव्य उपकरण (शिक्षण उपकरण) पाठ सहागामी क्रियाएँ, भाषा प्रयोगशाला।
5. **शिक्षण योजना:**
   (1) पाठ-योजना (गद्य, पद्य, व्याकरण, पत्र लेखन और रचना)
   (2) इकाई पाठ योजना
   (3) सूक्ष्म शिक्षण पाठ योजना
6. **मूल्यांकन**
   मूल्यांकन की धारणा, निरंतर समग्र मूल्यांकन, उत्तम परीक्षा की विशेषताएँ, प्रश्न पत्र का निर्माण, उपलब्धि परीक्षा, निदानात्मक एंव उपचारात्मक शिक्षण, अभिलेख।
7. आंध्रप्रदेश में हिंदी शिक्षण में आनेवाली समस्याएँ व उनका निराकरण।
8. ध्वनि, वर्ण, शब्द, वाक्य रचना व शुद्धाशुद्ध वर्तनी व वाक्य ज्ञान।

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training
Category of Post: TGT
Paper II – MATHAMETICS Syllabus

PART - I

I. General Knowledge and Current Affairs (Marks: 10)

PART - II

II. Perspectives in Education (Marks: 05)

1. **History of Education :**
   - The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
   - Education in Pre Independent era - Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944).
   - Education in Post Independent era - Mudaliar Commission (1952-53), Kothari Commission (1964-66), Ishwarbhai Patel committee (1977), NPE-1986, POA-1992
2. **Teacher Empowerment:**
   - Need, interventions for empowerment, Professional code of conduct for teachers, Teacher motivation, Professional development of Teachers and Teacher organizations, National / State Level Organizations for Teacher Education, Maintenance of Records and Registers in Schools.
3. **Educational Concerns in Contemporary India:**
   - Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities.
   - Economics of Education, Education as Human Capital, Education and Human Resource Development, Literacy - Saakshar Bharat Mission.
   - Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
   - Inclusive Education - Classroom Management in Inclusive Education
   - Role of Education in view of Liberalization, Privatization and Globalization
   - Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs, Model Schools.
   - Incentives and special provisions – Mid Day Meals, Free Books, Scholarship, Awards, Welfare Hostels, Transportation.
   - Current Trends in Education – Badi pelusthondi, Badi ki Vasta, Mavuru – Mana Badi, Vidyanjali, Swacha Patasala, Inspire, Kalavutsav.

4. **Acts / Rights:**
   - Right of Children to Free and Compulsory Education Act - 2009
   - Right to Information Act - 2005
   - Child Rights
   - Human Rights.

5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

PART - III

III. Classroom implications of Educational Psychology – 05Marks

1. **Individual differences:** Inter and intra individual differences, meaning, nature and theories of intelligence with special emphasis to multiple intelligence, IQ, assessment of intelligence, EQ, Creativity. Attitude, Aptitude, Interest, Habit and its Influence on Intelligence – Class room implementation.
2. **Learning:** Theories and approaches of learning, learning curves, Factors, Phases, Dimensions of learning, Types of learning, Transfer of learning. Memory, Forgetting, Learning and assessment– Class room implementation.
3. **Personality:** Nature, characteristics and theories of personality, factors of Personality, Assessment of Personality, Mental health, Adjustment, Stress – nature, Symptoms and management. Emotional intelligence, Management of emotions – Class room implementation.

PART - IV

IV. Maths – Content (40 Marks)

1. Arithmetic

Ratio and Proportion - Applications of Ratio- Comparing Quantities using proportion - Direct and Inverse proportion

2. Number System

Knowing Our Numbers –rounding of numbers - Whole Numbers- predecessor – successor – number line -Playing With Numbers – divisibility rules -LCM & HCF -Integers - Fractions - Decimals -Rational Numbers -Squares, cubes Square roots, Cube roots

Real numbers -Representing irrational numbers on Number line – representing real numbers on the number line through successive magnification – rationalisation –Real numbers- operations on real numbers- law of exponents for real numbers- surds(exponential form & radical form)

Euclid's division lemma & its application in finding HCF – fundamental theorem of Arithmetic & its application (HCF & LCM, decimal representation of rational numbers (terminating or non-terminating recurring and vice versa))

Non-terminating & non recurring decimals as irrationals – irrationality of$\sqrt{2}, \sqrt{3}$ etc.- properties of irrational numbers

Logarithm - exponential & logarithmic forms-Properties & Laws of logarithms-standard base of logarithm- use of logarithms in daily life situation-

Sets –& its representation (Roster form& set builder form)-examples- classification of sets(empty, finite, infinite, subset& super set, universal set, disjoint sets, power set of a

set, equality of sets) Venn diagram – operations on sets (union, intersection, difference, cardinal number of a set

3. Geometry

Measures of Lines and Angles - Symmetry - -Understanding 3D, 2D Shapes - Representing 3D in 2D-Lines and Angles -Triangle and Its Properties -Congruency of Triangles- -Quadrilaterals - Practical Geometry -Construction of Triangles Construction of Quadrilaterals - Exploring Geometrical Figures-
The Elements of Geometry -Area –Circles
Similar Triangles & Tangents and secants to a circle
Proofs in Mathematics

4. Mensuration

Perimeter and Area - Area of Plane Figures -Surface areas and Volumes

5. Algebra

Introduction to Algebra- Simple Equations- Exponents - Algebraic Expressions - Exponents & Powers - Linear Equations in one variable – Factorisation Polynomials & Factorisation - Linear Equations in Two Variables - Pair of Linear Equations in Two Variables - Quadratic Equations- Progressions- Arithmetic Progression- properties of A.P.- Arithmetic mean –Geometric Progression –nth term–properties of AP,G.P.

Functions :

- Ordered pair- Cartesian product of sets – Relation - Function & its types - image & pre-image – Definitions.
- Inverse functions and Theorems.
- Domain, Range, Inverse of real valued functions.

Mathematical Induction

- Principle of Mathematical Induction & Theorems.
- Applications of Mathematical Induction.
- Problems on divisibility.

Matrices:

- Types of matrices
- Scalar multiple of a matrix and multiplication of matrices
- Transpose of a matrix
- Determinants
- Adjoint and Inverse of a matrix
- Consistency and inconsistency of Equations- Rank of a matrix
- Solution of simultaneous linear equations

Complex Numbers:

- Complex number as an ordered pair of real numbers- fundamental operations
- Representation of complex numbers in the form a + ib.
- Modulus and amplitude of complex numbers –Illustrations.
- Geometrical and Polar Representation of complex numbers in Argand plane- Argand diagram.

De Moivre's Theorem:

- De Moivre's theorem- Integral and Rational indices.
- n^{th} roots of unity- Geometrical Interpretations – Illustrations.

Quadratic Expressions:

- Quadratic expressions, equations in one variable
- Sign of quadratic expressions – Change in signs – Maximum and minimum values
- Quadratic in-equations

Theory of Equations:

- The relation between the roots and coefficients in an equation

- Solving the equations when two or more roots of it are connected by certain relation
- Equation with real coefficients, occurrence of complex roots in conjugate pairs and its consequences
- Transformation of equations – Reciprocal Equations.

Permutations and Combinations:

- Fundamental Principle of counting – linear and circular permutations
- Permutations of 'n' dissimilar things taken 'r' at a time
- Permutations when repetitions allowed
- Circular permutations
- Permutations with constraint repetitions.
- Combinations-definitions and certain theorems

Binomial Theorem:

- Binomial theorem for positive integral index
- Binomial theorem for rational Index (without proof).
- Approximations using Binomial theorem

Partial fractions:

- Partial fractions of f(x)/g(x) when g(x) contains non –repeated linear factors.
- Partial fractions of f(x)/g(x) when g(x) contains repeated and/or non-repeated linear factors.
- Partial fractions of f(x)/g(x) when g(x) contains irreducible factors.

6. Statistics

DATA HANDLING - Frequency Distribution Tables and Graphs- Grouped data-ungrouped data – Measrues of Central Tendency -Mean, median & mode of grouped and ungrouped data – ogive curves –MEASURES OF DISPERSION -Range - Mean deviation -Variance and standard deviation of ungrouped/grouped data. -Coefficient of variation and analysis of frequency distribution with equal means but different variances.

7. Probability

Probability - Random experiment and outcomes - Equally likely outcomes - Trail and Events - Linking the chance to Probability - uses of probability in real life

Probability-a theoretical approach – probability & modelling –equally likely events - mutually exclusive events –finding probability – elementary event –exhaustive events - complementary events & probability – impossible & certain events – deck of cars & Probability –use & applications of probability - Probability

- Random experiments and events
- Classical definition of probability, Axiomatic approach and addition theorem of probability.
- Independent and dependent events conditional probability- multiplication theorem and Bayee's theorem.

Random Variables and Probability Distributions:

- Random Variables
- Theoretical discrete distributions – Binomial and Poisson Distributions

8. Coordinate Geometry

Cartesian system-Plotting a point in a plane if its co-ordinates are given.

Distance between two points - Section formula (internal division of a line segment in the ratio m : n) – centroid of a triangle – trisectional points of a line segment -Area of triangle on coordinate plane- collinearity –straight lines -Slope of a line joining two points

Locus :

- Definition of locus – Illustrations.
- To find equations of locus - Problems connected to it.

Transformation of Axes :

- Transformation of axes - Rules, Derivations and Illustrations.
- Rotation of axes - Derivations – Illustrations.

The Straight Line :

- Revision of fundamental results.
- Straight line - Normal form – Illustrations.
- Straight line - Symmetric form.
- Straight line - Reduction into various forms.
- Intersection of two Straight Lines.
- Family of straight lines - Concurrent lines.
- Condition for Concurrent lines.
- Angle between two lines.
- Length of perpendicular from a point to a Line.
- Distance between two parallel lines.
- Concurrent lines - properties related to a triangle.

Pair of Straight lines:

- Equations of pair of lines passing through origin, angle between a pair of lines.
- Condition for perpendicular and coincident lines, bisectors of angles.
- Pair of bisectors of angles.
- Pair of lines - second degree general equation.
- Conditions for parallel lines - distance between them, Point of intersection of pair of lines.
- Homogenizing a second degree equation with a first degree equation in X and Y.

Circle :

- Equation of circle -standard form-centre and radius of a circle with a given line segment as diameter & equation of circle through three non collinear points - parametric equations of a circle.
- Position of a point in the plane of a circle – power of a point-definition of tangent-length of tangent
- Position of a straight line in the plane of circle-conditions for a line to be tangent – chord joining two points on a circle – equation of the tangent at a point on the circle-point of contact-equation of normal.
- Chord of contact - pole and polar-conjugate points and conjugate lines - equation of chord with given middle point.
- Relative position of two circles- circles touching each other externally, internally common tangents-centres of similitude- equation of pair of tangents from an external point.

System of circles:

- Angle between two intersecting circles.
- Radical axis of two circles- properties- Common chord and common tangent of two circles – radical centre.
- Intersection of a line and a Circle.

Parabola:

- Conic sections –Parabola- equation of parabola in standard form-different forms of parabola- parametric equations.
- Equations of tangent and normal at a point on the parabola (Cartesian and parametric) - conditions for straight line to be a tangent.

Ellipse:

- Equation of ellipse in standard form- Parametric equations.

- Equation of tangent and normal at a point on the ellipse (Cartesian and parametric) - condition for a straight line to be a tangent.

Hyperbola:

- Equation of hyperbola in standard form- Parametric equations.
- Equations of tangent and normal at a point on the hyperbola (Cartesian and parametric) - conditions for a straight line to be a tangent- Asymptotes.

Three Dimensional Coordinates :

- Coordinates.
- Section formulas - Centroid of a triangle and tetrahedron.

Direction Cosines and Direction Ratios :

- Direction Cosines.
- Direction Ratios.

Plane :

- Cartesian equation of Plane - Simple Illustrations.

9. Trigonometry

Trigonometry - Naming the side in a right triangle-trigonometric ratios – defining trigonometric ratios –trigonometric ratios of some specific angles (45^0,30^0 &60^0, 0^0 &90^0) –trigonometric ratios of complementary angles – trigonometric identities – Applications of Trigonometry - Line of sight & horizontal -Angle of elevation & depression -Drawing figures to solve problems – solution for two triangles

Trigonometric Ratios up to Transformations:

- Graphs and Periodicity of Trigonometric functions.
- Trigonometric ratios and Compound angles.
- Trigonometric ratios of multiple and sub- multiple angles.
- Transformations - Sum and Product rules.

Trigonometric Equations:

- General Solution of Trigonometric Equations.
- Simple Trigonometric Equations – Solutions.

Inverse Trigonometric Functions:

- To reduce a Trigonometric Function into a bijection.
- Graphs of Inverse Trigonometric Functions.
- Properties of Inverse Trigonometric Functions.

Hyperbolic Functions:

- Definition of Hyperbolic Function – Graphs.
- Definition of Inverse Hyperbolic Functions – Graphs.
- Addition formulas of Hyperbolic Functions.

Properties of Triangles:

- Relation between sides and angles of a Triangle
- Sine, Cosine, Tangent and Projection rules.
- Half angle formulae and areas of a triangle
- In-circle and Ex-circle of a Triangle.

10. Vector Algebra

Addition of Vectors:

- Vectors as a triad of real numbers.
- Classification of vectors.
- Addition of vectors.
- Scalar multiplication.
- Angle between two non-zero vectors.
- Linear combination of vectors.

- Component of a vector in three dimensions.
- Vector equations of line and plane including their Cartesian equivalent forms.

Product of Vectors:

- Scalar Product - Geometrical Interpretations - orthogonal projections.
- Properties of dot product.
- Expression of dot product in i, j, k system – Angle between two vectors.
- Geometrical Vector methods.
- Vector equations of plane in normal form.
- Angle between two planes.
- Vector product of two vectors and properties.
- Vector product in i, j, k system.
- Vector Areas.
- Scalar Triple Product.
- Vector equations of plane in different forms, skew lines, shortest distance and their Cartesian equivalents. Plane through the line of intersection of two planes, condition for coplanarity of two lines, perpendicular distance of a point from a plane, Angle between line and a plane. Cartesian equivalents of all these results
- Vector Triple Product – Results

11. Calculus

Limits and Continuity:

- Intervals and neighbourhoods.
- Limits.
- Standard Limits.
- Continuity.

Differentiation:

- Derivative of a function.
- Elementary Properties.
- Trigonometric, Inverse Trigonometric, Hyperbolic, Inverse Hyperbolic Function - Derivatives.
- Methods of Differentiation.
- Second Order Derivatives.

Applications of Derivatives:

- Errors and approximations.
- Geometrical Interpretation of a derivative.
- Equations of tangents and normal's.
- Lengths of tangent, normal, sub tangent and sub normal.
- Angles between two curves and condition for orthogonality of curves.
- Derivative as Rate of change.
- Rolle's Theorem and Lagrange's Mean value theorem without proofs and their geometrical interpretation.
- Increasing and decreasing functions.
- Maxima and Minima.

Integration:

- Integration as the inverse process of differentiation- Standard forms –properties of integrals.
- Method of substitution- integration of Algebraic, exponential, logarithmic, trigonometric and inverse trigonometric functions. Integration by parts.
- Integration- Partial fractions method.
- Reduction formulae.

Definite Integrals:

- Definite Integral as the limit of sum
- Interpretation of Definite Integral as an area.
- Fundamental theorem of Integral Calculus.
- Properties.
- Reduction formulae.
- Application of Definite integral to areas.

Differential equations:

- Formation of differential equation-Degree and order of an ordinary differential equation.
- Solving differential equation by
    a) Variables separable method.
    b) Homogeneous differential equation.
    c) Non - Homogeneous differential equation.
    d) Linear differential equations.

V. Methodology (20 Marks)

1. Meaning and Nature of Mathematics, History of Mathematics.
2. Contributions of Great Mathematicians - Aryabhatta, Bhaskaracharya, Srinivasa Ramanujan, Euclid, Pythagoras, George cantor.
3. Aims and Values of teaching Mathematics, Instructional objectives (Blooms taxonomy)
4. Mathematics curriculum: Principles, approaches of curriculum construction, -Logical and Psychological, Topical and Concentric, Spiral approaches. Qualities of a good Mathematics text book.
5. Methods of teaching mathematics- Heuristic method, Laboratory method, Inductive and Deductive methods, Analytic and Synthetic methods, Project method and Problem Solving method.
6. Unit Plan, Year Plan, Lesson Planning in Mathematics.
7. Instructional materials, Edgar Dale's Cone of Experience.
8. Evolving strategies for the gifted students and slow learners,
9. Techniques of teaching mathematics like Oral work, written work, Drilling, Assignment, Project, Speed and Accuracy.
10. Mathematics club, Mathematics structure, Mathematics order and pattern sequence.
11. Evaluation - Types, Tools and Techniques of Evaluation, Preparation of SAT Analysis, Characteristics of a good test.

Government of Andhra Pradesh
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Paper I – ENGLISH LANGUAGE POFECIENCY Test Syllabus

English: (Content) (Marks: 100)

VOCABULARY		LEVEL OF TESTING
Synonyms		Identification
Antonyms		Identification
Homophones		Identification
Homonyms		Identification
Hypernyms and Hyponyms		Identification
Spelling		Spelling
Phrasal Verbs		Identification of Meaning
Word Formation		Suffixes and Prefixes
One word substitutes		Referring to Persons / Professions and Places
Short forms and Full forms		Commonly used short forms and full forms in English
Abbreviations and Full forms		Commonly used Abbreviations and their full forms
Helping Verbs		Forms, contractions
Modal Auxiliaries		Form, Function & Contractions
Ordinary Verbs		Form, Function & Contractions
Articles		Use of Articles
Prepositions		Simple Prepositions Including Prepositions following Certain Words
Clauses		Main Clauses, sub-ordinate Clauses, Noun Clauses, If Clauses, Relative Clauses
Sentence Structures		Basic Sentence Structures
Degrees of Comparison		Form, Function, Construction, Transformation
Language Functions		Language Functions with social norms (Formal and Informal)
Question Tags		Imperatives and Statements
Types of Sentences		Types of Sentences
Direct Speech & Indirect Speech		Statements, Questions, Imperatives
Active Voice & Passive Voice		Active Voice & Passive Voice

Tenses		Use of tenses and framing including IF conditionals Type 1 &3
Agreement between subject & Verb		Agreement between Subject & Verb
Word Order		Word Order in a phrase or a sentence
Parts of Speech		Nouns, Pronouns, Adjectives, Adverbs, Conjunctions - Types and functions
Linkers		Linkers
Transformation of Sentences		Simple, Compound and Complex Sentences
Common Errors		Based on all Vocabulary and Grammar Topics
Punctuation and Capitalization		Use of capital letters, comma, full stop, question mark, exclamation mark and inverted commas
Writing of Discourses		Letter Writing and News Report
Dictionary Skills		Dictionary Skills
Reading Comprehension		Prose (general)

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Paper II – SOCIAL STUDIES Syllabus

PART - I

I. General Knowledge And Current Affairs (Marks: 10)

PART - II

II. Perspectives In Education (Marks: 05)

1. **History of Education :**
   - The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
   - Education in Pre Independent era - Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944).
   - Education in Post Independent era - Mudaliar Commission (1952-53), Kothari Commission (1964-66), Ishwarbhai Patel committee (1977), NPE-1986, POA-1992
2. **Teacher Empowerment:**
   - Need, interventions for empowerment, Professional code of conduct for teachers, Teacher motivation, Professional development of Teachers and Teacher organizations, National / State Level Organizations for Teacher Education, Maintenance of Records and Registers in Schools.
3. **Educational Concerns in Contemporary India:**
   - Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities.
   - Economics of Education, Education as Human Capital, Education and Human Resource Development, Literacy - Saakshar Bharat Mission.
   - Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
   - Inclusive Education - Classroom Management in Inclusive Education
   - Role of Education in view of Liberalization, Privatization and Globalization
   - Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs, Model Schools.
   - Incentives and special provisions – Mid Day Meals, Free Books, Scholarship, Awards, Welfare Hostels, Transportation.
   - Current Trends in Education – Badi pelusthondi, Badi ki Vasta, Mavuru – Mana Badi, Vidyanjali, Swacha Patasala, Inspire, Kalavutsav.

4. **Acts / Rights:**
    - Right of Children to Free and Compulsory Education Act - 2009
    - Right to Information Act - 2005
    - Child Rights
    - Human Rights.

5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

PART - III

III. Classroom implications of Educational Psychology – 05Marks

1. **Individual differences:** Inter and intra individual differences, meaning, nature and theories of intelligence with special emphasis to multiple intelligence, IQ, assessment of intelligence, EQ, Creativity. Attitude, Aptitude, Interest, Habit and its Influence on Intelligence – Class room implementation.
2. **Learning:** Theories and approaches of learning, learning curves, Factors, Phases, Dimensions of learning, Types of learning, Transfer of learning. Memory, Forgetting, Learning and assessment– Class room implementation.
3. **Personality:** Nature, characteristics and theories of personality, factors of Personality, Assessment of Personality, Mental health, Adjustment, Stress – nature, Symptoms and management. Emotional intelligence, Management of emotions – Class room implementation.

PART - IV

IV. Content: (40 Marks)

Classes VI – X Syllabus:

Theme - I: Diversity on the Earth

Reading, Making and Analysis of Maps -different types of maps - directions -scale - conventional symbols use in maps-measuring heights , distances - Contour Lines- Representation of relief features on maps- uses of maps- past and present-Maps Down the Ages-reading of thematic maps-atlas-globe-a model -the earth grid system- Using an atlas to find latitude and longitude of places, time.

Our Universe, the Sun and the Earth – energy form sun- temperature - The evolution of the Earth- earth movements – seasons- regions on earth-condition -Movements of the Earth's-crust - Internal Structure of the Earth- Realms of the earth

Lithosphere- 'first order' landforms- oceans and continents -diverse features - Second Order landforms-mountains, plains and plateaus- diverse people living in different kinds of landforms in India and Andhra Pradesh -plate tectonics-Volcanoes-earth quakes –disaster

management- Mining and minerals- new trends in mining and minerals.- renewable and non-renewable –Indian relief features –location-geological background-major relief divisions in India-and Andhra Pradesh

Hydrosphere- Hydrological cycle - water sources - oceans - relief of the oceans - salty-movements - oceans as resouse waves, tides, currents - ocean as resource – Indian, Andhra Pradesh river and water resources –ground water-tanks-recharging ground water-floods- Rational and equitable Use of water-Andhra Pradesh water , land and trees protection act .

Atmosphere- structure of atmosphere Pressure Belts and Planetary Winds- Carioles effect-winds- weather and climate –factors which influence weather and climate –seasons in india-types of rainfall- Global Warming and Climate Change-anthropological global warming - IPCC- Impact of climate change on India-

Biosphere- Natural vegetation- different kinds of forests- human society and environment-pollution and effects-depletion of resources- using and protesting forests

Theme - II: Production Exchange and Livelihoods

From Gathering Food to Growing food – The Earliest People - Agriculture in Our Times - Trade in Agricultural Produce -Trade in Agricultural Produce – agricultural in India, Andhra Pradesh-types of farming-cropping season-crops-importance of agriculture –green revolution –effects- dry land agriculture –Food security – nutrition status –PDS-sustainable development and equity -handicrafts and handlooms- industrial revolution- beginning of industrial revolution- Sources of Energy and Industrial Development-urbanisation and slums-production in a factory Livelihood and Struggles Urban Workers - Minerals and Mining - Impact of Technology on Livelihoods –technology changes in agricultural, industrial ,service sectors -importance of transport system –transport system in India, traffic education – Andhra Pradesh- money and banking- finance literacy-credits and finance system- prices and cost of living - Role of government in regulating prices- The Government Budget and Taxation –direct and indirect taxes-industries in India-new policies for industries -service activates in India -growth and development-comparing of different countries and states-sectors of economy-employment- organized and unorganized sectors –employment in India-population –people and settlement-urbanisation in India , urbanisation problems-people and migration –types of migrations –village economy –Globalization –factors –impact-fair globalization-other issues.

Theme -III: Political Systems and Governance

Community Decision Making in a Tribe - Emergence of Kingdoms and Republics – Mahajanapadas- First Empires – mouryan empire- ashoka –kingdoms and empires in the deccan- New Kings and Kingdoms(between seventh and twelth centuries)-mahamud ghazni – the cholas and other- The Kakatiyas - Emergence of a Regional Kingdom- The Kings of Vijayanagara-srikirshna devaraya-Mughal Empire- Establishment of British Empire in India-

the revolt 1857-after revolt-british rule in india- Landlords and Tenants under the British and the Nizam - National Movement - The Early Phase 1885-1919 -National Movement - The Last Phase 1919-1947 –national movement in India – partition – integration of states-Independent India 1947-77 – state reorganisation-social and economic change-foreign policy – wars –emergency- independent India 1977-2000

Changing cultural tradition in Europe- the ancient , medieval world in Europe-renaissance-humanism-realism-the new concept of human beings-debates within Christianity –Beginning of the modern science-exploration of sea routes –democratic and nationalist revolution in 17^{th},18^{th} and 19^{th} centuries – the glorious revolution- American independence –french revolution- rise of nationalism in Europe-the revolts 1830-1848 –Germany unification-unification of Italy-industrialisation and social change –social protest movements – luddism-socialism-women movements – colonialism in latin America , Asia , Africa- impact of colonialism in India-adivasi revolts-the British governament's industrial policy-labourers' stuggles-the world between 1900-1950-world war I and world war II- causes – the treaty of Versailles – the league of nationas-consequences of the world war-Russian socialist revolution-the great depression- Nazism –post war world and India – UNO-Cold war-non alignment movement- the growth of nationalism in the middle east-peace movement and collapse of USSR-National liberation movements in the colonies .

Democratic Government - Village Panchayats - Local Self – Government in Urban Areas – Making of Laws in the State Assembly-Implementation of Laws in the District - The Indian Constitution - the making of independent India 's constitution –Parliamentary system – federalism- the constitution today- Elections system in India – electoral literacy- Parliament and Central Government - Law and Justice –Supreme court –high court- other courts – worldly expansion of democracy- the democracy an evolving idea.

Theme -IV: Social Organisation and Inequities

Diversity in Our Society - Towards Gender Equality –caste discrimination and the struggle for equalities –livelihood and struggles of Urban workers –workers rights –abolishment of zamindari system-poverty-Rights –Human rights and fundamental rights- Women rights , protection acts – children rights – RTI-RTE-legal service authority- Lok Adalat –consumer rights - social movements in our time

Theme - V: Religion and Society

Religion and Society in Early Times – hunter- gatherers-early farmers and herdrers-Indus valley civilisation –Vedas- Jainism ,Buddhism-flok religion-bhakthi-nathpanthis ,siddhas,yogis.- sufism -kabir – gurunank-Devotion and Love towards God –Hindu religion-Bhakti movement-Christianity-Islam- the belief in supreme god-social and religious reform movements-Christian missionaries and oriental scholars-Bramha samaj- Arya Samaj-Swami Vivekananda –reforms and education among muslims –social reformers in andrapradesh-social reforms and caste system-narayana guru-jyothirao phule – dr br ambedker-understanding Secularism-

Theme -VI: Culture and Communication

Language, Writing and Great Books - Sculptures and Buildings –Performing Arts and Artistes in Modern times-burrakatha – tholubommalata –bharatanatyam-Film and print media-role of media in freedom movement- sports Nationalism –other games and their status.

Intermediate Syllabus:

Geography:

General Geography-Definition and scope of Geography – Branches of Geography-Geography as an integrating Discipline and as Spacial Science with physical, biological and social sciences.
Solar System-Origin and Evolution of solar system-Rotation and Revolution of the Earth and their effects-Latitudes and Longitudes-Standard Time and International Date line.
The Earth - Interior of the Earth-Wegner's theory of continental drift -Major Rock types and their characteristics.
Geomorphology -Major landforms: Mountains, Plateaus and Plains-Geomorphic Process: Weathering - Physical and Chemical Weathering-Landforms associated with wind and river – Erosional and depositional.
Climatology -Climate: Elements of weather and climate-Atmosphere: Composition and structure of atmosphere -Insolation: Insolation and Heat Budget of the Planet Earth-Temperature: Factors influencing Temperature, Vertical and horizontal distribution of temperature Pressure- Global pressure belts WindsPlanetary winds, Seasonal and Local winds-Precipitation: Forms and types of rain fall (Convectional, Orographic and Cyclonic rain fall).
Bio geography -Biomes of the world- Equatorial, Tropical and Temporate -Biodiversity and Conservation -Concept of Ecosystem and Ecological Balance- Oceanography, Hydrology and Natural hazards
Oceanography-Divisions of the Ocean floor- Continental shelf, Continental slope, Deep Sea plains and Ocean deeps-Ocean Temperatures- Vertical and horizontal distribution-Ocean Salinity Definition, vertical and horizontal distribution-Oceanic Movements: Waves, Tides and Currents, (Currents of Atlantic, Pacific and Indian Ocean)
Hydrology-Elements of Hydrological cycle: Precipitation, evaporation, evapo-transpiration, run off, infiltration and recharge -Hydrological Cycle.
Natural Hazards-Causes and Spatial distribution of floods, droughts, cyclones, Tsunamis, Earthquakes and landslides Global Warming and its consequences-Disaster Management in India-Human Geography : Definition, Content and scope- Man and Environment: Definition, Content, Classification of environment-Environmental impact World Population : Growth, Factors influencing, density and distribution
Human activities - Primary, Secondary and tertiary activities-Resources - Definition, Classification and Conservation-Agriculture -Definition, Types, food crops (Rice and wheat) Non food crops (Cotton, Sugarcane) and Plantation crops-(Rubber, tea and coffee) their Significance, Conditions - for cultivation, production and distribution.
Definition and Classification (Metallic - Iron), non Metallic – bauxite and (fuel minerals - coal and petroleum) Industries - Location factors, types of industries -Agro – based (Cotton textiles) Forest based (Paper mills) -Mineral based (Iron and steel) - Chemical based (Fertilizers)- Transportation -Road ways, Railways, Water ways and Air ways - Rail ways-Intensive net work rail way, Regional rail-ways and Trans continental railways - Water ways-Mjor sea ports: London, San Francisco-Reo De Janeiro, Cape Town, Kolkata and Sydney-Major Air ports- Tokyo, Paris, Chicago, Bogota and -Wellington

Physical features of India - Major features - Northern mountains, Indo – Gangetic-plains, Peninsular plateau of India and coastal plains- Major rivers of India - Perennial rivers- Indus, Ganges and Brahmaputra-Non Perennial rivers- Narmada, Tapati, Mahanadi, -Godavari, Krishna, Pennar and Cauvery - Climate of India - Cold weather season: Temperature Rainfall & Pressure distribution Hot weather season- Temperature, Rainfall & Pressure distribution South west monsoon season- Temperature, Rainfall & Pressure distribution North east monsoon season: Temperature, Rainfall & Pressure distribution-Natural vegetation of India-Types of vegetation based on rainfall and their-distribution. Evergreen forest, deciduous forest, scrub -forest, & Thorny forest -Soils - Definition, factors for formation, types and -their distribution.

Population- Growth trends from 1901 to 2001, Distribution based-on density, problems of high population- Irrigation-Types of irrigation: canals, wells and tanks. Major -multipurpose projects. Bakranangal, Hirakud, -Damodar valley corporation and Nagarjuna Sagar-Agriculture: Cropped area, production and distribution of -selected crops: Rice, Wheat, Millets, Coffee, Tea, Sugarcane, Cotton, Jute and tobacco; Problems of Indian agriculture.

Minerals- Production and distribution of coal, petroleum, iron, mica and manganese, bauxite. Industries- Location factors growth and distribution of iron and steel, cotton textile and ship building industries- Transportation-Means of Transport – Road ways, Rail ways, Water -ways and Air ways; Major ports of India – Mumbai, -Cochin, Kandla, Kolkata, Visakhapatnam and Chennai.

Geography of Andhra Pradesh: Location, Physiography and Climate, Population.

History:

What is History: Definition - Scope – Sources – Historiography – Relationship with other Social Sciences – Impact of Geography on history - Relevance of History.

Ancient Civilizations and Culture : Pre Harappan Cultures - Harappan Civilization – Script, town planning, society, economy and culture - Vedic age and Post Vedic Culture.

Early States, Empires and Economy : Early States – 16 Mahajanapadas - Rise of Magadha – Economy and Agriculture – urbanization.

Early Societies, and religious movements: Early Societies – Social differences – Religious movements – Jainism – Buddhism and other sects Ajjivikas and Lokayats.

Polity, Economy, Society and Culture between 3rd to 7th Century A.D. : Mauryas - Kushanas – Guptas – Pushyabhuties – Origin of feudalism – Polity, Society, Economy and Culture.

Deccan and South India up to 8th A.D: Sangam age – Satavahanas – Pallavas – Chalukyas – Rastrakutas – Cholas – Polity, Society, Economy and culture.

Age of Delhi Sultanate: Sources/Travellors Accounts - Arab Invasions – Turkish invasions – Delhi Sultanate – Polity, Economy, Society and Culture.

Age of Mughals: Chronicles/Sources – Mughal rule – Babur, Humayun, Shershah, Akbar, Jahangir, ShahJahan and Aurangazeb - Polity, Economy, Society and culture - Disintegration - Maratas, Sikhs.

Bhakti and Sufi Traditions 8 A.D. 16 Century A.D: Prevailing Religious Traditions and beliefs in the Society – Bhakti Saints and their Preachings – Sufism – Main features and their impact.

Deccan and South India 8th A.D – 16 the A.D : Sources - Kakatiyas – Vijyanagara – Bahamanis – Qutbshahis and Asafjahis – a brief survey.

India under the Colonial Rule : Sources - Portuguese – Dutch – French – English East India Company – Era of Governor Generals and their Polices – Reforms of Viceroys – 1857 Mutiny.

Indian National Movement: Background to National Movement, Socio-religious movement – rise of Nationalism – Vandemataram movement – Home rule movement – Emergence of

Mahatma Gandhi and leadership – Revolutionary movement, Subhash Chandra Bose – Poona Pact Quit India movement – Partition of India – Emergence of Independent India.
The Modern World- Beginning of Modern Age, Renaissance, Development in Science, The Reformation Movement, Rise of Nation States, Struggle against Absolute Monarchies - Capitalism and Industrial Revolution -The Revolutionary Movements -The Glorious Revolution, The American war of Independence, The French Revolution of 1789 - .Nationalist Movements: Rise and fall of Napoleon, French Revolution of 1830 and the 1848 Revolt, Unification of Germany and Italy, Socialist Movements – Rise of Working class, Paris Commune of 1871
Imperialism: Factors in the rise of Imperialism, Forms and Methods of Imperialism, Scramble for Africa and Asia
Contemporary World: The First World war, League of Nations, The Russian Revolution of 1905 and 1917 -The World upto World War II: Rise of Fascism and Nazism, Militarism in Japan, U.S.A. and U.S.S.R. after World War I, Turkey after World War I, Failure of League of Nations, Spanish Civil war, World war II, The Nationalist Movements in Asia and Africa, Emergence of Latin America
The World after World War II: Formation of Military Blocks, Role of independent Nations of Asia and Africa in the World Affairs, Non-Alignment Movement, Role of UNO in preserving World Peace, Problems of Disarmament and Nuclear Weapons, Prominent Personalities of the World.

Civics:

Scope and Significance of political Science - Introduction to Civics and Political Science, Origin and Evolution, Meaning, Definitions, What do we study? Why do we study?
State - State – Meaning, Definitions, Elements, Relation of state with other Institutions – Society, Association, Government.
Nationalism - Nation, Nationality, Nationalism, Factors contributing for Nationality, Is India a Nation? Meaning, Forms (Traditional and modern)
law -Meaning, Definitions, Classification, Law and morality, Rule of Law. Liberty and Equality – Meaning, Definitions, Types, Safeguards, Liberty – Equality.
Rights and Responsibilities– Meaning, Definitions, functions Forms, Relationship between Rights and Responsibilities, Human Rights
Justice - Justice – Meaning, Forms of Justice, Social Justice.
Citizenship - Meaning, Definitions, Methods of Acquiring, Citizen – Alien , Loss of Citizenship, Hindrances to Good Citizenship, Universal Citizenship
Democracy- Meaning, Definitions, features, types, merits, devices, future
Secularism -Meaning, Secular State, Western Model, Indian Model, Why India was made a Secular State? Criticism of Indian Secularism
Constitution– Meaning, Definitions, features, Classification
Government - Unitary, Federal, Parliamentary, Presidential, Theory of Separation of Powers, Organs of Government
Indian Constitution: Indian National Movement- Government of India Acts – 1909, 1919 & 1935-
Salient features of Indian Constitution
Fundamental Rights &Directive Principles of State Policy- Fundamental Rights- Directive Principles of state Policy- Fundamental Duties
Union Government- Union Executive – President of India - Vice – President of India - Prime Minister & Council of Ministers
Indian Parliament - Lok Sabha-Composition – Powers and functions- Rajya Sabha: Composition – Powers and functions

Parliamentary Committees- Public Accounts Committee – Estimates -Committee – Committee on Public Undertakings
Union Judiciary - Supreme Court of India – Composition- Powers and Functions of Supreme Court -of India - Judicial Review
State Government- State Executive – Governor- Powers and Functions-Chief Minister - Powers and Functions- Council of Ministers
State Legislature-Legislative Assembly- Composition – Powers and Functions- Legislative Council-Composition – Powers and Functions - Legislative Committees: Public Accounts Committee – Estimates-Committee and Ethics Committee
State Judiciary-High Court – Composition- Powers and Functions of High Court- District Courts: Composition – Powers and Functions.
Union – State Relations - Legislative Relations-Administrative Relations- Financial Relations
Local Government-Rural Local Government - Panchayati Raj Institutions – 73rd Constitution Amendment Act- Urban Local Government: Municipalities - Municipal Corporation – 74th Constitution Amendment Act- District Collector : Role in Local Governments
India's Foreign Policy - Determinants of Foreign Policy- Basic features of India's Foreign Policy-
South Asian Association for Regional Cooperation (SAARC)
United Nation Organization (UNO)-Origin of UNO-Principal Organs of UNO- Achievements and failures of UNO
Contemporary Trends and Issues- Globalization- Terrorism-Corruption.

Economics:

Origin and meaning of Economics - Definitions of Economics; Adam Smith, Alfred Marshall, Lionel Robbins, Paul Samuelson, & Jocob Viner- Concept of Economics – Micro & Macro Economics Deductive and Inductive Method, Static and Dynamic Analysis, Positive and Normative Economics. Goods: (Free, Economic, Consumer, Producer, and Intermediary), Wealth, Income, Utility, Value, Price, wants and welfare.
Theory of Consumption - Cardinal and Ordinal Utility, the law of Diminishing Marginal Utility – Limitations – Importance; law of Equi-Marginal Utility Limitations and – Importance of the Law, Indifference Curve Analysis – Properties and Consumer's Equilibrium.
Theory of Demand - Meaning – Demand Function – Determinants of Demand, Demand Schedule – Demand Curve, Law of Demand, Exceptions to Law of Demand - Causes for the downward slope of the demand curve, Types of Demand – Price Demand, Income Demand, and Cross Demand- Elasticity of Demand – Meaning and Types – Price Elasticity, and Income Elasticity and Cross Elasticity – Price Elasticity-Types; Measurement of Price Elasticity of Demand- Point Method. Arc Method, Total Outlay Method. Determinants of Elasticity of Demand; Importance of Elasticity of Demand.
Theory of Production - Meaning - Production Function – Factors of Production; Short-run and Long-run Production Function; Law of variable proportions - Law of returns to scale; Economies of Scale - Internal and External- Supply – Supply Function - Determinants of Supply — Law of Supply- Cost Analysis – Basic Concepts of Costs- (Money, Real, Opportunity, Fixed and Variable, Total, Average and Marginal costs)- Revenue Analysis – Revenue under perfect and imperfect competition.
Theory of Value - Meaning and Classification of Markets – Perfect competition – features – price determination- Short-run and Long-run equilibrium of a firm and Industry- Imperfect Competition – Monopoly – Price Determination – Price-Discrimination-Monopolistic Competition- Features- Meaning of Oligopoly – Duopoly.

Theory of Distribution - Determination of Factor Prices – Marginal Productivity Theory - Rent – Ricardian theory of Rent – Modern theory - Quasi Rent – Transfer earnings - Wages – Meaning and types of wages – Money and Real wages - Interest- Meaning – Gross and Net interests - Profits – Meaning – Gross and Net profits.

National Income : Definitions of National Income and Concepts- Measurement of National Income – Census of Product Method – Census of Income Method – Census of Expenditure Method- Methods of Measuring National Income in India; Problems and importance

Macro Economic Aspects - Classical theory of Employment –J.B. Say Law of Markets-Limitations – J.M. Keynes Effective Demand- Public Economics - Public Revenue – Public Expenditure – Public debt – Components of Budget.

Money, Banking and Inflation - Money – Definitions and Functions of money – Types of Money - Banking – Commercial Banks – Functions; Central Bank – Functions – Reserve Bank of India – Net Banking- Inflation – Definitions – Types – Causes and Effects of inflation – Remedial Measures.

Statistics for Economics - Meaning, Scope and Importance of Statistics in Economics with Diagrams (Bar diagrams and Pie diagrams)-Measures of central tendency – Mean, Median, Mode.

Economic Growth And Development - Differences Between Economic Growth and Development classification of the world countries - Indicators of Economic development - Determinants of Economic Development - Characteristic features of Developed Countries - Characteristic features of Developing countries with special reference to India

Population and Human Resources Development - Theory of Demographic Transition - World Population - Causes of rapid Growth of population in India - Occupational distribution of population of India - Meaning of Human Resources Development - Role of Education and Health in Economic Development- Human Development Index (HDI)

National Income - Trends in the growth of India's National Income - Trends in distribution of national income by industry Origin - Share of Public Sector and Private Sector in Gross Domestic Product - Share of Organised and Un-organised Sector in Net Domestic Product - Income Inequalities - Causes of Income Inequalities - Measures to control income inequalities -Unemployment in India – Poverty - Micro Finace-Eradication of Poverty

Agriculture Sector-Importance of agriculture in India - Features of Indian agriculture - Agriculture Labour in India - Land utilization pattern in India - Cropping pattern in India - Organic Farming -Irrigation facilities in India - Productivity of agriculture - Land holdings in India - Land reforms in India - Green Revolution in India - Rural credit in India - Rural Indebtedness in India - Agricultural

Marketing - Industrial Sector - Significance of the Indian Industrial Sector in Post –Reform Period -Industrial Policy Resolution 1948 - Industrial Policy Resolution 1956 - Industrial Policy Resolution 1991 - National Manufacturing Policy- Disinvestment - National Investment Fund (NIF) -Foreign Direct Investment -Special Economic Zones (SEZs) - Causes of industrial backwardness in India -Small Scale Enterprises (MSMEs) - Industrial Estates - Industrial Finance in India - The Industrial Development under the Five Year Plans in India.

Tertiary Sector - Importance of Services Sector -India's Services Sector - State-Wise Comparison of Services - Infrastructure Development - Tourism - Banking and Insurance - Communication -Science and Technology - Software Industry in India

Planning And Economic Reforms - Meaning of Planning -NITI Ayog -Five Year Plans in India - XII Five Year Plan - Regional Imbalances - Role of Trade in Economic Development - Economic Reforms in India - GATT – WTO

Environment and Sustainable Economic Development - Environment - Economic Development -Environment and Economic Linkages. - Harmony between Environment & Economy

Economy Of Andhra Pradesh - History of Andhra Pradesh - Characteristic features of A.P. Economy -Demographic features - Occupational distribution of labour - Health Sector - Education -Environment - Agricultural sector - Industrial sector - Service and Infrastructure sector - Information and Technology - Tourism -Andhra Pradesh and Welfare Programmes/ Schemes

Economic Statistics - Measures of Dispersion - Definitions of Dispersion - Importance of Measuring Variation -Properties of a good measure of variation -Methods of Studying Variation - Measures of Dispersion for average - Lorenz Curve - Correlation -Index Numbers - Weighted Aggregation Method.

V. Methodology (Marks: 20)

1. **Aims and objectives of learning Social Sciences**

   - values through Social Sciences - learning objectives and illustrations - learning objectives in constructivist approach - Academic Standards

2. **School curriculum and resources in Social Sciences**

   - NCF-2005, RTE-2009, SCF-2011 - syllabus – Learning Resources.

3. **Social Sciences as on integrating area of study: Context and concerns**

   - Distinguishing between Natural and Social Sciences - Social Studies and various Social Sciences -contributions of some eminent Social Scientists

4. **Approaches and strategies for learning Social Sciences**

   - collaborative learning approach - 5E learning model - problem solving approach - planning -concept mapping

5. **Community Resources and Social Sciences Laboratory**

6. **Tools and techniques of assessment for learning: Social Sciences**

7. Evaluation - CCE - assessment framework - assessment learning of students with special need

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training
Category of Post: TGT
Paper II – TELUGU Syllabus

PART - I

I. General Knowledge and Current Affairs (Marks: 10)

PART - II

II. Perspectives in Education (Marks: 05)

1. **History of Education :**
   - The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
   - Education in Pre Independent era - Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944).
   - Education in Post Independent era - Mudaliar Commission (1952-53), Kothari Commission (1964-66), Ishwarbhai Patel committee (1977), NPE-1986, POA-1992
2. **Teacher Empowerment:**
   - Need, interventions for empowerment, Professional code of conduct for teachers, Teacher motivation, Professional development of Teachers and Teacher organizations, National / State Level Organizations for Teacher Education, Maintenance of Records and Registers in Schools.
3. **Educational Concerns in Contemporary India:**
   - Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities.
   - Economics of Education, Education as Human Capital, Education and Human Resource Development, Literacy - Saakshar Bharat Mission.
   - Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
   - Inclusive Education - Classroom Management in Inclusive Education
   - Role of Education in view of Liberalization, Privatization and Globalization
   - Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs, Model Schools.
   - Incentives and special provisions – Mid Day Meals, Free Books, Scholarship, Awards, Welfare Hostels, Transportation.
   - Current Trends in Education – Badi pelusthondi, Badi ki Vasta, Mavuru – Mana Badi, Vidyanjali, Swacha Patasala, Inspire, Kalavutsav.
4. **Acts / Rights:**
   - Right of Children to Free and Compulsory Education Act - 2009

- Right to Information Act - 2005
- Child Rights
- Human Rights.

5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

PART - III

III. Classroom implications of Educational Psychology – 05Marks

1. **Individual differences:** Inter and intra individual differences, meaning, nature and theories of intelligence with special emphasis to multiple intelligence, IQ, assessment of intelligence, EQ, Creativity. Attitude, Aptitude, Interest, Habit and its Influence on Intelligence – Class room implementation.
2. **Learning:** Theories and approaches of learning, learning curves, Factors, Phases, Dimensions of learning, Types of learning, Transfer of learning. Memory, Forgetting, Learning and assessment– Class room implementation.
3. **Personality:** Nature, characteristics and theories of personality, factors of Personality, Assessment of Personality, Mental health, Adjustment, Stress – nature, Symptoms and management. Emotional intelligence, Management of emotions – Class room implementation.

PART – IV

IV. Content (40 Marks)

1) **6వ తరగతి నుండి ఇంటర్మీడియట్ వరకు గల ఆంధ్రప్రదేశ్ ప్రభుత్వ తెలుగు వాచకాలలలోని అంశాలు:**

(ఉపవాచకాలతో సహా) **40 మార్కులు**

కవికాలాదులు, నేపధ్యాలు, ఉద్దేశాలు, మూల గ్రంధాలు, విశేషాంశాలు, ఇతివృత్తాలు,

పాఠ్యాంశ విషయాలు మొ॥వి; విద్యాప్రమాణాలు.

2) **పదజాలం:**

అర్థాలు, పర్యాయపదాలు, నానార్థాలు, వ్యుత్పత్త్యర్థాలు, ప్రకృతి – వికృతులు, జాతీయాలు,

సామెతలు మొ॥వి.

3) **భాషాంశాలు:**

సంధులు, సమాసాలు, ఛందస్సు, అలంకారాలు, పారిభాషికపదాలు క్రియలు, వాక్యాలు మొ॥వి.

4) **తెలుగు సాహిత్య చరిత్ర:**

5) **తెలుగు భాషా చరిత్ర:**

తెలుగులో అన్యదేశాలు; మాండలికాలు; అర్థవిపరిమాణం; ధ్వనుల మార్పు

6) సాహిత్య విమర్శ:

7) బాల వ్యాకరణం:

సంజ్ఞ, సంధి, తత్సమ, ఆచ్చిక, సమాస, పరిచ్ఛేదములు.

8) ఛందస్సు: (వృత్తాలు, జాతులు, ఉపజాతులు)

యతులు, ప్రాసల రకాలు – ఛందో దర్పణం

V. తెలుగు బోధనా పద్ధతులు : 20 మార్కులు

బి.ఎడ్ తెలుగు బోధనా పద్ధతులు. (తెలుగు అకాడమీ ప్రచురణ)

1. భాష – వివిధ భావనలు
2. భాషానైపుణ్యాలు
3. ప్రణాళిక రచన – పాఠ్యగ్రంథాలు
4. విద్యా సాంకేతిక శాస్త్రం – సహపాఠ్య కార్యక్రమాలు
5. సాహిత్య ప్రక్రియలు – బోధనా పద్ధతులు
6. మూల్యాంకనం – పరీక్షలు

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training
DSC – SGT – SECOND GRADE TEACHER SYLLABUS

1.	**G.K & current Affairs -**	**-**	**10M**
2.	**Perspectives in Education**	**–**	**05M**
3.	**Educational Psychology**	**–**	**10M**
4.	**Content & Methodologies**	**-**	**75M (50+25)**
	Total	**-**	**100 M**

PART - I

I. General Knowledge And Current Affairs (Marks: 10)

PART - II

II. Perspectives In Education (Marks: 05)

1. **History of Education :**
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   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
   - Inclusive Education - Classroom Management in Inclusive Education
   - Role of Education in view of Liberalization, Privatization and Globalization
   - Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs, Model Schools.

- Incentives and special provisions – Mid Day Meals, Free Books, Scholarship, Awards, Welfare Hostels, Transportation.
- Current Trends in Education – Badi pelusthondi, Badi ki Vasta, Mavuru – Mana Badi, Vidyanjali, Swacha Patasala, Inspire, Kalavutsav.

4. **Acts / Rights:**
   - Right of Children to Free and Compulsory Education Act - 2009
   - Right to Information Act - 2005
   - Child Rights
   - Human Rights.

5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

PART - III

III. Educational Psychology – 10Marks

1. **Development of Child:** Development, Growth & Maturation – Concept & Nature. Principles of development and their education implication. Factors influencing Development – Biological, Psychological, Sociological, emotional. Dimensions of Development and their interrelationship – Physical & Motor, Cognitive, Emotional, Social, Moral, Language relating to Infancy, early Childhood, late Child hood, Adolescence. Understanding Development – Piaget, Kohlberg, Chomsky, Carl Rogers, Erikson.
2. **Individual differences:** Inter and intra individual differences, meaning, nature and theories of intelligence with special emphasis to multiple intelligence, IQ, assessment of intelligence, EQ, Creativity. Attitude, Aptitude, Interest, Habit and its Influence on Intelligence – Class room implementation.
3. **Learning:** Theories and approaches of learning, learning curves, Factors, Phases, Dimensions of learning, Types of learning, Transfer of learning. Memory, Forgetting, Learning and assessment– Class room implementation – Children with special need – Inclusive Education.
4. **Personality:** Nature, characteristics and theories of personality, factors of Personality, Assessment of Personality, Mental health, Adjustment, Stress – nature, Symptoms and management. Emotional intelligence, Management of emotions – Class room implementation.

PART - IV

Telugu: - Content: 10 మార్కులు

1) (3వ తరగతి నుండి 8వ తరగతి వరకు గల ఆంధ్రప్రదేశ్ తెలుగు వాచకాలలో పాఠ్యభాగ విషయాలు)

A) కవి పరిచయాలు

B) పాత్రలు

C) ఇతి వృత్తాలు

D) సందర్భాలు

E) నేపథ్యాలు

F) విద్యా ప్రమాణాలు

2) పదజాలం:-

A) అర్థాలు

B) పర్యాయపదాలు

C) నానార్థాలు

D) వ్యుత్పత్త్యర్థాలు

E) జాతీయాలు

F) సామెతలు – వివరణ, గుర్తించడం.

G) పొడుపు కథలు

3) భాషాంశాలు:

A) విభక్తి ప్రత్యయాలు

B) ఔపవిభక్తికాలు

C) పారిభాషిక పదాలు – (ద్రుత ప్రకృతికాలు, కళలు, ఆమ్రేడితం, సంధి, వచనాలు, కాలాలు,లింగాలు, సమాసం, ఆగమం, ఆదేశం, బహుళం)

D) సంధులు – తెలుగు సంధులు– (అత్వ, ఇత్వ, ఉత్వ, యడాగమ, సరళాదేశ, ఆమ్రేడిత, ద్విరుక్తటకార, గసడదవాదేశ సంధులు.)
సంస్కృత సంధులు– (సవర్ణదీర్ఘ, గుణ, యణాదేశ, వృద్ధి సంధులు.)

E) సమాసాలు – (ద్వంద్వ, ద్విగు, తత్పురుష సమాసాలు)

F) ఛందస్సు – గణవిభజన, గణాల గుర్తింపు

G) అలంకారాలు –
వృత్యనుప్రాస, ఛేకానుప్రాస, అంత్యానుప్రాస (శబ్దాలంకారాలు) ఉపమా, ఉత్ప్రేక్ష, అతిశయోక్తి (అర్థాలంకారాలు). అలంకారాలు గుర్తించుట, లక్ష్య లక్షణ సమన్వయం చేయుట.

H) వాక్యాలు– (ఆశ్చర్యార్థక, విధ్యర్థక, నిషేధార్థక, అనుమత్యర్థక, సామర్థ్యార్థక, సందేహార్థక, ఆశీరర్థక, ప్రార్థనార్థక, ప్రశ్నార్థక, హేత్వర్థక, కర్తరి, కర్మణి వాక్యాలు)

తెలుగు బోధనా పద్ధతులు: 5 మార్కులు

ప్రాథమికస్థాయిలో భాషాభివృద్ధి మరియు అవగాహన

1) తెలుగు భాషా బోధన, ఉద్దేశాలు, విలువలు, లక్ష్యాలు, స్పష్టీకరణలు.

2) భాష – సమాజం – సాహిత్య ప్రక్రియలు

3) మాతృభాష స్వభావం, నిర్మాణం, ప్రాధాన్యత, భాషోత్పత్తివాదాలు, ధ్వని, అర్థ విపరిణామాలు

4) పాఠ్యపుస్తకాలు – బోధన శాస్త్రంపై అవగాహన

5) భాషా సామర్థ్యాలు విద్యా ప్రమాణాలు

6) బోధనా పద్ధతులు – బోధనాభ్యసన ప్రక్రియల నిర్వహణ

7) ప్రణాళికా రచన

8) బోధనాభ్యసన సామాగ్రి

9) ఆంధ్రప్రదేశ్‌లో భాషాభివృద్ధి కార్యక్రమాలు

10) భాష – మూల్యాంకనం

(OR)

Urdu

Content: 10 Marks

I جماعت سوّم تا جماعت ہشتم تک درسی کتب کا نصاب شامل ہے ۔

A ۔ شعراء و ادباء کا تعارف

B ۔ اسباق میں موجود مختلف کرداروں کا پس منظر موقع و محل کا جائزہ

C ۔ تعلیمی معیارات

II لفظیات

A ۔ معنی

B ۔ مترادفات

C ۔ ذو معنی

D ۔ سابقے، لاحقے

E ۔ محاورے

III زبان شناسی : اردو زبان کے عناصر

1۔ کلمہ ، مستقل کلمہ

2۔ ضمیر اور اسکے اقسام

3۔ رموز و اوقاف

4۔ فعل حال کے اقسام

5۔ زمانے

6۔ حروف شمسی اور قمری

7 ۔ مفرد اور مرکب لفظ

8 ۔ مرکب توصیفی

9 ۔ متضاد

10۔ تضبیہہ ۔

Methodology: 05 Marks

تحتانوی سطح پر زبان کی ترقی اور فہم

سالِ اوّل :۔

1 ۔ تحتانوی سطح پر زبان کی استعدادوں کی ترویج

2 ۔ درسی کتب ۔ طریقہ تدریس کا فہم

3 ۔ کمرۂ جماعت کا منصوبہ ۔ اکتساب زبان اکتساب

سالِ دوّم :۔

1 ۔ زبان اور سماج

2 ۔ زبانی استعدادوں کی ترقی کرنا

3 ۔ زبانی وسائل اور اس کا استعمال

4 ۔ زبان کی ترقی و ترویج کی کارکردگیاں

5 ۔ اکتساب زبان ۔ متوقع نتائج

6 ۔ زبان ۔ طریقہ تدریس کا انعقاد تحتانوی سطح پر منصوبے

7 ۔ زبان کی جانچ

(OR)

Tamil

Content: 10 Marks

1. 3ஆம் வகுப்பிலிருந்து 8ஆம் வகுப்புவரை தமிழ்ப் பாடப்புத்தகத்திலுள்ள அனைத்தும்.

(3லிருந்து 8ஆம் வகுப்பு பாடங்களுக்கு தொடர்புடைய பாடப்பொருள் 10ஆம் வகுப்புவரை கேட்கப்படும்)

அ) கவிஞர், புலவர் ஆசிரியர் குறிப்பு ஆ) கதாபாத்திரங்கள் இ) முன்கருத்து
ஈ) இடம்சுட்டு வாக்கியம் உ) பின்னனி

2. சொல்லாக்கம் :

அ) சொற்பொருள் ஆ) ஒரு பொருள் குறித்த பலசொல்
இ) பலபொருள் குறித்த ஒரு சொல் ஈ) இருபொருள் உ) சேர்த்து எழுதுக
ஊ) பிரித்து எழுதுக எ) வழக்கு ஏ) வழு ஐ) மரபுத்தொடர்
ஒ) பிறமொழிசொல்லுக்கு தமிழ்ச்சொல்
ஓ) பழமொழி (விளக்கம்,அடையாளம் காண்) ஔ) நிறுத்தற்குறிகள்

3. மொழித்திறன் :

அ) **தொகைநிலைத் தொடர்கள்** (வேற்றுமை தொகை, வினைத்தொகை, பண்புத்தொகை, உவமைத்தொகை, உம்மைத்தொகை, அன்மொழித்தொகை)

ஆ) **புணர்ச்சி** (தோன்றல், கெடுதல், திரிதல், உடம்படு, மெய்யீறு, உயிரீறு, பண்புப்பெயர், குற்றியலிகரம், குற்றியலுகரம்)

இ) **யாப்பு** (அசை, சீர், அடி, தொடை, தளை, எழுத்து)

ஈ) **அணி** (இயல்பு நவிற்சி அணி, உயர்வு நவிற்சி அணி, உவமை அணி, எடுத்துக்காட்டு உவமை அணி, உருவக அணி, பிறிது மொழிதல் அணி, தற்குறிப்பேற்ற அணி, வேற்றுமை அணி, பின்வரு நிலையணி)

உ) **ஆகுபெயர்** (ஆகுபெயரின் 16 வகைகள்)

ஊ) **தொடர்கள்** (தன்வினை, பிறவினை, செய்வினை, செயப்பாட்டு வினை,
உணர்ச்சி, கட்டளை, எதிர்மறை, உடன்பாடு, நேர்க்கூற்று, அயற்கூற்று,
தனிநிலை, கலவைத்தொடர்)

Methodology: 05 Marks

தமிழ்மொழி கற்பித்தல் முறைகள்:

முதலாம் ஆண்டு D.Ed.

* தமிழ் மொழித்திறன் வளர்த்தல்
* மொழியின் இயல்பும் கற்பித்தலும்
* அடிப்படைத் திறன்கள்
* பாடங்களை கற்பித்தல்
* பயிற்று முறைகள்
* கற்பித்தல் திறன் வளர்த்தல்
* பாடங் கற்பிப்புத் திட்டம்

இரண்டாம் ஆண்டு D.Ed.

* தமிழ் மொழித்திறன் வளர்த்தல்
* பாட ஏற்பாடு
* சொற்களஞ்சியம் பெருக்குதல்
* உயர்நிலைத் திறன்கள்
* பிழை ஆய்வும் குறை களைதலும்
* தமிழ் கற்பித்தலில் தகவல் தெழில்நுட்பம்
* தேர்வும் மதிப்பீடும்.

(OR)

Kannada

Content: 10 Marks

- **3 ರಿಂದ 8 ನೇ ತರಗತಿಗಳ ಕನ್ನಡ ಪಠ್ಯಪುಸ್ತಕಗಳು, ಪೂರಕ ಪಾಠಗಳಗಳಲ್ಲಿನ ವಿಷಯಗಳು :**
  ಕವಿ - ಕಾವ್ಯಗಳು, ಲೇಖಕರು - ಕೃತಿಗಳು ಮತ್ತು ನಾಟಕಗಳ ಪರಿಚಯ, ಪಾಠದ ವಿವರಣೆ, ಹಿನ್ನೆಲೆ, ಪಾತ್ರಗಳ ಪರಿಚಯ, ಸಂದರ್ಭಗಳು, ಸನ್ನಿವೇಶಗಳು.
- **ಪದ ಸಂಪತ್ತು** - ಅರ್ಥಗಳು, ನಾನಾರ್ಥಗಳು,ಸಮನಾರ್ಥಕ ಪದಗಳು, ವ್ಯುತ್ಪತ್ತಿ ಅರ್ಥಗಳು, ನುಡಿಗಟ್ಟುಗಳು ಮತ್ತು ಲೋಕೋಕ್ತಿಗಳು - ವಿವರಣೆ, ಗುರ್ತಿಸುವುದು.
- **<u>ಭಾಷಾಂಶಗಳು</u>** :

1) ವಿಭಕ್ತಿ ಪ್ರತ್ಯಯಗಳು
2) ಪಾರಿಭಾಷಿಕ ಪದಗಳು
3) ವಚನಗಳು, ಲಿಂಗಗಳು, ಕಾಲಗಳು, ಸಮಾಸಗಳು, ಒಗಟುಗಳು.
4) **ಸಂಧಿಗಳು** - ಕನ್ನಡ ಮತ್ತು ಸಂಸ್ಕೃತ ಸಂಧಿಗಳು, ಲಕ್ಷಣಗಳನ್ನು ಗುರುತಿಸುವುದು.
5) **ಸಮಾಸಗಳು**- ಸಮಾಸಗಳನ್ನು ಗುರ್ತಿಸುವುದು, ವಿಗ್ರಹವಾಕ್ಯ ಮಾಡುವುದು, ಲಕ್ಷಣಗಳನ್ನು ಸಮನ್ವಯಗೊಳಿಸುವುದು.
6) **ಛಂದಸ್ಸು** - ಮಾತ್ರಾಗಣ, ಅಕ್ಷರಗಣಗಳ ಗುರ್ತಿಸುವಿಕೆ.
7) **ಅಲಂಕಾರಗಳು** - ವೃತ್ಯಾನುಪ್ರಾಸ, ಛೇಕಾನುಪ್ರಾಸ, ಅಂತ್ಯಪ್ರಾಸ (ಶಬ್ದಾಲಂಕಾರ) ಉಪಮ, ಉತ್ಪ್ರೇಕ್ಷ, ರೂಪಕ, ದೃಷ್ಟಾಂತ (ಅರ್ಥಾಲಂಕಾರ) ಅಲಂಕಾರಗಳನ್ನು ಗುರ್ತಿಸುವುದು, ಲಕ್ಷಣಗಳನ್ನು ಸಮನ್ವಯ ಗೊಳಿಸುವುದು.
8) **ವಾಕ್ಯಗಳು** - ಭಾವಸೂಚಕ, ವಿದ್ಯರ್ಥಕ, ನಿಷೇಧಾರ್ಥಕ, ಸಂಭವನಾತ್ಮಕ, ಪ್ರಶ್ನಾರ್ಥಕ, ನಕಾರಾತ್ಮಕ. ಕರ್ತರಿ, ಕರ್ಮಣಿ ವಾಕ್ಯಗಳು

Methodology: 05 Marks

ಕನ್ನಡ ಭಾಷಾ ಬೋಧನಾ ಪದ್ಧತಿಗಳು (3 ಅಂಕಗಳು)

1) **ಕನ್ನಡ ಭಾಷಾ ಬೋಧನೆ ಮತ್ತು ಬೋಧಕ** : ಬೋಧನೆಯ ಉದ್ದೇಶಗಳು ಮತ್ತು ಗುರಿಗಳು, ವಿಧಾನಗಳು
2) **ಭಾಷಾ ಕೌಶಲ್ಯಗಳು** : ಪಾಚನ ಕೌಶಲ್ಯ - ಉದ್ದೇಶಗಳು, ಪ್ರಕಾರಗಳು, ಮಹತ್ವ, ಓದುಗಾರಿಕೆಯನ್ನು ವಿಧಾನಗಳು, ಗಮನಿಸಬೇಕಾದ ಅಂಶಗಳು, ಧ್ವನ್ಯಂಗಗಳ ಉತ್ಪಾದನಾ ಕಾರ್ಯ.
3) **ಲೇಖನ ಕೌಶಲ್ಯಗಳು** : ಲೇಖನ ಕೌಶಲ್ಯ - ಉದ್ದೇಶಗಳು - ಕಲಿಸುವ ಕ್ರಮಗಳು - ಗಮನಿಸಬೇಕಾದ ಅಂಶಗಳು - ದೋಷಗಳ ನಿವಾರಣೋಪಾಯಗಳು.
4) **ಮಾತುಗಾರಿಕೆ** : ಉದ್ದೇಶಗಳು- ಉತ್ತಮ ಪಡಿಸುವ ಚಟುವಟಿಕೆಗಳು - ದೋಷಗಳು ಮತ್ತು ನಿವಾರಣೆ ಉಪಾಯಗಳು
5) **ಬೋಧನಾ ಪದ್ಧತಿಗಳು** : ಪದ್ಯ ಬೋಧನೆ ಮಹತ್ವ - ಬೋಧಿಸುವ ಕ್ರಮ -ಪದ್ಧತಿಗಳು , ಗದ್ಯ ಬೋಧನೆ - ಮಹತ್ವ - ಕ್ರಮ - ಪದ್ಧತಿಗಳು, ವ್ಯಾಕರಣ ಬೋಧನೆ - ಮಹತ್ವ - ಉದ್ದೇಶ - ಗುರಿಗಳು - ಪದ್ಧತಿಗಳು - ವಿಧಾನಗಳು
6) **ಪಠ್ಯಕ್ರಮ ರಚನೆ** : ತತ್ವಗಳು - ಗಮನಿಸಬೇಕಾದ ಅಂಶಗಳು - ರಾಷ್ಟ್ರೀಕರಣ - ವಾಚನಾಲಯ
7) **ಬೋಧನಾ ಸಂಪನ್ಮೂಲಗಳು** : ಬೋಧನೋಪಕರಣಗಳ ಮಹತ್ವ - ಪಾತ್ರ - ವರ್ಗೀಕರಣ - ಬೋಧನೋಪಕರಣಗಳನ್ನು ಬಳಸುವ ರೀತಿ .
8) **ಮೌಲ್ಯಮಾಪನ** : ಭಾಷಾಭಿವೃದ್ಧಿಯನ್ನು ಅಳೆಯಲು ವಿವಿಧ ಮೌಲ್ಯ ಮಾಪನ ಪರೀಕ್ಷೆಗಳು- ಮೌಲ್ಯಮಾಪನ ವಿಧಗಳು - ನೀಲ ನಕ್ಷೆ

(OR)

Odiya

Content: 10 Marks

1) ତୃତୀୟଶ୍ରେଣୀଠାରୁଅଷ୍ଟମଶ୍ରେଣୀପର୍ଯ୍ୟନ୍ତସାହିତ୍ୟପାଠ୍ୟବହି ଅନ୍ତର୍ଗତ :-

   ବିଷୟବସ୍ତୁ,କବି/ଲେଖକପରିଚୟ, ବିଭିନ୍ନଚରିତ୍ର, ପୃଷ୍ଠଭୂମି, ପୂର୍ବାପରପ୍ରସଙ୍ଗ, ବୈଶିଷ୍ଟ୍ୟ, ବିଭିନ୍ନଶିକ୍ଷାମାନସହଅନ୍ୱୟ

2) ଶବ୍ଦଭଣ୍ଡାର :-

   ପାଠ୍ୟାଂଶଭିତ୍ତିକଶବ୍ଦାର୍ଥ, ଭିନ୍ନାର୍ଥ, ମୌଳିକତଥାବ୍ୟୁତ୍ପନ୍ନଶବ୍ଦ, ଶବ୍ଦରଗଠନଧାରା , ଲିଙ୍ଗ, ପୁରୁଷ, ବଚନ, ସାଧାରଣଅଶୁଦ୍ଧିଶବ୍ଦ,ପ୍ରତ୍ୟୟଶବ୍ଦ, ବିପରୀତାର୍ଥ, ଭିନ୍ନଜାତୀୟଶବ୍ଦ, ଏକପଦରେପ୍ରକାଶ

3) ଭାଷାପ୍ରକରଣ:-

   ବିଶେଷ୍ୟ, ବିଶେଷଣ, ସର୍ବନାମ,କ୍ରିୟା,ଅବ୍ୟୟ,ସନ୍ଧି, ସମାସ, ଛନ୍ଦ,

   ଅଳଙ୍କାର,ବାକ୍ୟରପ୍ରକାରଭେଦ, ଆଦିର ସଂଜ୍ଞା, ସ୍ୱରୂପ, ଗଠନରୀତି ଓ ପ୍ରକାର ଭେଦ

Methodology: 05 Marks

1) ପ୍ରାଥମିକସ୍ତରରେମାତୃଭାଷାଶିକ୍ଷାଦାନରଗୁରୁତ୍ୱ , ଲକ୍ଷ୍ୟ ଓ ଉଦ୍ଦେଶ୍ୟ
2) ଭାଷାକୌଶଳ
3) ଶିକ୍ଷଣ କାର୍ଯ୍ୟଭିତ୍ତିକ ପାଠଯୋଜନା
4) ଶିକ୍ଷାଦାନପଦ୍ଧତି
5) ମୂଲ୍ୟାୟନ **[CCE]**

PART - V

Language – II English (Marks: 10)

1. Poets, Essayists, Novelists, Dramatists and their works
2. Forms of Language - Story, Essay, Letter writing, Editorial, Precis writing, note-making, autobiography and biography
3. Pronunciation - Sounds - Use of dictionary
4. Parts of Speech
5. Tenses
6. Types of Sentences
7. Articles and Prepositions

Methodology - English (Marks: 05)

1. Aspects of English:- (a) English language - History, Nature, Importance, Principles of English as Second Language (b) Problems of Teaching / Learning English.
2. Objectives of Teaching English.
3. Phonetics
4. Development of Language skills:- (a) Listening, Speaking, Reading & Writing (LSRW) (b) Communicative skills.
5. Approaches, Methods, Techniques of teaching English: Introduction, Definition and Types of Approaches, Methods and Techniques of Teaching English, Remedial Teaching.
6. Teaching of Structures and Vocabulary items.
7. Teaching Learning Materials in English
8. Lesson Planning
9. Curriculum & Textbooks
10. Evaluation in English language

PART - VI

Mathematics Content (10Marks)

I. Arithmetic

Day to Day Mathematics, Pre Mathematical concepts - Money & Time, Persentage, Interes, Profit and loss, Time and Work. Ratio and Proportion - Applications of Ratio- Comparing Quantities using proportion -Direct and Inverse proportion

II. Number System

Numbers – four fundamental operations (addition, subtraction, multiplication & division) Patterns in Numbers.

Knowing Our Numbers-Indian & international systems – Rounding of numbers- Natural numbers - Whole Numbers - Playing With Numbers-divisibility rules-LCM & HCF -Integers - Fractions - Decimals -Rational Numbers -Squares, cubes, Square roots, Cube roots

III. Geometry

Shapes– Patterens - Basic geometrical ideas - Measures of Lines and Angles - Symmetry - Understanding 3D, 2D Shapes -Representing 3D in 2D-Lines and Angles -Triangle and Its Properties -Congruency of Triangles- -Quadrilaterals - Practical Geometry -Construction of Triangles - Construction of Quadrilaterals - Exploring Geometrical Figures. History of geometry.

IV. Mensuration

Spatial understading -Length – Weight – capacity - Perimeter & Area of Plane Figures (triangle, square, rectangle, rhombus, circle, trapezium, parallelogram) Surface area and volume of cube, cuboid, cyclender.

V. Algebra

Introduction to Algebra- Simple Equations- - Algebraic Expressions - Exponents & Powers - Linear Equations in one variable – polynomial – Factorization.

VI. Statistics

Data handling - Frequency Distribution Tables and Graphs. Grouped data and ungrouped data.

Maths Methodology (05Marks)

1. Nature and Definitions of Mathematics
2. Aims, values and instructional objectives of teaching Mathematics
3. Methods of Teaching & Remedial measures in Mathematics
4. Instructional Material, TLM and Resource Utilization in Mathematics
5. Curriculum, Text Book & Instructional Planning.
6. Evaluation and Continuous Comprehensive Evaluation

PART - VII

Science Content (Marks: 10)

1. **Living World –** Non Living and living organisms, life and its characteristics, Family, Members of the family, Changing family structure, Friends, Relations, Works, Games, Different games rules, Our Village, Mapping skills, Shelter, Things we make cloth, Travel, Find the way – direction, from village to Delhi, Public Institutions, House, Construction – Sanitation, Our Places, Our culture. Story of microbial world, Use full and harm full micro organisms. Air - Importance of air, composition of air, diseases spread through air and their prevention, air pollution - causes, its impact, and measures to prevent, Green House effect. Water - Importance, water resources, tanks, aquatic flora and fauna, Water pollution - causes, impact, measures to prevent, purification of water, drought, floods, Water cycle, Draught waste water Treatment. Weather, Climate, Soil our life, rain, floods, Cyclones, disaster management, Habitat, Movements in animals, Production of food from animals and plants, Agricultural operation, Cultivation of Crops, diseases to plants and control, improvement of crop yield storage, Preservation and protection of food and plant products, Classification of living organisms, Branches of Sciences, Recent trends in Science, Hybridization, animal husbandry.
2. **Life processes –** Cell, cell organelles parts of plants and functions. Animals, different types of Animals, Animals base of our life, Our body parts, External, Internal parts of our body, Bones, Muscles, Sense organs, Organ systems in animals. Nutrition in plants and animals, excretion, respiration, reproduction, seed dispersal in plants control and coordination in organisms. Our food, food components, Nutritious food, Health, Cleanliness, Why do we fall ill? Balanced diet, Malnutrition. Midday Meals, food preservation methods, Wastage of food, How we get food, green revolution, Food Pyramid, Junk food, First Aid.
3. **Natural Phenomena** – Changes around us separation of substances, fiber to fabric synthetic, atmospheric pressure, Materials, things, measurement of length, area, volume and time, CGS, SI units. Iiquids, fibers, Plastics metals and non metals, matter, Acids and bases. Motion and time – Types of motions – force and friction, Energy, Forms of Energy - Energy resources, Renewable and non renewable resources, conservation of energy Temperature and its measurement. Electricity, Electric circuits, Current and its effects, Sound, reflection of light, Shadows, Playing with magnets, friction, force speed, velocity, combustion, fuels and flame. How to measure things, Coal, Petrol, Petroleum products.
4. **Our Environment -** Bio diversity, Diversity in plants and animals, lets plant, trees, endangered, endemic species, Forest – Tribes – Tribal life – diversity in forests. Different Ecosystems, Ecology, Bio mass, A biotic, Biotic factors, Global Environmental Issues. Global warming, Acid rains, depletion of Ozone layer. Stars and Solar systems. River, Lively hood, Atmosphere – wind – safety measures.

Methodology: (05 Marks)

1. Nature, Scope, History and development of science.
2. Aims, Values, Objectives specifications of teaching Science, Academic Standards.
3. Methods, approaches and techniqiues of teaching science.
4. Teaching learning material, Improvised teaching aids.
5. Science curriculum, Text – book.
6. Assessment and Evaluation
7. Science laboratories.
8. Planning in science
9. Science Teacher
10. Science Fairs, Science clubs, Field – trips, Science museums.

PART - VIII

Social Studies Content - 10 Marks

Theme - I: Diversity on the Earth

Reading, Making and analysis of Maps – different kinds of maps. - Globe – A Model of the Earth - Land Forms of Andhra Pradesh Penamakuru, A Village in the Krishna Delta - Salakamcheruvu, A Village on the Plateau - Kunavaram ,Tribal Villages on the Hills -Rain and Rivers-Tanks and Ground Water – Oceans and Fishing – Continents – Europe – Africa – Energy from the Sun – Our Earth - Earth Movements and Seasons - The Polar Regions - Forests:Using and Protecting them - Minerals and Mining. Sun and Planets.

Theme - II: Production Exchange and Livelihoods

From Gathering Food to Growing food – The Earliest People - Agriculture in Our Times - Trade in Agricultural Produce - Trade in Agricultural Produce - Handicrafts and Handlooms - Industrial Revolution - Production in a Factory - A Paper Mill - Importance of Transport System – Safety measures - Money and Banking - Impact of Technology on Livelihoods - Public Health and the Government

Theme -III: Political Systems and Governance

Community Decision Making in a Tribe - Emergence of Kingdoms and Republics - First Empires - Democratic Government - Village Panchayats - Local Self – Government in Urban Areas - New Kings and Kingdoms - The Kakatiyas - Emergence of a Regional Kingdom - The Kings of Vijayanagara - Mughal Empire - Establishment of British Empire in India - Landlords and Tenants under the British and the Nizam - National Movement - The Early Phase 1885-1919 - National Movement - The Last Phase 1919-1947 - Freedom Movement in Hyderabad State - The Indian Constitution - Parliament and Central Government - Making of Laws in the State Assembly - Implementation of Laws in the District - Law and Justice.

Theme -IV: Social Organization and Inequities

Diversity in Our Society - Towards Gender Equality -Caste Discrimination and the Struggle for Equalities - Livelihood and Struggles of Urban Workers - Abolition of Zamindari System - Understanding Poverty - Rights Approach to Development

Theme - V: Religion and Society

Religion and Society in Early Times - Devotion and Love towards God - Folk – Religion - Devotional Paths to the Divine - Social and Religious Reform Movements - Understanding Secularism

Theme -VI: Culture and Communication

Language, Writing and Great Books - Sculptures and Buildings - Rulers and Buildings - Performing Arts and Artistes in Modern Times - Film and Print Media - Sports: Nationalism and Commerce. Historical sites – Forts - Our Country – World, Our constitution, Child rights. Indian History and Culture.

Methodology: (05 Marks)

1. Nature, Scope, History and development of Social.
2. Aims, Values, Objectives specifications of teaching Social, Academic Standards.
3. Methods, approaches and techniques of teaching Social.
4. Teaching learning material, Improvised teaching aids.
5. Social curriculum, Text – book.
6. Assessment and Evaluation
7. Social laboratories.
8. Planning in Social
9. Social Teacher
10. Fairs, Clubs, Field – trips, museums

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training
DSC – SCHOOL ASSISTANT PHYSICAL EDUCATION SYLLABUS

1. G.K & current Affairs -	–	05M
2. Perspectives in Education	–	05M
3. Physical Education Pedagogy	–	10M
4. Content	–	30M
Total		50 M
5. Physical Efficiency Test	–	30 M
Total	–	80 M

Part – I

General knowledge and current affairs (Marks: 05)

Part – II

Perspectives in Education (Marks: 05)

1. **History of Education :**
   - The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
   - Education in Pre Independent era - Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944).
   - Education in Post Independent era - Mudaliar Commission (1952-53), Kothari Commission (1964-66), Ishwarbhai Patel committee (1977), NPE-1986, POA-1992
2. **Teacher Empowerment:**
   - Need, interventions for empowerment, Professional code of conduct for teachers, Teacher motivation, Professional development of Teachers and Teacher organizations, National / State Level Organizations for Teacher Education, Maintenance of Records and Registers in Schools.
3. **Educational Concerns in Contemporary India:**
   - Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities.
   - Economics of Education, Education as Human Capital, Education and Human Resource Development, Literacy - Saakshar Bharat Mission.
   - Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education

- Inclusive Education - Classroom Management in Inclusive Education
- Role of Education in view of Liberalization, Privatization and Globalization
- Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs, Model Schools.
- Incentives and special provisions – Mid Day Meals, Free Books, Scholarship, Awards, Welfare Hostels, Transportation.
- Current Trends in Education – Badi pelusthondi, Badi ki Vasta, Mavuru – Mana Badi, Vidyanjali, Swacha Patasala, Inspire, Kalavutsav.

4. **Acts / Rights:**
   - Right of Children to Free and Compulsory Education Act - 2009
   - Right to Information Act - 2005
   - Child Rights
   - Human Rights.
5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

Part – III

Physical education pedogogy (Marks: 10)

- Psychology: meaning, definition and nature of psychology – definition of sports psychology – importance of sports psychology. Motivation – definition, importance and types of motivation.
- Stages of growth and development of children – physical, mental, social and communication skill development, psycho-motor learning at different stages. Play -theories of play.
- Meaning, definition, importance and factors influencing on methods of teaching.
- Principles of presentation technique and class management in physical education: commands, class formation, teaching aids: audio visuals.
- Method of teaching: command method, lecture method, demonstration method, discussion method, part method, whole method, part-whole methods, whole part whole method and their application in minor, major, rhythmic calisthenics.
- Lesson plan: concept of lesson plan principles, importance of lesson plan. Preparation of lesson plan in physical education, types of lesson plan– steps in lesson plan.
- Facilities and standards of physical education: play fields, (different play areas) gymnasium, swimming pool. Purchase & care of sports equipments, maintenance of stock, maintenance of records and registers: cash register, tapal register, stock issue register, attendance register, physical fitness records, health records and achievement records. Process of verification, write-off and condemnation of stock.
- Time tables – meaning and maintenance of time table, factors influencing time table. Types of physical education periods.

- Meaning and definition of test, measurement and evaluation, importance of test, measurement and evaluation in the field of physical education and sports. Criteria of good test: classification of tests, test administration(pre, during and post) tests for different variables speed – 50metre dash, maximum speed -30metres dash with flying start, cardio vascular endurance – cooper's 12 minutes run – walk test, muscular endurance – bent knee sit-ups – explosive power – standing broad jump
- Tournaments: meaning of tournament and types of tournaments – knock-out (elimination), league (round robin), knock-out cum league, league cum knockout, double league, double knockout, challenge. Method of drawing fixtures: seeding, special seeding. Rotation method, stair case method. Intramural and extramural and their importance, sports day/ play day

Part – IV

Physical education content (Marks: 30)

I. Organization and administration of physical education

- Meaning of the terms organization, administration and supervision.
- Guiding principles of organization
- Time-table; factors influencing time-table; types of physical education periods; time allotment for intra-murals, extra murals, play days, demonstrations.
- Budget and accounting – preparation and administration of good budget.
- Records and registers – types of registers – stock, issue, attendance, physical measurement and fitness, cumulative register, health record.
- Supervision – meaning and need; guiding principles of supervision.

II.History of Physical Education

- Historical development of physical education: greece, germany, british period (before 1947), physical education in india (after 1947), contribution of akhadas and vyayamsalas, h.v.p. Mandals, institutions / bodies in physical educations and sports: ymca, lnipe, nsnis, ioa, sai, saf, sgf, pykka, rgka, sats, physical education & sports universities.
- Policies, schemes, awards: bharata ratna, padmasri, padmabhushan, padmavibhushan, arjuna, dronacharya, rajiv khel ratna, ekalavya, jhansi laxmibai, abhimanya, trophies/ cups in physical education and sports at state/national level.
- Ancient and modern Olympic movement. Origin of olympic movement: aims of olympic movement, the early history of the olympic movement. The significant stages in the development of the modern Olympic movement, educational and cultural values of olympic movement. Origin and history of ancient olympic games.modern olympic games: significance of olympic ideals, olympic rings, olympic flag, ceremonial flag, olympic symbol, olympic protocol for member countries, queens' baton, olympic torch and protocol of modern olympics inaugural and valedictory functions. Different Olympic games: para olympic games, summer olympics, winter olympics, youth olympic games.

- Committees of olympic games: international olympic committee - structure and functions, national olympic committees and their role in olympic movement, olympic medal winners of india till to date.
- various committees and their recommendations

III.Basic Anatomy, Physiology, Kinesiology and Biomechanics

- Structure and functions of cell
- Skeletal system: bones – axial and appendicular skeleton – structure and functions of bones – types of bones
- Muscular system: types of muscles, classification of muscles
- Respiratory system: structure of human respiratory system – mechanism of respiration.
- Digestive system: structure of human digestive system and process of digestion.
- Circulatory system: constituents of blood and its functions, structure and functions of human heart.
- Excretory system: structure and functions of kidneys and skin.
- Nervous system: structure and functions of human brain and spinal cord.
- Endocrine system: functions of glands, pituitary, thyroid, parathyroid, adrenal and pancreas.
- Effects of training on cardiovascular system, effects of training on respiratory system, effects of training on muscular system, fatigue and performance in sports.
- Introduction to kinesiology and sports biomechanics: meaning and definition of kinesiology and sports biomechanics, importance of kinesiology and sports biomechanics in physical education and sports, terminology of fundamental movements, planes and axes, gravity, base, centre of gravity, equilibrium, line of gravity.
- Mechanical concepts: force: meaning, definition, types and its application in sports. Lever: meaning, definition, types and its application in sports. Newton's laws of motion and their application in sports. Projectile: factors influencing projectile trajectory.
- Kinematics and kinetics of human movement: linear kinematics: distance and displacement, speed and velocity, acceleration. Angular kinematics: angular distance and displacement, angular speed and velocity, angular acceleration. Linear kinetics: inertia, mass, momentum, friction. Angular kinetics: moment of inertia, couple, stability.

IV.Health Education and Sports Injuries

- Meaning, definition, dimensions and importance of health; principles of health education. Factors influencing health – heredity, environment and health habits. Coordinated school health programme – health services, health instruction, health records and health supervision
- Common health problems in india, communicable (epidemic & endomic) and non communicable diseases, hygiene – personal, environmental, occupational health, cleanliness and awareness through educational activities.
- Food and nutrition – essential constituents of food – proteins, cho, fats, minerals, vitamins – balanced diet – under nutrition and malnutrition.

- Concept and significance of good posture: postural deformities - lordosis, kyphosis, kypholordosis, scoliosis, knocknees, bow legs, flat foot and their remedies, corrective exercises for postural illnesses and deformities
- Meaning and causes of sports injuries. Principles of prevention of sports injuries common sports injuries, symptoms and their treatment, ligament sprain – muscle strain – tennis elbow- golfer's elbow, lower back strain – dislocation – fractures, runners knee – shin pain – blisters – contusion, abrasion, laceration, hematoma.
- Definition of first-aid, drabc formula (danger, response, airways, breathing & circulation), artificial respiration techniques – mouth to mouth, mouth to nose respiration, first aid for hemorrhage, fracture, sprain and strain, drowning, heat stroke and heat exhaustion; concept of price(prevention, rest, ice, compression and elevation)
- Physiotherapy: definition: guiding principles of physiotherapy, importance of physiotherapy. Treatment modalities: electrotherapy, infrared rays, ultraviolet rays, short wave diathermy, ultra sound.
- Hydrotherapy and massage: hydrotherapy: meaning and methods, criotherapy, thermo therapy, contrast bath, whirlpool bath, steam bath, sauna bath, hot water fomentation. Massage: meaning and importance of massage, indications and contraindications of massage. Types of manipulation, physiological effects of massage.
- Therapeutic exercise: definition, principles and importance of therapeutic exercises. Classification of therapeutic exercise: passive movements (relaxed, forced and passive stretching) active movements(concentric, eccentric and static). Free mobility exercise for shoulder, wrist, fingers, hip, ankle, foot joints and neck exercises.

IV.Yoga in Physical Education

- Introduction: meaning, definition & scope of yoga, aims, objectives and functions of yoga, yoga practices in upanishads and yoga sutra, modern trends in yoga, place and importance of yoga in physical education and sports.
- Early yoga practices: astanga yoga: yama, niyama, asana, pranayama, pratyahara, dharana, dhyana and samadhi. Streams of yoga practices: hatha yoga, karma yoga, bhakti yoga, raja yoga, jnana yoga.
- Basic yogic methods: asana: classification of asanas, sitting, standing,lying, inverted asanas. Benefits of asanas: effects of asanas on general health. Pranayama: importance & impact on muscular, cardio respiratory and nervous system. Relaxation and meditation: importance & impact on body at work and body at rest.. Bandhas: jalandhara, mula, udyana. Mudras:chin,yoga,aswini, anjali, brahma mudra. Kriyas: neti ,nauli, kapalabhati, trataka, dhauthi, bhastrika.
- Yoga education: yoga education for youth empowerment and human resource development. Difference between yogic practices and physical exercises, yoga education centers in India and abroad, competitions in yoga asanas.
- Types and importance of asanas with special reference to physical education and sports. Suryanamaskara of 12 stages
- School games federation of India – national school games – rules for yogasana competitions.

VI.Recreation and Leisure Management

- Basics of recreation: meaning, definition of recreation and leisure management, importance, values of recreation, principles of recreation. Fundamental modes of recreation, qualities and qualifications of leaders of recreation.
- ·recreation and play: theories of recreation, theories of play, therapeutic recreation, therapeutic use of activity, recreation for the life, role of recreation and leisure on the human development.
- Types of recreational activities: indoor, outdoor games, music, dance, picnics and excursions.
- Recreational agencies: individual and home agencies, government agencies, voluntary agencies, private agencies, commercial agencies.

VII.Sports Training

- Introduction to sports training: meaning and definition of sports training, aims and objective of sports training, principles of sports training. Methods of sports training: continuous training, interval training, repetition training, fartlek training, resistance training, circuit training, plyometric training. Warm-up and warm-down, athletic diet: pre competition, during competition and post competition.
- Training components, meaning & definition and their development methods: speed, strength, endurance, co-ordination and flexibility.
- Training process: load: definition and types of load. Principles of intensity and volume of load. Meaning and methods of technical training and tactical training.
- Training program and planning: periodization – meaning, aims and types of periodization: preparatory, competition, transitional. Planning: training session, talent identification and development.

VIII.Concepts Of Wellness Management

- Wellness: definition and scope of wellness- wellness continuum and health - dimensions of wellness - physical wellness - emotional wellness - social wellness - spiritual wellness - intellectual wellness and environmental wellness.
- Exercise and wellness: physical wellness, exercise and physical health of different systems of human body, lifestyle diseases in relation to inactivity, nutrition and exercise to physical wellness.
- Stress management: stress : definition of stress, stress and emotional health, stress and physical health- mechanism of stress and related degenerative diseases- inter dependence of spiritual wellness, social wellness and emotional wellness- stress management techniques.
- Fitness and body composition: health fitness components, body composition, muscular endurance, strength, cardio vascular fitness and flexibility, importance of cardio respiratory endurance .obesity and health risk factors, childhood obesity and problems. Body composition indicators and measurements.

IX.Sports Management

- Concept of management: meaning, definition, scope, concept and importance of sports management. Functions of management: planning, organising, staffing, directing and controlling.
- Leadership: meaning, definition & elements of good leadership.leadership styles, methods. Forms of leadership: autocratic, laissez-faire, democratic, benevolent and dictator. Qualities of administrative leader, preparation of administrative leader & effects of good leadership on organizational performance.
- Financial management: financial management in physical education & sports in schools, colleges and universities. Criteria of good budget, steps of budget making. Model budget for a school. Procedures for purchases and constructions. Records and registers.
- Sports management: sports management in schools, colleges and universities. Planning, directing and controlling school, college and university sports programmes. Establishing a reporting system, evaluation, rewards and punishment system. Event management: organisation of major sports event.

X.Research and Statistics In Physical Education

- Introduction to research: definition of research, need and importance of research in physical education and sports. Classification of research, meaning of research problem, location and criteria of selection of problem, formulation of a research problem, limitations and delimitations.
- Methods of research: various methods of research, need for surveying related literature, literature sources, research proposal.
- Basics in statistics: statistics: meaning, definition, nature, importance and its types. Raw score: grouped data, un grouped data. Grouped data:discrete and continuous series. Construction of frequency table: class intervals, class distribution. Normal probability curve, skewness and kurtosis.
- Graphical presentation: histogram, bar diagram, frequency polygon, ogive curve, pie diagram.
- Statistical methods in physical education and sports: measures of central tendency: mean median and mode-meaning, definition, importance, advantages, disadvantages and calculation from group and ungrouped data. Measures of variability: meaning, importance. Computing range, mean deviation, quartile deviation, deciles, percentile and standard deviation. Co-relation: computing karl pearson product moment correlation and karl spearman rank order co-relation.

XI.Officiating and Coaching

- Officiating, meaning, importance and principles of officiating. Qualities and qualifications of good official, duties of officials, system of officiating in games and rules of various games (i.e. Hockey, football, handball, volleyball, basketball, sepak takraw, kabaddi, kho-kho, throw ball, tennis, badminton, ball badminton, cricket, softball and tennikoit). Layout of courts and fields of games.
- Track and field – layout of track and field, rules of track and field events – runs, jumps, throws systems of officiating in track and field events.

Part – V

Physical efficiency test (Marks: 30)

1. **100 mts run (or) 800 mts run for men, 400 mts run for women**
2. **Long jump (or) high jump**
3. **Shot put 16 lbs for men, 8 lbs for women**

Government of Andhra Pradesh
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DSC - SCHOOL ASSISTANT SYLLABUS – BIOLOGICAL SCIENCE

1. G.K & current Affairs -	**-**	**10M**
2. Perspectives in Education	**–**	**05M**
3. Classroom implications of Educational Psychology	**–**	**05M**
4. **Content**	**-**	**40M**
5. Methodology	**-**	**20M**
Total	**-**	**80 M**

PART - I

I. General Knowledge And Current Affairs (Marks: 10)

PART - II

II. Perspectives In Education (Marks: 05)

1. **History of Education :**
   - The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
   - Education in Pre Independent era - Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944).
   - Education in Post Independent era - Mudaliar Commission (1952-53), Kothari Commission (1964-66), Ishwarbhai Patel committee (1977), NPE-1986, POA-1992
2. **Teacher Empowerment:**
   - Need, interventions for empowerment, Professional code of conduct for teachers, Teacher motivation, Professional development of Teachers and Teacher organizations, National / State Level Organizations for Teacher Education, Maintenance of Records and Registers in Schools.
3. **Educational Concerns in Contemporary India:**
   - Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities.
   - Economics of Education, Education as Human Capital, Education and Human Resource Development, Literacy - Saakshar Bharat Mission.
   - Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
   - Inclusive Education - Classroom Management in Inclusive Education
   - Role of Education in view of Liberalization, Privatization and Globalization
   - Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya

Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs, Model Schools.

- Incentives and special provisions – Mid Day Meals, Free Books, Scholarship, Awards, Welfare Hostels, Transportation.
- Current Trends in Education – Badi pelusthondi, Badi ki Vasta, Mavuru – Mana Badi, Vidyanjali, Swacha Patasala, Inspire, Kalavutsav.

4. **Acts / Rights:**
   - Right of Children to Free and Compulsory Education Act - 2009
   - Right to Information Act - 2005
   - Child Rights
   - Human Rights.

5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

PART - III

III. Classroom implications of Educational Psychology – 05Marks

1. **Individual differences:** Inter and intra individual differences, meaning, nature and theories of intelligence with special emphasis to multiple intelligence, IQ, assessment of intelligence, EQ, Creativity. Attitude, Aptitude, Interest, Habit and its Influence on Intelligence – Class room implementation.
2. **Learning:** Theories and approaches of learning, learning curves, Factors, Phases, Dimensions of learning, Types of learning, Transfer of learning. Memory, Forgetting, Learning and assessment– Class room implementation.
3. **Personality:** Nature, characteristics and theories of personality, factors of Personality, Assessment of Personality, Mental health, Adjustment, Stress – nature, Symptoms and management. Emotional intelligence, Management of emotions – Class room implementation.

PART - IV

IV. Content (Marks: 40)

1. **Biological Sciences:** Importance and Human Welfare, Branches of Biology, Biologists.
2. **Living World:** Life and its Characteristics, Classification of Living Organisms, Nomenclature, different types of classification. Need for classification, Biological classification levels and Hierarchy of classification, species concept. Animal diversity, invertebrates, Chordates.
3. **Microbial World:** Virus, Bacteria, Algae, Fungi and Protozoan, Useful and Harmful Micro-organisms. Immunity, vaccination, Immunological disorders. Infections, life style diseases.
4. **Cell & Tissues:** Cell – Structure cell theory , cell organelles and their functions, differences between prokaryotic and Eukaryotic cells, plant cell and animal cell, cell cycle, cell division , Mitosis and Meiosis, tissues, structure, functions and types of plant and Animal tissues, Cancer biology, stem cells. Transportation of materials through the cells. Internal organization of plants, histology - anatomy of flowering plants.

5. **Plant World :** Morphology of a Typical Plant - Root, Stem, Leaf, Flower, Inflorescence, Fruit - their Structure, Types and Functions, Parts of a Flower, Seed dispersal Modifications of Root, Stem and Leaf, Photosynthesis, Transpiration, Transportation in plants (Ascent of Sap), Respiration, Excretion and Reproduction in Plants, Plant Hormones, food from the plants. Economic importance of Plants, Wild and Cultivated Plants, Agricultural Operations, Crop diseases and Control measures, Improvement in Crop yield, Storage, Preservation and Protection of Food and Plant Products. Single cell proteins (SCP), plant enzymes, mineral nutrition, plant growth and development.
6. **Animal World:** Organs and Organ Systems including man - Their Structure and Functions Digestive, Respiratory in human, type studies of the animals. Circulatory, . Immunology, Excretory, Locomotion in protozoa and humans - Muscular, Skeletal Systems, Nervous, Control and Coordination and Reproductive: Sexual, a sexual fission, syngamy, conjugation. Reproductive health – Birth control methods, Sense Organs: Structure and Functions of Eye, Ear, Nose, Tongue and Skin. Nutrition in man - Nutrients and their functions, Balanced Diet, Deficiency diseases, Health - Tropical diseases (Viral, Bacterial, Protozoan, Helminth, Arthropod), Skin diseases (Fungal), Blindness in man: Causes, Prevention and Control, Health agencies, First Aid - Bites: Insect, Scorpion and Snakes, Fractures, Accidents, Life skills, Wild and Domesticated animals, Economic Importance of Animals, Animal Husbandry - Pisciculture, Sericulture, Poultry, Breeding of Cows and Buffaloes, animal behavior.
7. **Heredity and Evolution**: Terms, Mendel laws, Sex determination in humans, In heritance of Blood Groups, Erythroblastosis foetalis, Theories of Evolution, Speciation, Evidences of Evolution, Human Evolution, sex linkage, genetic disorders, syndromes, human genome project, evolutionary forces, DNA and finger printing.
8. **Our Environment – Ecology:** Abiotic and Biotic factors of Ecosystems, Ecosystem - Types, components, adaptations, Food chains, Food web and Ecological pyramids, Natural Resources

   - Type of water managements, soil waste land management, forests, sustainable development, fossil fuels and bio fuels, 4Rs, bio-geo-chemical cycles, pollution, air, water, soil, global environmental issues – global warming – (Green House Effect), acid rains and depletion of Ozone layer; Population - interaction in Eco-system, plant ecology.
9. **Recent Trends in Biology:** Hybridization, Gene - Genetic material, DNA , RNA, Genetic Engineering, Gene Bank, Gene Therapy, Tissue Culture and Bio-Technology – applications. Transgenic animals and plants, cloning, molecular diagnosis, bio medical technology, bio molecules, molecular biology.
10. **Biodiversity – Conservation:** Biodiversity – levels of bio diversity, conservation, wild life, sanctuaries, national parks in India, importance of species, diversity to the Ecosystem.

V. Teaching Methodology (Marks: 20)

1. The Nature & Scope of Science: A brief introduction of Oriental and Western Science, Nature of Science, Scope of Science, Substantive and Syntactic Structure of Science.
2. Aims and Values of Teaching Biological Sciences: Aims of teaching Biological Sciences, Values of teaching Biological Sciences.
3. Objectives of Teaching Biological Sciences: Importance of Objectives of Teaching Biological Sciences, Bloom's Taxonomy of Educational Objectives and limitations, Writing Instructional Objectives and Specifications.
4. Academic Standards in Biological Science.
5. Approaches and Methods of Teaching Biological Sciences: Inductive Approach and Deductive Approach, Methods of Teaching 1. Lecture Method, 2. Lecture cum Demonstration Method, 3. Heuristic Method, 4. Project Method, 5. Experimental Method, 6. Laboratory Method.
6. Planning for effective Instruction: Year Plan, Unit Plan, Lesson Plan - Herbartian and Bloom's Approach, Criteria for Evaluation of Lesson Plan. Self Evaluation and Peer Evaluation, Learning experiences - Characteristics, Classification, Sources and Relevance, Teaching - Learning Material and Resources in Biological Sciences.
7. Science Laboratories: Importance of Practical work in Biological Sciences, Planning Science Laboratory, Procurement, Care and Maintenance of Laboratory Equipment, Maintenance of different Registers, Safety and First aid, Development of Improvised Apparatus
8. Science Curriculum: Principles of Curriculum Construction, Defects in the existing School Science Curriculum, Correlation of Biological Sciences with other School Subjects, Qualities of a good Biological Science Text-book.
9. Biological Science Teacher: Qualities of a good Biological Sciences Teacher, Roles and Responsibilities
10. Non-formal Science Education: Science club, Eco-club, Blue-club, Red ribbon club, Science fairs - Objectives, levels of organizations, importance, Science Laboratories, Role of NGOS and State in popularizing science.
11. Evaluation: Concept and process of Measurement and Evaluation, Continuous Comprehensive Evaluation, Tools of Evaluation, Preparation of Scholastic Achievement Test(SAT), Analysis and interpretation of scores.

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training
DSC – SCHOOL ASSISTANT SYLLABUS - ENGLISH

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1. G.K & current Affairs -	**-**	**10M**
2. Perspectives in Education	**–**	**05M**
3. Classroom implications of Educational Psychology	**–**	**05M**
4. **English Content**	-	**40M**
5. English Methodology	-	**20M**
Total	-	**80 M**

PART - I

I. General Knowledge And Current Affairs (Marks: 10)

PART - II

II. Perspectives In Education (Marks: 05)

1. History of Education :

- The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
- Education in Pre Independent era - Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944).
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2. Teacher Empowerment:

- Need, interventions for empowerment, Professional code of conduct for teachers, Teacher motivation, Professional development of Teachers and Teacher organizations, National / State Level Organizations for Teacher Education, Maintenance of Records and Registers in Schools.

3. Educational Concerns in Contemporary India:

- Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities.
- Economics of Education, Education as Human Capital, Education and Human Resource Development, Literacy - Saakshar Bharat Mission.
- Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.

- Adolescence Education
- Value Education – Morel Value and Professional Eathics in Education.
- Health and Physical Education
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   - Child Rights
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5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

PART - III

III. Classroom Implications of Educational Psychology – 05m

1. **Individual differences:** Inter and intra individual differences, meaning, nature and theories of intelligence with special emphasis to multiple intelligence, IQ, assessment of intelligence, EQ, Creativity. Attitude, Aptitude, Interest, Habit and its Influence on Intelligence – Class room implementation.
2. **Learning:** Theories and approaches of learning, learning curves, Factors, Phases, Dimensions of learning, Types of learning, Transfer of learning. Memory, Forgetting, Learning and assessment– Class room implementation.
3. **Personality:** Nature, characteristics and theories of personality, factors of Personality, Assessment of Personality, Mental health, Adjustment, Stress – nature, Symptoms and management. Emotional intelligence, Management of emotions – Class room implementation.

PART – IV

IV. Content (40 Marks)

VOCABULARY		LEVEL OF TESTING
Synonyms		Identification of Shades of Meaning
Antonyms		Identifying Antonyms in a Context
Homophones		Identification & Usage
Homonyms		Identification & Usage
Hypernyms & Hyponyms		Identification & Usage
Spelling		Spelling
One-word Substitutes		Referring to Persons / Professions, Places, Collections
Phrasal Verbs		Identification of Meaning and usage
Idiomatic Expressions		Identification, Usage
Proverbs		Proverbs
Word Formation		Suffixes, Prefixes and other forms
Short Forms - Full Forms		Common Short Forms - Full Forms
Abbreviations - Full Forms		Common Abbreviations - Full Forms
Word Collocations		Word Collocations
Foreign Phrases Used in English		Standard and common Foreign Phrases Used in English
GRAMMAR		LEVEL OF TESTING
Helping Verbs		Form, Function & Contractions
Modal Auxiliaries		Form, Function & Contractions
Ordinary Verbs		Form, Function & Contractions
Articles		Use of Articles Including Omissions
Prepositions		Simple, Compound Prepositions Including Prepositions following Certain Words and Prepositional Phrases

Clauses		Main Clauses, sub-ordinate Clauses, Adjectival Clauses, Noun Clauses, Adverbial Clauses, Relative Clauses, Finite and Non-finite Clauses
Sentence Structures		Sentence Structures
Degrees of Comparison		Form, Function, Construction, Transformation
Language Functions		Language Functions with social norms (formal and informal)
Question Tags		Imperatives and Statements with semi negatives and indefinites subjects
Types of Sentences		Types of Sentences
Sentence Improvement		Sentence Improvement
Direct Speech & Indirect Speech		Statements, Questions, Imperatives and Exclamatory Sentences
Active Voice & Passive Voice		Active Voice & Passive Voice
Tenses		Use of tenses and framing including IF conditionals Type 1, 2 &3
Agreement between subject & Verb		Agreement between subject & Verb
Word Order		Word Order In a phrase or a sentence
Parts of Speech		Nouns, Pronouns, Adjectives, Adverbs, Conjunctions, Interjections - Types and functions
Linkers		Linkers
Transformation of Sentences		Simple. Compound and Complex Sentences
Common Errors		Based on all Vocabulary and Grammar Topics
MECHANICS OF WRITING		LEVEL OF TESTING
Punctuation and Capitalization		Use of capital letters, comma, full stop, question mark, exclamation mark and inverted commas

COMPOSITION		LEVEL OF TESTING
Writing of Discourses		Letter Writing, News Report, Diary Entry, Conversation, Description, Diary Entry, Biographical Sketch, Story, Script for a speech
DICTIONARY SKILLS		LEVEL OF TESTING
DICTIONARY SKILLS		DICTIONARY SKILLS
PRONUNCIATION		LEVEL OF TESTING
Phonetics, Stress & Intonation		Phonetic Transcription and stress marking including intonation in context
READING COMPREHENSION		LEVEL OF TESTING
Prose		Prose (GENERAL)
LITERATURE		LEVEL OR AREA OF TESTING
Background of English Literature		Poetical Types, Stanza forms, School and Movements, Dramatic Types, The Essay, The Novel, The Short Story
Literary Terms		*Parallelism, Prologue, epilogue, setting, the character, metre, diction, imagery, prosody, point of view, epic, mock epic, choreography, narration, classic, chorus, comedy, tragedy, conflict, plot, criticism, discourse, empathy, sympathy, style, theatre, feminism, soliloquy, folklore, structure; *Figures of Speech - Simile, Metaphor, Apostrophe, Personification, Metonymy, Synecdoche, irony and alliteration; *Rhyme Scheme

Poetry (Detailed Study)		1. Where the Mind Is without Fear (Rabindranath Tagore) 2. The cloud (P.B.Shelly) 3. The Nation's Strength (R.W.Emerson) 4. Palanquin Bearers (Sarojini Naidu) 5. The Road Not Taken (Robert Frost) 6. La Belle Dame Sans Merci (John Keats) 7. Telephone Conversation (Wole Soyinka) 8. The Night of the Scorpion (Nissim Ezekiel)
Prose / Essay (Detailed Study)		1. Of Truth (Francis Bacon) 2. Self-reliance (R.W.Emerson) 3. On Shaking Hands (A.G.Gardiner) 4. Robots and People (Isaac Asimov)
Novels (Detailed Study)		1. Pride and Prejudice (Jane Austen) 2. Swami and Friends (R.K.Narayan)
Drama (Detailed Study)		1. Macbeth (Shakespeare) 2. Murder in the Cathedral (T.S.Eliot)
Short Story (Detailed Study)		1. The Gold Watch (Mulk Raj Anand) 2. The Postmaster (Rabindranath Tagore) 3. After Twenty Years (O' Henry) 4. The Thief (Ruskin Bond)

V. Methodology (20 Marks)

1. Aspects of language (English Language History, Nature, Importance, Principles of English as Second language and problems of Teaching / learning English)
2. Objectives of Teaching English
3. Development of language Skills (Listening, Speaking, Reading and Writing; Communicative Skills and Imparting values through Communication
4. Approaches, Methods and Techniques of Teaching English (Introduction, Definition, Types of Approaches, Methods and Techniques of Teaching including Remedial Teaching)
5. Teaching of Structures, Vocabulary and Grammar
6. Teaching Learning Materials in English
7. Lesson Planning
8. Curriculum and Textbooks - Importance and need
9. Evaluation in English Language
10. Pronunciation, Phonetics and Phonetic Transcription

Government of Andhra Pradesh
Department of School Education
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DSC – SCHOOL ASSISTANT SYLLABUS - HINDI

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4.	**Content**	**–**	**40M**
5.	**Methodology**	**–**	**20M**
	Total	**–**	**80 M**

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PART - IV

IV. CONTENT (Marks: 40)

1. **हिंदी साहित्य का इतिहासः** काल विभाजन - विभिन्न विद्वानों के विचार आदिकाल, भक्ति काल, रीति काल और आधुनिक काल
2. **आधुनिक साहित्यः** विभिन्न प्रवृत्तियाँ और प्रमुखवाद (छायावाद, प्रगतिवाद,प्रयोगवाद, रहस्यवाद आदि) साहित्यक विधाएँ (कविता, कहानी, उपन्यास, नाटक आदि)
3. **हिंदी भाषा का इतिहासः** उद्भव और विकासः हिंदी राष्ट्र भाषा, राजभाषा और विश्व भाषा के रुप में हिंदी देवनागरी लिपि का विकास, देश की एकता और हिंदी।
4. **हिंदी भाषा का क्षेत्रः** उपभाषाएँ और बोलियाँ
5. **भारतीय काव्यशास्त्रः** अर्थ, परिभाषा, प्रयोजन और लक्षण, रस, छंद, अलंकार
6. **भाषा तत्व और व्याकरणः** वर्णमाला : (स्वर, व्यंजन भेद वर्णों का उच्चारण स्थान) **शब्दभेदः** (रूप परिवर्तन के अधार पर विकारी अविकारी शब्द व्युत्पत्ति के आधार पर शब्द भेद रूढी,यौगिक, योग रूढ) उपसर्ग, प्रत्यय, लिंग वचन, कारक - काल - संधि - समास। पर्यायावाची शब्द, विलोम शब्द, शब्द परिचय तत्सम, तद्भव, देशी, विदेशी, क्रिया - सकर्मक, अकर्मक प्रेरणार्थक क्रियाएँ - मुहावरे, लोकोक्ति, कहावत,

विराम चिह्न। वाक्य भेद, वाक्य और प्रयोग, वाक्य संरचना, भेद वाच्य कर्तृ वाच्य, कर्म वाच्य और भाव वाच्य पद-परिचय

7. हिंदी पाठ्य पुस्तकें (द्वितीय भाषा) छठवीं कक्षा से दसवीं कक्षा सहित (उपवाचक और पठनहेतु साहित)

V. Methodology (Marks: 20)

1. भाषा-अर्थ, परिभाषा, महत्व, प्रकृति और स्वरूप, ध्वनि विज्ञान, शब्द विज्ञान, व ाक्य विज्ञान, विवध स्तरों पर हिंदी शिक्षण के लक्ष्य और उद्देश्य, प्रथम भाषा के रूप में हिंदी द्वितीय भाषा के रूप में हिंदी, त्रिभाषा सूत्र, भारतीय संविधान में ि हंदी का स्थान।
2. हिंदी भाषा शिक्षण प्राथमिक, माध्यमिक और उच्च माध्यमिक स्तर पर
   (1) हिंदी भाषा - शिक्षण के उद्धेश्य
   (2) अच्छे शिक्षण और अच्छे शिक्षण की विशेषताएँ।
   (3) हिंदी अध्यापक और शिक्षण की विशेषताएँ
   (4) भाषा - शिक्षण के सामान्य सिद्धांत
   (5) भाषा शिक्षण प्रणालियाँ
   (6) भाषा शिक्षण की पद्धतियाँ (प्रत्यक्ष, परोक्ष, खेल माँन्तेसरी, निर्देशित, डाल्टन, आगमन, सूक्ष्म शिक्षण आदि)
   (7) शिक्षण सूत्र
3. **शिक्षण में भाषा - कौशलों का महत्व**
   सुनना - ध्वनि की उत्पत्ति - ध्वनि और श्रवण का पारस्परिक संबंध
   बोलना - शब्दोच्चारण, वाक्यंत्र, शुद्धोच्चारण का अभ्यास, मौखिक अभिव्यक्ति, पाठशाला में वार्तालाप का अभ्यास।
   पढना: वाचन की विशेषताएँ, प्रकार दोष और उपचार
   लिखना: महत्व, नियम विधियाँ, प्रकार, अक्षर-विन्यास
4. **पाठ्यक्रम और सहगामी क्रियाएँ**
   पाठ्यक्रम-पाठ्य पुस्तक, पुस्तकालय - दृश्य - श्रव्य उपकरण (शिक्षण उपकरण) पाठ सहागामी क्रियाएँ, भाषा प्रयोगशाला।
5. **शिक्षण योजना:**
   (1) पाठ-योजना (गद्य, पद्य, व्याकरण, पत्र लेखन और रचना)
   (2) इकाई पाठ योजना
   (3) सूक्ष्म शिक्षण पाठ योजना
6. **मूल्यांकन**
   मूल्यांकन की धारणा, निरंतर समग्र मूल्यांकन, उत्तम परीक्षा की विशेषताएँ, प्रश्न पत्र का निर्माण, उपलब्धि परीक्षा, निदानात्मक एंव उपचारात्मक शिक्षण, अभिलेख।
7. आंध्रप्रदेश में हिंदी शिक्षण में आनेवाली समस्याएँ व उनका निराकरण।
8. ध्वनि, वर्ण, शब्द, वाक्य रचना व शुद्धाशुद्ध वर्तनी व वाक्य ज्ञान।

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- **3 ರಿಂದ 8 ನೇ ತರಗತಿಗಳ ಕನ್ನಡ ಪಠ್ಯಪುಸ್ತಕಗಳು, ಪೂರಕ ಪಾಠಗಳಗಳಲ್ಲಿನ ವಿಷಯಗಳು :**
  ಕವಿ - ಕಾಲಘಟ್ಟಗಳು, ಕಾವ್ಯಗಳು, ನಾಟಕ, ಸಣ್ಣ ಕತೆ, ಲಲಿತ ಪ್ರಬಂಧ, ಬಿರುದುಗಳು, ಪಾತ್ರಗಳು, ವಿಶೇಷ ಅಂಶಗಳು.

- **ಪದ ಸಂಪತ್ತು** - ಅರ್ಥಗಳು, ನಾನಾರ್ಥಗಳು,ಸಮನಾರ್ಥಕ ಪದಗಳು, ವ್ಯುತ್ಪತ್ತಿ ಅರ್ಥಗಳು, ತತ್ಸಮ - ತದ್ಭವ, ನುಡಿಗಟ್ಟುಗಳು ಮತ್ತು ಲೋಕೋಕ್ತಿಗಳು - ವಿವರಣೆ, ಗುರ್ತಿಸುವುದು.

- **ಭಾಷಾಂಶಗಳು :**
  ಸಂಧಿಗಳು, ಸಮಾಸಗಳು, ಛಂದಸ್ಸು (ಮಾತ್ರಾ ಛಂದಸ್ಸು, ವೃತ್ತಗಳು) ಶಬ್ದಾಲಂಕಾರ, ಅರ್ಥಾಲಂಕಾರ, ಪದ, ಧಾತು, ಪ್ರತ್ಯಯಗಳು ಮತ್ತು ವ್ಯಾಕರಣ ಪಾರಿಭಾಷಿಕ ಪದಗಳು, ಪುರುಷಗಳು ಇತರೆ ಅಂಶಗಳು.

- **ಕನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆ :**
  ಸಾಹಿತ್ಯ ಚಳುವಳಿ (ನವ್ಯ, ನವೋದಯ, ಪ್ರಗತಿಶೀಲ, ದಲಿತ - ಬಂಡಾಯ, ವ್ಯಾಖ್ಯಾನೆಗಳು, ಕವಿ - ಕಾಲ ಘಟ್ಟಗಳು, ಪಾತ್ರಗಳು, ಆಧುನಿಕ ಸಾಹಿತ್ಯದ ಧೋರಣೆ ಮತ್ತು ಚಳುವಳಿಗಳು.

- **ಭಾಷಾ ಚರಿತ್ರೆ :**
  ಧ್ವನ್ಯಂಗಗಳು, ಧ್ವನಿ ಉತ್ಪತ್ತಿ, ಅರ್ಥ ಪರಿಣಾಮಗಳು, ದೇಶ್ಯ - ಅನ್ಯದೇಶ್ಯ, ಪ್ರಾದೇಶಿಕ, ಗ್ರಾಂಥಿಕ ಭಾಷೆಗಳು.

- **ಸಾಹಿತ್ಯ ವಿಮರ್ಶೆ :**
  ಕಾವ್ಯ ವ್ಯಾಖ್ಯಾನ, ಕಾವ್ಯ ಪ್ರಯೋಜನಗಳು

- **ಸರಳ ವ್ಯಾಕರಣ :**
  ಲಿಂಗ, ಕಾಲ, ವಚನ, ವಿಭಕ್ತಿ, ಪುರುಷಗಳು, ನಾಮಪದ, ಸರ್ವನಾಮ, ಅವ್ಯಯಗಳು

V. Methodology (20 Marks)

ಕನ್ನಡ ಭಾಷಾ ಬೋಧನಾ ಪದ್ಧತಿಗಳು

1) **ಕನ್ನಡ ಭಾಷಾ ಬೋಧನೆ ಮತ್ತು ಬೋಧಕ** : ಬೋಧನೆಯ ಉದ್ದೇಶಗಳು ಮತ್ತು ಗುರಿಗಳು, ವಿಧಾನಗಳು
2) **ಭಾಷಾ ಕೌಶಲ್ಯಗಳು** : ವಾಚನ ಕೌಶಲ್ಯ - ಉದ್ದೇಶಗಳು, ಪ್ರಕಾರಗಳು, ಮಹತ್ವ, ಓದುಗಾರಿಕೆಯನ್ನು ವಿಧಾನಗಳು, ಗಮನಿಸಬೇಕಾದ ಅಂಶಗಳು, ಧ್ವನ್ಯಂಗಗಳ ಉತ್ಪಾದನಾ ಕಾರ್ಯ.
3) **ಲೇಖನ ಕೌಶಲ್ಯಗಳು** : ಲೇಖನ ಕೌಶಲ್ಯ - ಉದ್ದೇಶಗಳು - ಕಲಿಸುವ ಕ್ರಮಗಳು - ಗಮನಿಸಬೇಕಾದ ಅಂಶಗಳು - ದೋಷಗಳ ನಿವಾರಣೋಪಾಯಗಳು.
4) **ಮಾತುಗಾರಿಕೆ** : ಉದ್ದೇಶಗಳು- ಉತ್ತಮ ಪಡಿಸುವ ಚಟುವಟಿಕೆಗಳು - ದೋಷಗಳು ಮತ್ತು ನಿವಾರಣೆ ಉಪಾಯಗಳು
5) **ಬೋಧನಾ ಪದ್ಧತಿಗಳು** : ಪದ್ಯ ಬೋಧನೆ ಮಹತ್ವ - ಬೋಧಿಸುವ ಕ್ರಮ -ಪದ್ಧತಿಗಳು , ಗದ್ಯ ಬೋಧನೆ - ಮಹತ್ವ - ಕ್ರಮ - ಪದ್ಧತಿಗಳು, ವ್ಯಾಕರಣ ಬೋಧನೆ - ಮಹತ್ವ - ಉದ್ದೇಶ - ಗುರಿಗಳು - ಪದ್ಧತಿಗಳು - ವಿಧಾನಗಳು
6) **ಪಠ್ಯಕ್ರಮ ರಚನೆ** : ತತ್ವಗಳು - ಗಮನಿಸಬೇಕಾದ ಅಂಶಗಳು - ರಾಷ್ಟ್ರೀಕರಣ - ವಾಚನಾಲಯ
7) **ಬೋಧನಾ ಸಂಪನ್ಮೂಲಗಳು** : ಬೋಧನೋಪಕರಣಗಳ ಮಹತ್ವ - ಪಾತ್ರ - ವರ್ಗೀಕರಣ - ಬೋಧನೋಪಕರಣಗಳನ್ನು ಬಳಸುವ ರೀತಿ .
8) **ಮೌಲ್ಯಮಾಪನ** : ಭಾಷಾಭಿವೃದ್ಧಿಯನ್ನು ಅಳೆಯಲು ವಿವಿಧ ಮೌಲ್ಯ ಮಾಪನ ಪರೀಕ್ಷೆಗಳು- ಮೌಲ್ಯಮಾಪನ ವಿಧಗಳು - ನೀಲ ನಕ್ಷೆ

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training
DSC – SCHOOL ASSISTANT SYLLABUS - MATHAMETICS

1.	**G.K & current Affairs -**	-	**10M**
2.	**Perspectives in Education**	–	**05M**
3.	**Classroom implications of Educational Psychology**	–	**05M**
4.	**Content**	-	**40M**
5.	**Methodology**	-	**20M**
	Total	-	**80 M**

PART - I

I. General Knowledge And Current Affairs (Marks: 10)

PART - II

II. Perspectives In Education (Marks: 05)

1. **History of Education :**
   - The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
   - Education in Pre Independent era - Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944).
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2. **Teacher Empowerment:**
   - Need, interventions for empowerment, Professional code of conduct for teachers, Teacher motivation, Professional development of Teachers and Teacher organizations, National / State Level Organizations for Teacher Education, Maintenance of Records and Registers in Schools.
3. **Educational Concerns in Contemporary India:**
   - Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities.
   - Economics of Education, Education as Human Capital, Education and Human Resource Development, Literacy - Saakshar Bharat Mission.
   - Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
   - Inclusive Education - Classroom Management in Inclusive Education
   - Role of Education in view of Liberalization, Privatization and Globalization

- Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs, Model Schools.
- Incentives and special provisions – Mid Day Meals, Free Books, Scholarship, Awards, Welfare Hostels, Transportation.
- Current Trends in Education – Badi pelusthondi, Badi ki Vasta, Mavuru – Mana Badi, Vidyanjali, Swacha Patasala, Inspire, Kalavutsav.

4. **Acts / Rights:**
   - Right of Children to Free and Compulsory Education Act - 2009
   - Right to Information Act - 2005
   - Child Rights
   - Human Rights.

5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

PART - III

III. Classroom implications of Educational Psychology – 05Marks

1. **Individual differences:** Inter and intra individual differences, meaning, nature and theories of intelligence with special emphasis to multiple intelligence, IQ, assessment of intelligence, EQ, Creativity. Attitude, Aptitude, Interest, Habit and its Influence on Intelligence – Class room implementation.
2. **Learning:** Theories and approaches of learning, learning curves, Factors, Phases, Dimensions of learning, Types of learning, Transfer of learning. Memory, Forgetting, Learning and assessment– Class room implementation.
3. **Personality:** Nature, characteristics and theories of personality, factors of Personality, Assessment of Personality, Mental health, Adjustment, Stress – nature, Symptoms and management. Emotional intelligence, Management of emotions – Class room implementation.

PART - IV

IV. Maths – Content (Class-VI to Intermediate Present syllabus) (40 Marks)

1. Arithmetic

Ratio and Proportion - Applications of Ratio- Comparing Quantities using proportion - Direct and Inverse proportion

2. Number System

Knowing Our Numbers –rounding of numbers - Whole Numbers- predecessor – successor – number line -Playing With Numbers – divisibility rules -LCM & HCF -Integers - Fractions - Decimals -Rational Numbers -Squares, cubes Square roots, Cube roots

Real numbers -Representing irrational numbers on Number line – representing real numbers on the number line through successive magnification – rationalisation –Real numbers- operations on real numbers- law of exponents for real numbers- surds(exponential form & radical form)

Euclid's division lemma & its application in finding HCF – fundamental theorem of Arithmetic & its application (HCF & LCM, decimal representation of rational numbers (terminating or non-terminating recurring and vice versa))

Non-terminating & non recurring decimals as irrationals – irrationality of$\sqrt{2}, \sqrt{3}$ etc.- properties of irrational numbers

Logarithm - exponential & logarithmic forms-Properties & Laws of logarithms-standard base of logarithm- use of logarithms in daily life situation-

Sets –& its representation (Roster form& set builder form)-examples- classification of sets(empty, finite, infinite, subset& super set, universal set, disjoint sets, power set of a set, equality of sets) Venn diagram – operations on sets (union, intersection, difference, cardinal number of a set

3. Geometry

Measures of Lines and Angles - Symmetry - -Understanding 3D, 2D Shapes - Representing 3D in 2D-Lines and Angles -Triangle and Its Properties -Congruency of Triangles- -Quadrilaterals - Practical Geometry -Construction of Triangles Construction of Quadrilaterals - Exploring Geometrical Figures-

The Elements of Geometry -Area –Circles

Similar Triangles & Tangents and secants to a circle

Proofs in Mathematics

4. Mensuration

Perimeter and Area - Area of Plane Figures -Surface areas and Volumes

5. Algebra

Introduction to Algebra- Simple Equations- Exponents - Algebraic Expressions - Exponents & Powers - Linear Equations in one variable – Factorisation Polynomials & Factorisation - Linear Equations in Two Variables - Pair of Linear Equations in Two Variables - Quadratic Equations- Progressions- Arithmetic Progression- properties of A.P.- Arithmetic mean –Geometric Progression –nth term–properties of AP,G.P.

Functions :

- Ordered pair- Cartesian product of sets – Relation - Function & its types - image & pre-image – Definitions.
- Inverse functions and Theorems.
- Domain, Range, Inverse of real valued functions.

Mathematical Induction

- Principle of Mathematical Induction & Theorems.
- Applications of Mathematical Induction.
- Problems on divisibility.

Matrices:

- Types of matrices
- Scalar multiple of a matrix and multiplication of matrices
- Transpose of a matrix
- Determinants
- Adjoint and Inverse of a matrix
- Consistency and inconsistency of Equations- Rank of a matrix
- Solution of simultaneous linear equations

Complex Numbers:

- Complex number as an ordered pair of real numbers- fundamental operations
- Representation of complex numbers in the form a + ib.
- Modulus and amplitude of complex numbers –Illustrations.
- Geometrical and Polar Representation of complex numbers in Argand plane- Argand diagram.

De Moivre's Theorem:

- De Moivre's theorem- Integral and Rational indices.
- n^{th} roots of unity- Geometrical Interpretations – Illustrations.

Quadratic Expressions:

- Quadratic expressions, equations in one variable
- Sign of quadratic expressions – Change in signs – Maximum and minimum values
- Quadratic in-equations

Theory of Equations:

- The relation between the roots and coefficients in an equation
- Solving the equations when two or more roots of it are connected by certain relation
- Equation with real coefficients, occurrence of complex roots in conjugate pairs and its consequences
- Transformation of equations – Reciprocal Equations.

Permutations and Combinations:

- Fundamental Principle of counting – linear and circular permutations
- Permutations of 'n' dissimilar things taken 'r' at a time
- Permutations when repetitions allowed
- Circular permutations
- Permutations with constraint repetitions.
- Combinations-definitions and certain theorems

Binomial Theorem:

- Binomial theorem for positive integral index
- Binomial theorem for rational Index (without proof).
- Approximations using Binomial theorem

Partial fractions:

- Partial fractions of f(x)/g(x) when g(x) contains non –repeated linear factors.
- Partial fractions of f(x)/g(x) when g(x) contains repeated and/or non-repeated linear factors.
- Partial fractions of f(x)/g(x) when g(x) contains irreducible factors.

6. Statistics

DATA HANDLING - Frequency Distribution Tables and Graphs- Grouped data-ungrouped data – Measrues of Central Tendency -Mean, median & mode of grouped and ungrouped data – ogive curves –MEASURES OF DISPERSION -Range - Mean deviation -Variance and standard deviation of ungrouped/grouped data. -Coefficient of variation and analysis of frequency distribution with equal means but different variances.

7. Probability

Probability - Random experiment and outcomes - Equally likely outcomes - Trail and Events - Linking the chance to Probability - uses of probability in real life

Probability-a theoretical approach – probability & modelling –equally likely events - mutually exclusive events –finding probability – elementary event –exhaustive events - complementary events & probability – impossible & certain events – deck of cars & Probability –use & applications of probability - Probability

- Random experiments and events
- Classical definition of probability, Axiomatic approach and addition theorem of probability.
- Independent and dependent events conditional probability- multiplication theorem and Bayee's theorem.

Random Variables and Probability Distributions:

- Random Variables
- Theoretical discrete distributions – Binomial and Poisson Distributions

8. Coordinate Geometry

Cartesian system-Plotting a point in a plane if its co-ordinates are given.

Distance between two points - Section formula (internal division of a line segment in the ratio m : n) – centroid of a triangle – trisectional points of a line segment -Area of triangle on coordinate plane- collinearity –straight lines -Slope of a line joining two points

Locus :

- Definition of locus – Illustrations.
- To find equations of locus - Problems connected to it.

Transformation of Axes :

- Transformation of axes - Rules, Derivations and Illustrations.
- Rotation of axes - Derivations – Illustrations.

The Straight Line :

- Revision of fundamental results.
- Straight line - Normal form – Illustrations.
- Straight line - Symmetric form.
- Straight line - Reduction into various forms.
- Intersection of two Straight Lines.
- Family of straight lines - Concurrent lines.
- Condition for Concurrent lines.
- Angle between two lines.
- Length of perpendicular from a point to a Line.
- Distance between two parallel lines.
- Concurrent lines - properties related to a triangle.

Pair of Straight lines:

- Equations of pair of lines passing through origin, angle between a pair of lines.
- Condition for perpendicular and coincident lines, bisectors of angles.
- Pair of bisectors of angles.
- Pair of lines - second degree general equation.
- Conditions for parallel lines - distance between them, Point of intersection of pair of lines.
- Homogenizing a second degree equation with a first degree equation in X and Y.

Circle :

- Equation of circle -standard form-centre and radius of a circle with a given line segment as diameter & equation of circle through three non collinear points - parametric equations of a circle.
- Position of a point in the plane of a circle – power of a point-definition of tangent-length of tangent
- Position of a straight line in the plane of circle-conditions for a line to be tangent – chord joining two points on a circle – equation of the tangent at a point on the circle-point of contact-equation of normal.
- Chord of contact - pole and polar-conjugate points and conjugate lines - equation of chord with given middle point.
- Relative position of two circles- circles touching each other externally, internally common tangents-centres of similitude- equation of pair of tangents from an external point.

System of circles:

- Angle between two intersecting circles.
- Radical axis of two circles- properties- Common chord and common tangent of two circles – radical centre.
- Intersection of a line and a Circle.

Parabola:

- Conic sections –Parabola- equation of parabola in standard form-different forms of parabola- parametric equations.
- Equations of tangent and normal at a point on the parabola (Cartesian and parametric) - conditions for straight line to be a tangent.

Ellipse:

- Equation of ellipse in standard form- Parametric equations.
- Equation of tangent and normal at a point on the ellipse (Cartesian and parametric) - condition for a straight line to be a tangent.

Hyperbola:

- Equation of hyperbola in standard form- Parametric equations.
- Equations of tangent and normal at a point on the hyperbola (Cartesian and parametric) - conditions for a straight line to be a tangent- Asymptotes.

Three Dimensional Coordinates :

- Coordinates.
- Section formulas - Centroid of a triangle and tetrahedron.

Direction Cosines and Direction Ratios :

- Direction Cosines.
- Direction Ratios.

Plane :

- Cartesian equation of Plane - Simple Illustrations.

9. Trigonometry

Trigonometry - Naming the side in a right triangle-trigonometric ratios – defining trigonometric ratios –trigonometric ratios of some specific angles (45^0,30^0 &60^0, 0^0 &90^0) –trigonometric ratios of complementary angles – trigonometric identities – Applications of Trigonometry - Line of sight & horizontal -Angle of elevation & depression -Drawing figures to solve problems – solution for two triangles

Trigonometric Ratios up to Transformations:

- Graphs and Periodicity of Trigonometric functions.
- Trigonometric ratios and Compound angles.
- Trigonometric ratios of multiple and sub- multiple angles.
- Transformations - Sum and Product rules.

Trigonometric Equations:

- General Solution of Trigonometric Equations.
- Simple Trigonometric Equations – Solutions.

Inverse Trigonometric Functions:

- To reduce a Trigonometric Function into a bijection.
- Graphs of Inverse Trigonometric Functions.
- Properties of Inverse Trigonometric Functions.

Hyperbolic Functions:

- Definition of Hyperbolic Function – Graphs.
- Definition of Inverse Hyperbolic Functions – Graphs.
- Addition formulas of Hyperbolic Functions.

Properties of Triangles:

- Relation between sides and angles of a Triangle
- Sine, Cosine, Tangent and Projection rules.
- Half angle formulae and areas of a triangle
- In-circle and Ex-circle of a Triangle.

10. Vector Algebra

Addition of Vectors:

- Vectors as a triad of real numbers.
- Classification of vectors.
- Addition of vectors.
- Scalar multiplication.
- Angle between two non-zero vectors.
- Linear combination of vectors.
- Component of a vector in three dimensions.
- Vector equations of line and plane including their Cartesian equivalent forms.

Product of Vectors:

- Scalar Product - Geometrical Interpretations - orthogonal projections.
- Properties of dot product.
- Expression of dot product in i, j, k system – Angle between two vectors.
- Geometrical Vector methods.
- Vector equations of plane in normal form.
- Angle between two planes.
- Vector product of two vectors and properties.
- Vector product in i, j, k system.
- Vector Areas.
- Scalar Triple Product.
- Vector equations of plane in different forms, skew lines, shortest distance and their Cartesian equivalents. Plane through the line of intersection of two planes, condition for coplanarity of two lines, perpendicular distance of a point from a plane, Angle between line and a plane. Cartesian equivalents of all these results
- Vector Triple Product – Results

11. Calculus

Limits and Continuity:

- Intervals and neighbourhoods.
- Limits.
- Standard Limits.
- Continuity.

Differentiation:

- Derivative of a function.
- Elementary Properties.
- Trigonometric, Inverse Trigonometric, Hyperbolic, Inverse Hyperbolic Function - Derivatives.
- Methods of Differentiation.
- Second Order Derivatives.

Applications of Derivatives:

- Errors and approximations.
- Geometrical Interpretation of a derivative.
- Equations of tangents and normal's.
- Lengths of tangent, normal, sub tangent and sub normal.
- Angles between two curves and condition for orthogonality of curves.
- Derivative as Rate of change.
- Rolle's Theorem and Lagrange's Mean value theorem without proofs and their geometrical interpretation.
- Increasing and decreasing functions.
- Maxima and Minima.

Integration:

- Integration as the inverse process of differentiation- Standard forms –properties of integrals.
- Method of substitution- integration of Algebraic, exponential, logarithmic, trigonometric and inverse trigonometric functions. Integration by parts.
- Integration- Partial fractions method.
- Reduction formulae.

Definite Integrals:

- Definite Integral as the limit of sum
- Interpretation of Definite Integral as an area.
- Fundamental theorem of Integral Calculus.
- Properties.
- Reduction formulae.
- Application of Definite integral to areas.

Differential equations:

- Formation of differential equation-Degree and order of an ordinary differential equation.
- Solving differential equation by
    a) Variables separable method.
    b) Homogeneous differential equation.
    c) Non - Homogeneous differential equation.
    d) Linear differential equations.

V. Methodology (20 Marks)

1. Meaning and Nature of Mathematics, History of Mathematics.
2. Contributions of Great Mathematicians - Aryabhatta, Bhaskaracharya, Srinivasa Ramanujan, Euclid, Pythagoras, George cantor.
3. Aims and Values of teaching Mathematics, Instructional objectives (Blooms taxonomy)
4. Mathematics curriculum: Principles, approaches of curriculum construction, -Logical and Psychological, Topical and Concentric, Spiral approaches. Qualities of a good Mathematics text book.
5. Methods of teaching mathematics- Heuristic method, Laboratory method, Inductive and Deductive methods, Analytic and Synthetic methods, Project method and Problem Solving method.
6. Unit Plan, Year Plan, Lesson Planning in Mathematics.
7. Instructional materials, Edgar Dale's Cone of Experience.
8. Evolving strategies for the gifted students and slow learners,
9. Techniques of teaching mathematics like Oral work, written work, Drilling, Assignment, Project, Speed and Accuracy.
10. Mathematics club, Mathematics structure, Mathematics order and pattern sequence.
11. Evaluation - Types, Tools and Techniques of Evaluation, Preparation of SAT Analysis, Characteristics of a good test.

Government of Andhra Pradesh
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DSC – SCHOOL ASSISTANT SYLLABUS - ODIYA

1.	**G.K & current Affairs -**	-	**10M**
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3. **Personality:** Nature, characteristics and theories of personality, factors of Personality, Assessment of Personality, Mental health, Adjustment, Stress – nature, Symptoms and management. Emotional intelligence, Management of emotions – Class room implementation.

PART - IV

IV. CONTENT:-[40 Marks]

1) ଷଷ୍ଠରୁଇଣ୍ଟରମିଡିଏଟ୍‌ପର୍ଯ୍ୟନ୍ତପାଠ୍ୟପୁସ୍ତକଅନ୍ତର୍ଗତବିଷୟ:-

କବିଓଲେଖକମାନଙ୍କସମୟ, ସୃଷ୍ଟି ସମ୍ପଦ,ସେମାନଙ୍କଉପାଧି ଓ ପ୍ରାପ୍ତପୁରସ୍କାର,
ବିଷୟଗତ ମୁଖ୍ୟାଂଶ,ପୂର୍ବାପରପ୍ରସଙ୍ଗ, ଉଦ୍ଦେଶ୍ୟ, ବୈଶିଷ୍ଟ୍ୟ, ମୂଳରଚନା

2) ଶବ୍ଦଭଣ୍ଡାର : -

ପାଠ୍ୟାଂଶଭିତ୍ତିକଶବ୍ଦାର୍ଥ, ପ୍ରତିଶବ୍ଦ, ଭିନ୍ନଜାତୀୟଶବ୍ଦ, ଯୁଗ୍ମଶବ୍ଦ,
ବିପରୀତାର୍ଥବୋଧକଶବ୍ଦ, ସମୋଚ୍ଚାରିତଶବ୍ଦ, ଗଦ୍ୟ/ପଦ୍ୟରୂପ,
ଏକପଦରେପ୍ରକାଶ, ଲିଙ୍ଗ, ବଚନ, ପୁରୁଷ, ରୂଢ଼ି, ଲୋକବାଣୀରଅର୍ଥ

3) ଭାଷାପ୍ରକରଣ:-

ସନ୍ଧି, ସମାସ, ଛନ୍ଦ, ଅଳଙ୍କାର,ବିଭକ୍ତି, କାରକ,ଉପସର୍ଗ,ତଦ୍ଧିତ, କୃଦନ୍ତ,
'ଣ'ତ୍ୱବିଧି,'ଷ'ତ୍ୱବିଧି, ତତ୍ସମ, ତଦ୍‌ଭବ, ଦେଶଜ, ବୈଦେଶିକଓ ସାଧାରଣ
ଅଶୁଦ୍ଧିଶବ୍ଦ

4) ବାକ୍ୟ ଓ ପଦ ପ୍ରକରଣ : -

ବିଶେଷ୍ୟ, ବିଶେଷଣ, ସର୍ବନାମ,କ୍ରିୟା,ଅବ୍ୟୟ, ବାକ୍ୟବିଚାର, ପଦବିନ୍ୟାସ,
ବାକ୍ୟର ପ୍ରକାର ଭେଦ, ବାକ୍ୟ ଓ ବାଚ୍ୟ ରୂପାନ୍ତର, ବାକ୍ୟ ସଂକ୍ଷପେଣ

5) ଓଡ଼ିଆସାହିତ୍ୟରଇତିହାସ: -

ଆଦିଯୁଗ, ସାରଳାଯୁଗ, ପଞ୍ଚସଖାଯୁଗ, ରୀତିଯୁଗଏବଂ
ଆଧୁନିକଯୁଗ

6) ଭାଷାବିଜ୍ଞାନଅଧ୍ୟୟନରଇତିହାସ :-

ଭାଷାବିଜ୍ଞାନରସଂଜ୍ଞାସ୍ୱରୂପ, ବିଭିନ୍ନବିଭାଗଓବିଭବ,
ଧ୍ୱନିବିଜ୍ଞାନଏବଂଓଡ଼ିଆଭାଷାରଧ୍ୱନିଗତବୈଶିଷ୍ଟ୍ୟ, ଅର୍ଥବିଜ୍ଞାନ

7) ସାହିତ୍ୟସମାଲୋଚନା ଓ ଓଡିଆ ପତ୍ର ପତ୍ରିକା:-

ଓଡ଼ିଆସମାଲୋଚନାସାହିତ୍ୟ ଏବଂ ଆଧୁନିକ ଓଡିଆ ସାହିତ୍ୟ ବିକାଶରେ
ପତ୍ରପତ୍ରିକାର ଭୂମିକା

8) ଓଡ଼ିଆଭାଷାରଉନ୍ମେଷଓବିକାଶ: -

ଶିଳାଲେଖ, ପ୍ରାଚୀନପୁରାଣ,କାବ୍ୟ, କବିତାଓଗଦ୍ୟସାହିତ୍ୟରଓଡ଼ିଆଭାଷା

V. Methodology: - [20 ମାର୍କ]

1. ମାତୃଭାଷାରଗୁରୁତ୍ୱଏବଂଶିକ୍ଷାଦାନରଲକ୍ଷ୍ୟଓଉଦ୍ଦେଶ୍ୟ
2. ଭାଷାକୌଶଳଏବଂଶିକ୍ଷାମାନ
3. ପାଠ୍ୟଯୋଜନା
4. ଶିକ୍ଷଣଉପକରଣରଭୂମିକା
5. ମାତୃଭାଷାଶିକ୍ଷାଦାନପଦ୍ଧତି
6. ସହପାଠ୍ୟକାର୍ଯ୍ୟକ୍ରମ – ପ୍ରଯୁକ୍ତିବିଦ୍ୟା
7. ଭାଷାପ୍ରୟୋଗଶାଳା
8. ସୃଜନଶୀଳରବିକାଶ
9. ନିରବଚ୍ଛିନ୍ନସଂବ୍ୟାପକମୂଲ୍ୟାୟନ [CCE]

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training
DSC – SCHOOL ASSISTANT SYLLABUS – PHYSICAL SCIENCE

1. G.K & current Affairs -	**-**	**10M**
2. Perspectives in Education	**–**	**05M**
3. Classroom implications of Educational Psychology	**–**	**05M**
4. **Content**	**-**	**40M**
5. Methodology	**-**	**20M**
Total	**-**	**80 M**

PART - I

I. General Knowledge And Current Affairs (Marks: 10)

PART - I

II. Perspectives In Education (Marks: 05)

1. History of Education :

- The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
- Education in Pre Independent era - Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944).
- Education in Post Independent era - Mudaliar Commission (1952-53), Kothari Commission (1964-66), Ishwarbhai Patel committee (1977), NPE-1986, POA-1992

2. Teacher Empowerment:

- Need, interventions for empowerment, Professional code of conduct for teachers, Teacher motivation, Professional development of Teachers and Teacher organizations, National / State Level Organizations for Teacher Education, Maintenance of Records and Registers in Schools.

3. Educational Concerns in Contemporary India:

- Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities.
- Economics of Education, Education as Human Capital, Education and Human Resource Development, Literacy - Saakshar Bharat Mission.
- Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
- Adolescence Education
- Value Education – Morel Value and Professional Eathics in Education.
- Health and Physical Education
- Inclusive Education - Classroom Management in Inclusive Education
- Role of Education in view of Liberalization, Privatization and Globalization
- Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya

Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs, Model Schools.

- Incentives and special provisions – Mid Day Meals, Free Books, Scholarship, Awards, Welfare Hostels, Transportation.
- Current Trends in Education – Badi pelusthondi, Badi ki Vasta, Mavuru – Mana Badi, Vidyanjali, Swacha Patasala, Inspire, Kalavutsav.

4. **Acts / Rights:**
   - Right of Children to Free and Compulsory Education Act - 2009
   - Right to Information Act - 2005
   - Child Rights
   - Human Rights.

5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

III. Classroom implications of Educational Psychology – 05Marks

1. **Individual differences:** Inter and intra individual differences, meaning, nature and theories of intelligence with special emphasis to multiple intelligence, IQ, assessment of intelligence, EQ, Creativity. Attitude, Aptitude, Interest, Habit and its Influence on Intelligence – Class room implementation.
2. **Learning:** Theories and approaches of learning, learning curves, Factors, Phases, Dimensions of learning, Types of learning, Transfer of learning. Memory, Forgetting, Learning and assessment– Class room implementation.
3. **Personality:** Nature, characteristics and theories of personality, factors of Personality, Assessment of Personality, Mental health, Adjustment, Stress – nature, Symptoms and management. Emotional intelligence, Management of emotions – Class room implementation.

PART - B

IV. Content (Marks: 40)

1. **Units And Measurements**: Systems of Measurement, Units of Measurements, Measurement of Length, Measurement of time, Accuracy, precision of instruments errors in measurement, Significant figures, Measurement of Mass and Density, Units and Dimensions Fundamental and derived physical quantities, Systems of units, Multiples and submultiples of SI units. Dimensions Dimensional formulae and dimensional equations, dimensional constants and dimensionless quantities, principle of homogeneity of dimensions. Application of dimensional method of analysis. Conversion of one system of units into another.

2. **Motion In A Straight Line**

   Position, path length and displacement, Average velocity and average speed, Instantaneous velocity and speed, Acceleration, Kinematic equations for uniformly accelerated motion, Relative velocity, Velocity-time and position-time graphs, Kinematical Equations of motion by graphical Method, Scalars and Vectors, laws of addition of vectors, subtraction of vectors. Resolution of vectors, Motion in a plane, Motion in a plane with constant acceleration, Relative velocity in two dimensions, Projectile motion.

3. Laws Of Motion

The law of inertia, Newton's second law of motion, Newton's third law of motion. Force – Types of Force, Free Body Diagrams. Newton's Universal Gravitation, Centre of Mass, Centre of Gravity, Stability, Applications, Equations of Motion, Motion of a body under gravity - Acceleration due to Gravity "g", Equations of Motion for a freely falling body, Equations of Motion for a body thrown upwards. Equations, Applications and problems. Universal law of gravitation, The gravitational constant, Kepler's laws, Acceleration due to gravity of the earth, Acceleration due to gravity below and above the surface of earth, Gravitational potential energy, Escape speed, Earth satellite, Energy of an orbiting satellite, Geostationary and polar satellites, Weightlessness. Work, Power, Energy, Conservation of Energy and Transformation of Energy, Renewable and Non-Renewable sources of Energy, Impulse, Law of conservation of linear momentum, Potential Energy (PE), Kinetic Energy (KE). Relation between KE and Linear momentum. Notions of work and kinetic energy: The work-energy theorem, The work-energy theorem for a variable force, The conservation of mechanical energy, The potential energy of a spring, Power, Collisions, Circular Motion, uniform circular motion, angular displacement, angular velocity, and angular acceleration, relationship between linear velocity and angular velocity, centripetal and centrifugal force, torque, couple, vector representation of torque, Vector product of two vectors, Equilibrium of a rigid body, Moment of inertia, Theorems of perpendicular and parallel axes, Dynamics of rotational motion about a fixed axis, Rolling motion. Simple harmonic motion and uniform circular motion, Velocity and acceleration in simple harmonic motion, Force law for Simple harmonic Motion, Energy in simple harmonic motion, Energy in simple harmonic motion, some systems executing Simple. Harmonic Motion, Damped simple harmonic motion, Forced oscillations and resonance Simple Pendulum, Law of conservation of energy in case of a simple pendulum. Elasticity - Elasticity and plasticity, stress and strain, Hooke's law, Moduli of elasticity. Fluid Mechanics Laws of Floatation, Principle of Buoyancy, pressure in a fluid. Stream line flow Bernoulli's theorem and its applications. Viscosity, Reynolds number, Surface tension, Simple Machines and Moments Moment of a Force, Wheel and Axle, Screw Jack, Gears, Friction, Causes of friction, advantages of friction, disadvantages of friction, methods of reducing friction, Fluid friction, Ball – Bering Principal.

4. Ray And Optical Instruments

Light - Sources & Nature of Light, Propagation of Light, Reflection, Refraction, Laws of Reflection, Sign convention for reflection by spherical mirrors, Image formed by Plane Mirror, Spherical Mirrors (Ray diagrams), Mirror formula and Magnification, Refraction of Light through Prism and lenses (convex, concave), Refractive index, Snell's Law, Refractive index of material of prism by minimum deviation Method, Image formation by lenses (Ray Diagrams), Sign convention for spherical lenses, Lens formula, Len's Makers formula and magnification, Power of lenses, Refraction of light through prism and Glass Slab, Dispersion of light and formation of Rainbow, Scattering of light – Raman Effect. Atmospheric refraction (Twinkling of stars, Advanced sunrise and delayed sunset), the Human eye and Colourful world, Structure of Human Eye Defects of Vision, Critical angle, Total Internal Reflection - Relation between Critical angle and Refractive Index, application of total internal reflection to Optical fibers, Lasers. Newton's Corpuscular Theory, Huygens' Wave Theory, Electromagnetic spectrum. Huygens' Explanation of Reflection, Refraction, interference and diffraction of plane waves at a plane surface. Polrisation Optical Instruments-Microscope, Telescope, Formula for magnification of microscope, Astronomical and Terrestrial

Telescopes.

5. **Waves**: Transverse and longitudinal waves, Displacement relation in a progressive wave, The speed of a travelling wave, The principle of superposition of waves, Reflection of waves, Beats, Doppler effect, Characteristics of Sound, Speed of sound in different media, Reflection of sound, Echoes, standing waves, nodes & antinodes, measurement of wavelength, Multiple reflection of sound, its uses, Hearing and audibility of a sound, Ultrasound, uses, Sound -Propagation of sound, Musical Instruments, Velocity of Sound in Gases, Solids & Liquids, Progressive & stationary waves. Forced Vibrations, Natural Vibrations – Resonance with examples, Loudness and pitch of sound their relation with amplitude and frequency, Audible and inaudible sounds, Noise and music, Noise pollution: sources, control and reduction.

6. **Thermal Properties Of Matter**
   Sources of Heat, Transmission of Heat, Heat and Temperature, Temperature and Kinetic Energy, Measurement of Temperature, Fahrenheit and Centigrade scales, Different types of thermometers, Effects of Heat Expansion of solids, liquids, gaseus, Change of state, Change of density with temperature, Examples in daily life, Applications of specific heat capacity, Evaporation, Condensation, Humidity, Dew and Fog, Boiling, Melting and Freezing. Expansion of Solids and liquids-coefficients of expansion of Solids and liquids. Anomalous expansion of water, its significance in nature. Kelvin scale of temperature, Boyle's and Charle's laws. Ideal gas equation. Heat capacity, specific heat, experimental determination of specific heat by method of mixtures. Specific heat of gas (Cp and Cv), Calorimetry - specific heat of solids and liquids, latent heat of fusion and latent heat of vaporization, External work done by a gas during its expansion. Relation between Cp and Cv (derivation) Latent heat, Determination of latent heat of vaporization of water. Newton's law of cooling, Thermal equilibrium , Zeroth law of thermodynamics , Heat, internal energy and work , First law of thermodynamics, Specific heat capacity, Thermodynamic state variables and equation of State, Thermodynamic processes, Heat engines, Refrigerators and heat pumps, Second law of thermodynamics, Reversible and irreversible processes, Carnot engine, Carnot's theorem. Kinetic Theory, Introduction, Molecular nature of matter, Behaviour of gases, Kinetic theory of an ideal gas, Law of equipartition of energy, Specific heat capacity, Mean free path.

7. **Electricity**
   Electrostatics - Electrification by friction, Charges, Coulomb's Law: Permittivity of Free Space and Medium, Electric Field - Electric lines of force, their properties – Electric Flux, Electric Dipole, Dipole in a Uniform External Field, Continuous Charge Distribution, Gauss's Law, Application of Gauss's Law, Electric intensity, Electrostatic Potential, Relation between electrostatic potential and electric intensity. Capacitance and capacitors, The Parallel Plate Capacitor, Combination of Capacitors, Van de Graaff Generator, Dielectric constant, Condenser, its uses -Dielectric Strength - Effect of dielectric on capacitance of capacitors. Current electricity - Electric Current and Potential, EMF, Primary Cells-Series and Parallel connection-Electric circuits, Electrical Resistance, Ohm's Law and its verification, Electric shock. Ohmic and Non Ohmic elements, Resistance Resistances in Series and Parallel, Kirchhoff’s Laws. Wheatstone Bridge, Meter Bridge, Potentiometer, Heating Effects of Electric Current-Joule's Law, Faraday's Laws of Electrolysis, Electric current - Flow of Electric charges in a metallic conductor - Drift velocity and mobility - Relation between electric current and drift velocity, Specific Resistance, Resistivity, Conductance, Electrical Energy – Power, Electrical Energy consumption.

8. **Electromagnetism** – Magnets and their properties, Magnetic field and field lines, Oersted's Experiment, Ampere's Law, Magnetic field near a long straight wire and magnetic field at the Center of a circular coil carrying current, Field on the axis of circular coil carrying current, Force on a moving charge in a magnetic field - Force on a current carrying conductor placed in a magnetic field. Force between two long straight parallel conductors carrying current, Definition of Ampere. Fleming's Left Hand Rule. Current loop as magnetic dipole, force and Torque on Current loop in an uniform magnetic field, magnetic dipole moment of a revolving electron. The Moving Coil Galvanometer, Electromagnetic induction, Magnetic Flux, Induced EMF, Faraday's and Lenz's Law. Fleming's Right Hand Rule, Self Inductance, Mutual Inductance, Principle of Transformer, Working of Electric motor, AC, Electric Generator, DC Electric Generator, Eddy Currents, Electromagnetic Waves, Displacement Current, Electromagnetic Waves, Electromagnetic Spectrum, AC Voltage Applied to a Resistor, Representation of AC Current and Voltage by Rotating Vectors — Phasors, AC Voltage Applied to an Inductor, AC Voltage Applied to a Capacitor, AC Voltage Applied to a Series LCR Circuit, Power in AC Circuit: The Power Factor, LC Oscillations.

9. **Modern Physics -** Alpha-particle Scattering and Rutherford's Nuclear Model of Atom, Atomic Spectra, Bohr Model of the Hydrogen Atom, The Line Spectra of the Hydrogen Atom, DE Broglie's Explanation of Bohr's Second Postulate of Quantization, Atomic Masses and Composition of Nucleus, Size of the Nucleus, Mass-Energy and Nuclear Binding Energy, Nuclear Force, Radioactivity, Nuclear Energy, Electron Emission, Photoelectric Effect, Experimental Study of Photoelectric Effect, Photoelectric Effect and Wave Theory of Light, Einstein's Photoelectric Equation: Energy Quantum of Radiation, Particle Nature of Light: The Photon, Wave Nature of Matter, Davisson and Germer Experiment, Classification of Metals, Conductors and Semiconductors, Intrinsic Semiconductor, Extrinsic Semiconductor, p-n Junction, Semiconductor diode, Application of Junction Diode as a Rectifier, Special Purpose p-n Junction Diodes, Junction Transistor, Digital Electronics and Logic Gates, Integrated Circuits, Elements of a Communication System, Basic Terminology Used in Electronic Communication Systems, Bandwidth of Signals, Bandwidth of Transmission Medium, Propagation of Electromagnetic Waves, Modulation and its Necessity, Amplitude Modulation, Production of Amplitude Modulated Wave, Detection of Amplitude Modulated Wave.

10. **Natural Phenomena** – Lightning: Charging by rubbing, Types of charges and nature of interaction of charged bodies, Transfer of charge: electroscope as a detector of charging, Lightning: discharge, earthling, lightning conductors, Safety measures during a thunder storm. Earthquake: Earthquake, Causes of an earthquake, Seismic fault zone, Protection to damage caused by earthquakes, Measurement of intensity of earthquake, Seismograph,

11. **Our Universe**: Constellations, Zodiac, Solar System, The Sun, Planets, Their Sizes, Masses and distance from Sun, Source of Energy, The Moon its phases surface, Stars, Meteors and Comets, Asteroids, Light year, Life on the Planet - Earth.

12. **States Of Mater – Physical Nature Of Matter -** Composition of matter: particles (Historical introduction), Characterization of matter in terms of physical properties, Characteristics of particles of matter: space between them, attraction between them, their continuous motion, States of matter: solids, liquids and gasses, Shape, mass, volume and density of matter, Change of state of matter with temperature and pressure, Evaporation and condensation: factors effecting the rate of condensation/evaporation-

surface area, temperature, humidity, wind speed. Evaporation and cooling with examples. Mixtures, type of mixtures, homogeneous and hetero generous, Solution, components, properties, concentration, dilute and saturated Solutions, Mass / Mass percentage; Mass / volume percentage, Suspension, properties of suspensions, Colloidal solution, properties of colloids, Tyndall effect, Separating the components of a mixture, Separating components of blue / black ink, evaporation, Cream from milk by churning, centrifugation, Separating immiscible liquids, Separation by sublimation Separation by chromatography, Separation by distillation (miscible liquids), fractional distillation, Separating components of air, Obtaining pure copper sulphate from impure samples Applications of crystallization, Water purification system in water works, Physical and chemical change, Types of pure substances, elements, compounds, Comparison between mixture and compounds **Solids**- Metals and Non-metals, Physical properties of metals, luster, malleability, electrical conductivity, ductility, sonorous, heat conductors, Physical properties of non-metals Chemical properties of metals - Metals burnt in air, Metal reacts with water, Reaction with acids, Reactions with solutions of other metal salt solutions, Reactivity series, Reactions of metals and non-metals – formation of cation, anion and ionic compounds, Properties of Ionic compounds, Physical nature, Melting and boiling points, Solubility Conduction of electricity, Occurrence of metals, Extractions of metals – General Principles Of Metallurgy Occurrence and Relative Abundance of metals in earth's crust, The Metallurgy of Iron & Extraction, Protection of Metals and Prevention of Corrosion, Principles and methods of extraction - concentration, reduction by chemical and electrolytic methods and refining. Reaction with oxygen, acidic, basic nature of products, Reaction with water, Reaction with acid, Reaction with Base, Reactivity of metals in displacement reactions, Uses of metals and non-metals – FLUIDS- Electric Conductivity of Fluids, determination of good and poor conducting fluids, Chemical effects of electric current, Electrolytic cell: its construction and electroplating: Measurable Properties of Gases, Gas Laws, Graham's law of diffusion - Daltons law of partial pressures, Avogadro's law and Mole Concept, Ideal behavior, empirical derivation of gas equation, ideal gas equation, Kinetic molecular theory of gases, Kinetic gas equation (No derivation) - deduction of gas laws, Air, Composition of air, Measurement of Atmospheric Pressure, Air Pollution, Volumetric Composition of Water, Hardness of Water, Drinking Water and Supply, Water Pollution, Cyclone, Pascal's Law, Archimedes' Principle, Boyle's Law, Bernoulli's Principle, Wind, Rainfall.

13. **Atomic Structure:** Matter - Its Structure, Cathode Rays, Canal Rays, Discovery of Neutron, Atomic Models - Arrangement of Sub Atomic Particles, Rutherford's model of atom and its drawbacks, Bohr's model of Hydrogen atom and its limitations, Sommerfeld's elliptical model, Schrodinger wave equation, Sub Energy Levels - Quantum Numbers, Atomic Orbitals, Relative energies of the atomic orbitals, Electronic configuration of Atoms, Some Physical Quantities of Atoms, Nature of Electromagnetic Radiation, Planck's Quantum theory. Explanation of Photo electric effect. Features of Atomic Spectra. Characteristics of Hydrogen Spectrum. Bohr's explanation of Spectral Lines, Wave-particle nature of electron, De Brogile's hypothesis, Heisenberg's uncertainly principle, Important feature of the quantum mechanical model of an atom, Electronic configurations of atoms - Explanation of stability of half filled and completely filled orbitals. Isotopes, Isobars and Isotones, Applications of Radio Isotopes.

14. **Classification Of Elements**: Symbols and formulae, Radicals and their formulae, Chemical equation, Meaning, Calculations based on equations and relationship of reactants and products by weights, History of Classification of Elements, The Periodic

Law, Modern Periodic Table, The significance of atomic number and electronic configuration, Classification of elements into s, p, d, f blocks and their characteristics, Period trends in physical and chemical properties of elements, Periodic trends of elements with respect to atomic radii, ionic radii, inert gas radii, ionization energy, electron gain energy, electro negativity, Valency.

15. **Chemical Bonding And Molecular Structure:**
Types of Bonds, Inter Molecular Attractions, Energy changes during a chemical reaction, Exotherimic and Endothermic Relations, ionic bond, Electronic theory valence by Lewis and Kossel, energy changes in ionic bond formation, Properties of ionic Compounds, Covalent Bond, Multiple Covalent Bonds, Shapes of some molecules. VSEPR theory, The valence bond approach for the formation of covalent bonds, Directional nature of covalent bond, Properties of covalent bond, Different types of hybridization involving s, p and d orbitals and draw shapes of simple covalent molecules, Definition of coordinate covalent bond with examples, Description of molecular orbital theory of homo nuclear diatomic molecules. Hydrogen bonding-cause of formation of hydrogen bond- Types of hydrogen bonds-inter and intra molecular-General properties of hydrogen bonds.

16. **Chemical Kinetics, Energitics:** Chemical Calculations And Stoichiometry Chemical combination, Chemical decomposition, Chemical displacement, Chemical Double decomposition, Slow and Fast reactions, Rate of a Reaction, Factors affecting the reaction rate, Reversible and Irreversible Reactions, Law of conservation of mass, Law of definite proportions, Law of multiple proportions, Rate law, units of rate constant, Collision theory of reaction rates (elementary ideas), concepts of activation energy. Stoichiometry - Meaning of Chemical Equations, Thermochemical Equations, Problems Based on Equations, Laws of chemical combination, principles and examples, Different kinds of fuels burning with flame and without flame, Combustion of fuels, solid, liquid, gas, Ignition temperature, Matchstick – red , white phosphorous and antimony tri sulphide, ignition temperatures, Inflammable substances, Methods of controlling fire, fire extinguisher, Types of combustion, rapid, spontaneous, explosive. Flame, materials forming flames, structure of flame, Fuel, ideal fuel, fuel efficiencies, calorific value, Harmful products of burning fuels , global warming and acid rain. Molar mass, concept of equivalent weight with examples, Percentage composition of compounds and calculations of empirical and molecular formula of compounds, Oxidation number concept, Balancing of redox reactions by ion electron method and oxidation number method, Types of redox reactions, Applications of redox reactions in titrimetric quantitative analysis and redox reactions in electrode process, Numerical calculations based on equations. Equilibrium - Differences between Physical and Chemical change, Equilibrium in physical and chemical process, Dynamic nature of equilibrium, law of mass action, Equilibrium Constant, Factors affecting equilibrium.

17. **Solutions, Acids, And Bases:**
Solutions, Types, Solubility and Factors affecting concentration of solutions, Ionization of Substances in Water, Classification of solutions - Methods of expressing concentration of solutions - Molarity, Normality, Molality, Mole Fraction, Preparation of Acids and Bases, General properties of Acids an Bases, The Strengths of Acids and Bases, Neutralisation and Heat of Neutralization, Ionization of acids and bases, strong and weak electrolytes, degree of ionization, ionic product of water, Concept of pH., pH of some common fluids, Importance of pH in everyday life, Sensitive of plants and animals to pH, pH of soils, pH in digestive system, pH-tooth decay, Self defense by animal and plants through chemical warfare. Some naturally occurring acids. Salts - Family of salts, pH of salts, Sources of common salt, Common salt – a raw material for

chemicals, NaoH, Bleaching powder, baking soda, NaHco3 uses washing soda and its uses, Salt crystals / crystallization, Plaster of Paris, Equilibrium in Physical process, Equilibrium in chemical process - Dynamic Equilibrium, Law of chemical Equilibrium - Law of mass action and Equilibrium constant. Homogeneous Equilibria, Equilibrium constant in gaseous systems. Relationship between KP and Kc, Heterogeneous Equilibria. Applications of Equilibrium constant. Relationship between Equilibrium constant K, reaction quotient Q and Gibbs energy G. Factors affecting Equilibria.-Le-chatlieprinciple application to industrial synthesis of Ammonia and Sulphur trioxide. Acids, bases and salts- Arrhenius, Bronsted-Lowry and Lewis concepts of acids and bases. Ionisation of Acids and Bases -Ionisation constant of water and it's ionic product- pH scale-ionisation constants of weak acids-ionisation of weak bases-relation between Ka and Kb-Di and poly basic acids and di and poly acidic Bases-Factors affecting acid strength-Common ion effect in the ionization of acids and bases-Hydrolysis of salts and pH of their solutions. Buffer solutions-designing of buffer solution-Preparation of Acidic buffer Solubility Equilibria of sparingly soluble salts. Solubility product constant Common ion effect on solubility of Ionic salts.

18. Hydrogen And Its Compounds

Position of hydrogen in the periodic table. Dihydrogen-Occurance and Isotopes. Preparation of Dihydrogen, Properties of Dihydrogen, Hydrides: Ionic, covalent, and non-stiochiometric hydrides. Water: Physical properties; structure of water, ice. Chemical properties of water; hard and soft water, Temporary and permanent hardness of water, Hydrogen peroxide: Preparation; Physical properties; structure and chemical properties; storage and uses. Heavy Water, Hydrogen as a fuel.

19. S - Block Elements

Alkali metals; Electronic configurations; Atomic and Ionic radii; Ionization enthalpy; Hydration enthalpy; Physical properties; Chemical properties; Uses, General characteristics of the compounds of the alkali, metals: Oxides; Halides; Salts of Oxy Acids. Anomalous properties of Lithium: Differences and similarities with other alkali metals. Diagonal relationship; similarities between Lithium and Magnesium. Some important compounds of Sodium: Sodium Carbonate; Sodium Chloride; Sodium Hydroxide; Sodium hydrogen carbonate. Biological importance of Sodium and Potassium. Alkaline earth elements; Electronic configuration; Ionization enthalpy; Hydration enthalpy; Physical properties, Chemical properties; Uses. General characteristics of compounds of the Alkaline Earth Metals: Oxides, hydroxides, halides, salts of Oxyacids (Carbonates; Sulphates and Nitrates). Anomalous behavior of Beryllium; its diagonal relationship with Aluminum. Some important compounds of calcium: Preparation and uses of Calcium Oxide ; Calcium Hydroxide; Calcium Carbonate;Plaster of Paris; Cement. Biological importance of Calcium and Magnesium.

20. P - Block Elements

General introduction - Electronic configuration, Atomic radii, Ionization enthalpy, Electro negativity; Physical & Chemical properties. Important trends and anomalous properties of boron. Some important compounds of boron - Borax, Ortho boric acid, diborane. Uses of boron, aluminium and their compounds. General introduction - Electronic configuration, Atomic radii, Ionization enthalpy, Electro negativity; Physical & Chemical properties. Important trends and anomalous properties of carbon. Allotropes of carbon. Uses of carbon. Some important compounds of carbon and silicon – carbon monoxide, carbon dioxide, Silica, silicones, silicates and zeolites.

21. Organic Chemistry

Allotropic forms of Carbon, Oxides of Carbon, Uniqueness of Carbon and Source of Carbon Compounds, Anomalous behavior of first element namely Carbon, Carbon-catenation, allotropic forms, physical and chemical properties and uses, Bonding in carbon, Covalent bond, Catenation, Saturated and unsaturated carbon compounds, Chains, branches and rings, Bonding of carbon with other elements, Functional groups in carbon compounds, Homologous series. Nomenclature of carbon compounds, Chemical properties of carbon compounds, Combustion, Blue flame, Sooty flame, Oxidation, Addition reaction, Substitution reaction, Important carbon compounds, Ethanol, Ethanoic acid, properties of ethanol – General properties, reaction of ethanol with sodium, reaction with hot concentrated sulphuric acid, Properties of ethanoic acid – General properties. Esterification reaction, Reaction with a base, sodium hydroxide, sodium carbonate and sodium hydrogen carbonate, Soaps and detergents, Micelles. . Classification and nomenclature, Nature of C-X bond, Methods of preparation : Alkyl halides and aryl halides-from alcohols, from hydrocarbons (a)by free radical halogenation -(b) by electrophilic substitution (c) by replacement of diazonium group(Sand-Meyer reaction) (d) by the addition of hydrogen halides and halogens to alkenes-by halogen exchange(Finkelstein reaction), Physical properties-melting and boiling points,density and solubility, Chemical reactions, Reactions of haloalkanes (i)Nucleophilic substitution reactions (a) $\mathbf{Sn^2}$ mechanism (b) $\mathbf{Sn^1}$ mechanism (c) stereochemical aspects of nucleophilic substitution reactions -optical activity (ii) Elimination reactions (iii) Reaction with metals-Reactions of haloarenes: (i) Nucleophilic substitution (ii)Electrophilic substitution and (iii) Reaction with metals, Polyhalogen compounds: Uses and environmental effects of dichloro methane, trichloromethane, triiodomethane, tetrachloro methane, freons and DDT. Alcohols,phenols and ethers –classification, Nomenclature: (a)Alcohols, (b)phenols and (c)ethers, Structures of hydroxy and ether functional groups, Methods of preparation: Alcohols from alkenes and carbonyl compounds- Phenols from haloarenes, benzene sulphonic acid, diazonium salts, cumene, Physical propertics of alcohols and phenols, Chemical reactions of alcohols and phenols (i) Reactions involving cleavage of O-H bond-Acidity of alcohols and phenols, esterification (ii) Reactions involving cleavage of C-O bond- reactions with HX, PX3, dehydration and oxidation (iii) Reactions of phenols- electrophili aromatic substitution, Kolbe's reaction, Reimer - Tiemann reaction, reaction with zinc dust, oxidation, Commercially important alcohols (methanol,ethanol), Ethers-Methods of preparation: By dehydration of alcohols, Williamson synthesis- Physical properties-Chemical reactions: Cleavage of C-O bond and electrophilic substitution of aromatic ethers. Nomenclature and structure of carbonyl group, Preparation of aldehydes and ketones-(1) by oxidation of alcohols (2) by dehydrogenation of alcohols (3) from hydrocarbons -Preparation of aldehydes (1) from acyl chlorides (2) from nitriles and esters(3)from hydrocarbons-Preparation of ketones(1) from acyl chlorides (2)from nitriles (3)from benzene or substituted benzenes, Physical properties of aldehydes and ketones, Chemical reactions of aldehydes and ketones-nucleophilic addition, reduction, oxidation, reactions due to -Hydrogen and other reactions (Cannizzaro reaction,electrophilic substitution reaction), Uses of aldehydes and ketones, CARBOXYLIC ACIDS, Nomenclature and structure of carboxylgroup, Methods of preparation of carboxylic acids- (1)from primary alcohols and aldehydes (2) from alkylbenzenes(3)from nitriles and amides (4)from Grignard reagents (5) from acyl halides and anhydrides (6) from esters, Physical properties, Chemical reactions: (i) Reactions involving cleavage of OH bond-acidity, reactions with metals and alkalies

(ii) Reactions involving cleavage of C-OH bond-formation of anhydride, reactions with PCl5, PCl3, SOCl2, esterification and reaction with ammonia (iii) Reactions involving -COOH group-reduction, decarboxylation (iv) Substitution reactions in the hydrocarbon part - halogenation and ring substitution, Uses of carboxylic acids. Structure of amines, Classification, Nomenclature, Preparation of amines:reduction of nitro compounds, ammonolysis of alkyl halides, reduction of nitriles,reduction of amides, Gabriel phthalimide synthesis and Hoffmann bromamide degradation reaction. Physical properties, Chemical reactions:basic character of amines, alkylation, acylation, carbyl amine reaction, reaction with nitrous acid, reaction with aryl sulphonyl chloride, electrophilic substitution of aromatic amines-bromination, nitration and sulphonation. DIAZONIUM SALTS - Methods of preparation of diazonium salts (by diazotization), Physical properties. Chemical reactions: Reactions involving CYANIDES AND ISOCYANIDES - Structure and nomenclature of cyanides and isocyanides, Preparation, physical properties and chemical reactions of cyanides and isocyanides

22. Polymers:

Classification of Polymers -Classification based on source, structure, mode of polymerization, molecular forces and growth polymerization. Types of polymerization reactions-addition polymerization or chain growth polymerization-ionic polymerization, free radical mechanism-preparation of addition polymers-polythene, teflon and polyacrylonitrile-condensation polymerization or step growth polymerization-polyamides-preparation of Nylon 6,6 and nylon 6-poly esters- erylene - bakelite, melamine, formaldehyde polymer- copolymerization-Rubber-natural rubber-vulcanisation of rubber-Synthetic rubbers-preparation of neoprene and buna-N. Molecular mass of polymers-number average and weight average molecular masses-poly dispersity index (PDI). Biodegradable polymers-PHBV, Nylon 2-nylon 6. Polymers of commercial importance-poly propene, poly styrene,poly vinyl chloride(PVC), urea-formaldehyde resin, glyptal, bakelite- their monomers, structures and uses. Natural and artificial fibres, Synthetic fibre, Types of synthetic fibres - Rayon, Nylon, Polyster and acrylic, Characteristics of synthetic fibres, Plastics, polythene, Thermo plastics, Thermo setting plastic, Plastics as materials of choice: Non-reactive, light, strong and durable and poor conducting plastics, Plastics and environment – Bio degradable, non-bio degradable. Carbohydrates - Classification of carbohydrates-Monosaccharides: preparation of glucose from sucrose and starch-Properties and structure of glucose- D,L and (+), (-) configurations of glucose-Structure of fructose Disaccharides: Sucrose- preparation, structure-Invert sugar-Structures of maltose and lactose-Polysaccharides: Structures of starch cellulose and glycogen- Importance of carbohydrates. Aminoacids: Natural aminoacids-classification of aminoacids -structures and D and L forms-Zwitter ions Proteins: Structures, classification, fibrous and globular- primary, secondary, tertiary and quarternary structures of proteins- Denaturation of proteins. Enzymes: Enzymes,mechanism of enzyme action. Vitamins: Explanation-names- classification of vitamins - sources of vitamins-deficiency diseases of different types of vitamins. Nucleic acids: chemical composition of nucleic acids ,structures of nucleic acids, DNA finger printing biological functions of nucleic acids. Hormones: Definition, different types of hormones, their production, biological activity, diseases due to their abnormal activities.

23. Chemistry In Everyday Life

Drugs and their classification: (a) Classification of drugs on the basis of pharmocological effect(b) Classification of drugs on the basis of drug action (c) Classification of drugs on the basis of chemical structure (d) Classification of drugs on

the basis of molecular targets. Drug-Target interaction-Enzymes as drug targets(a) Catalytic action of enzymes (b) Drug-enzyme interaction Receptors as drug targets. Therapeutic action of different classes of drugs: antacids, antihistamines, neurologically active drugs: tranquilizers, analgesics-non-narcotic,narcotic analgesics, antimicrobials-antibiotics,antiseptics and disinfectants- antifertility drugs. Chemicals in food-artificial sweetening agents, food preservatives, antioxidants in food. Cleansing agents-soaps and synthetic detergents.

24. **Environmental chemistry:**
Sources of energy, Conventional sources of energy, Fossil fuels, Petroleum formation, refining of petroleum, constituents of petroleum, Natural gas, Petrochemicals, Thermal power plant, Hydro power plants, Improvements in the technology for using conventional sources of energy, Bio-Mass, Wind energy, Alternative or non-conventional sources of energy, Solar energy, Energy from sea, Tidal energy, Wave energy, Ocean thermal energy, Geothermal energy, Nuclear energy, Environmental consequences of production and consumption of energy, Sustainability of energy sources. Pollution: Air, Water and Soil Pollution, Oxides of Carbon, Carbon Monoxide, Oxides of nitrogen and Sulphur, Chlorofluro carbons, Chemical reactions in atmosphere, smogs, major atmospheric pollutants, acid rain, Ozone and its reactions, effects of depletion of ozone layer, Green house effect and global warming, Pollution due to industrial wastes, Green chemistry as an alternative tool for reducing pollution with two examples.

V. Methodology (Marks: 20)

1. The Nature of Science: Nature and scope of science, Science, ideology and Society, Structure of Science (a) Substantive structure - Empirical knowledge, Theoretical Knowledge - (Facts, Concepts, hypothesis, theory, Principle Law), (b)Syntactic Structure of Science - Scientific inquiry, Processes of Science, Attitudes of inquiry
2. The History and Development of Science: A brief introduction to oriental and western science, Contribution of the following Scientists in the Development of Science: Aryabhatta, BhaskaraCharya, Aristotle, Copernicus, Newton, Einstein, C.V.Raman, Various organizations working for the development of science in India
3. Aims and Values of teaching Physical Sciences: Aims of teaching Physical Sciences, Values of teaching Physical Science, Correlation of Physics and Chemistry with other subjects
4. Objectives of teaching Physical Sciences: Meaning and importance of objectives, Bloom's Taxonomy of Educational objectives, Specific / Behavioral objectives / (Instructional objectives), Critique on Bloom's Taxonomy
5. Approaches and Methods of teaching Physical Sciences: Inductive and Deductive Approaches, Micro Teaching, Team Teaching, Lecture Method, Lecture cum Demonstration Method, Historical Method, Heuristic Method, Project Method, Laboratory method, Problem Solving Method, Scientific Method, Multimedia Approach in Teaching Learning process, Programmed Learning, CAI and CAL
6. Planning for effective instruction in Science: Year Plan, Unit Plan, Lesson Plan, Learning experience, characteristics, classification, source and relevance.
7. Teaching Learning Material (TLM): Characteristics and Importance of TLM, Classification and Types of TLM, Hardware and Software in TLM, TLM-Principles to be followed, Edgar Dale's cone of learning experience.
8. Science laboratories: Importance of Practical work in science, Planning of Science laboratories, Procurement, care and maintenance of laboratory equipment, Registers, Management of safety and science kits, Development of improvised Apparatus.

9. Physical Science Curriculum: Principles of Curriculum Construction, Defects in the existing school science curriculum, Qualities of a good Science Text Book.
10. Non-formal Science Education: Science Clubs, Science Fairs - purposes, levels, organization, advantages, Science Library, Role of NGOs and State in popularizing Science
11. Evaluation: Concept and Process of Evaluation, Tools of Evaluation, Preparation of Scholastic Achievement Test (SAT), Analysis and interpretation of Scores.

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training
DSC – SCHOOL ASSISTANT SYLLABUS - SANSKRIT

1.	**G.K & current Affairs -**	**-**	**10M**
2.	**Perspectives in Education**	**–**	**05M**
3.	**Classroom implications of Educational Psychology**	**–**	**05M**
4.	**Content**	**-**	**40M**
5.	**Methodology**	**-**	**20M**
	Total	**-**	**80 M**

PART - I

I. General Knowledge And Current Affairs (Marks: 10)

PART - II

II. Perspectives In Education (Marks: 05)

1. **History of Education :**
   - The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
   - Education in Pre Independent era - Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944).
   - Education in Post Independent era - Mudaliar Commission (1952-53), Kothari Commission (1964-66), Ishwarbhai Patel committee (1977), NPE-1986, POA-1992
2. **Teacher Empowerment:**
   - Need, interventions for empowerment, Professional code of conduct for teachers, Teacher motivation, Professional development of Teachers and Teacher organizations, National / State Level Organizations for Teacher Education, Maintenance of Records and Registers in Schools.
3. **Educational Concerns in Contemporary India:**
   - Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities.
   - Economics of Education, Education as Human Capital, Education and Human Resource Development, Literacy - Saakshar Bharat Mission.
   - Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
   - Inclusive Education - Classroom Management in Inclusive Education
   - Role of Education in view of Liberalization, Privatization and Globalization
   - Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya

Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs, Model Schools.

- Incentives and special provisions – Mid Day Meals, Free Books, Scholarship, Awards, Welfare Hostels, Transportation.
- Current Trends in Education – Badi pelusthondi, Badi ki Vasta, Mavuru – Mana Badi, Vidyanjali, Swacha Patasala, Inspire, Kalavutsav.

4. **Acts / Rights:**
   - Right of Children to Free and Compulsory Education Act - 2009
   - Right to Information Act - 2005
   - Child Rights
   - Human Rights.

5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

PART - III

III. Classroom implications of Educational Psychology – 05Marks

1. **Individual differences:** Inter and intra individual differences, meaning, nature and theories of intelligence with special emphasis to multiple intelligence, IQ, assessment of intelligence, EQ, Creativity. Attitude, Aptitude, Interest, Habit and its Influence on Intelligence – Class room implementation.
2. **Learning:** Theories and approaches of learning, learning curves, Factors, Phases, Dimensions of learning, Types of learning, Transfer of learning. Memory, Forgetting, Learning and assessment– Class room implementation.
3. **Personality:** Nature, characteristics and theories of personality, factors of Personality, Assessment of Personality, Mental health, Adjustment, Stress – nature, Symptoms and management. Emotional intelligence, Management of emotions – Class room implementation.

PART - IV

IV. Content: (Marks: 40)

Note: 6 कक्ष्यातः 12 कक्ष्यापर्यन्तं प्राच्य / संयुक्त पाठशालासंस्कृतपाठ्यपुस्तेकषु विद्यमानांशाः पाठ्येतरांशाः च ।

कवयः - काव्यम् - रचयितारः - रचनाः स्तोत्राणि शास्त्रग्रन्थाः - कर्तारः (आलङ्कारिक - न्याय व्याकरणेत्यादि ग्रन्थाः।) इत्यादयः।

रचनाप्रक्रियाः इतिहास - पुराण - काव्य - नाटक - कथा - आत्मकथा - गीतम् - इत्यादि प्रक्रियानां स्वरूपविवरणम् - ।

वेदवाङ्मयम् - वेदाः - वेदाङ्गानि - उपनिषदः।

भाषास्वरूपम् - भाषोत्पत्ति विषयकवादाः - भाषाकुटुंबम् - वैदिकलौकिक संस्कृतयोः साम्यं वैषम्यं च।

साहित्यविमर्शः - काव्यप्रयोजनं - काव्यलक्षण - काव्यभेदाः - शैली - अलङ्कारसांप्रदायाः - रसवादाः च।

संस्कृतव्याकरणम् - संज्ञाप्रकरणम्
संधिप्रकरणम्
समासप्रकरणम्
स्त्रीप्रत्ययप्रकरणम्
विभक्त्यर्थप्रकरणम्

भाषांशाः समानार्थकाः
विरुद्धार्थकाः
छन्दः
अलङ्कारः
प्रत्ययाः
विभक्तिः
क्रियापदः
व्युत्पत्यर्थाः
संख्यावाचकाः
प्रयोगविपरिणामः इत्यादयः

पठनावगमनम् परिचित/अपरिचत पद्य/गद्यांशाः - तदाधारितप्रश्नाः।

V. Methodology (20 Marks)

पाठ्यक्रमे संस्कृतस्य महत्वम् - स्थानम्।
संस्कृतशिक्षणस्य उद्देश्यानि - सामान्यसिद्धान्ताः - शिक्षणापद्धतीः।
पाठ्यक्रमयोजना - पाठ्यग्रन्थः।
विद्यासांकेतिक - सहपाठ्यकार्यक्रमाः।
विद्यालयव्यवस्था।
साहित्यप्रक्रियाः बोधनापद्धतीः।
शिक्षणाकौशलानि।
मूल्याङ्कनम् - परीक्षा च।

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training

DSC - SCHOOL ASSISTANT SYLLABUS – SOCIAL STUDIES

1.	**G.K & current Affairs -**	-	**10M**
2.	**Perspectives in Education**	–	**05M**
3.	**Classroom implications of Educational Psychology**	–	**05M**
4.	**Content**	-	**40M**
5.	**Methodology**	-	**20M**
	Total	-	**80 M**

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I. General Knowledge And Current Affairs (Marks: 10)

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1. **History of Education :**
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2. **Teacher Empowerment:**
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3. **Educational Concerns in Contemporary India:**
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   - Economics of Education, Education as Human Capital, Education and Human Resource Development, Literacy - Saakshar Bharat Mission.
   - Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
   - Inclusive Education - Classroom Management in Inclusive Education
   - Role of Education in view of Liberalization, Privatization and Globalization

- Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs, Model Schools.
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- Current Trends in Education – Badi pelusthondi, Badi ki Vasta, Mavuru – Mana Badi, Vidyanjali, Swacha Patasala, Inspire, Kalavutsav.

4. **Acts / Rights:**
    - Right of Children to Free and Compulsory Education Act - 2009
    - Right to Information Act - 2005
    - Child Rights
    - Human Rights.

5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

PART - III

III. Classroom implications of Educational Psychology – 05Marks

1. **Individual differences:** Inter and intra individual differences, meaning, nature and theories of intelligence with special emphasis to multiple intelligence, IQ, assessment of intelligence, EQ, Creativity. Attitude, Aptitude, Interest, Habit and its Influence on Intelligence – Class room implementation.
2. **Learning:** Theories and approaches of learning, learning curves, Factors, Phases, Dimensions of learning, Types of learning, Transfer of learning. Memory, Forgetting, Learning and assessment– Class room implementation.
3. **Personality:** Nature, characteristics and theories of personality, factors of Personality, Assessment of Personality, Mental health, Adjustment, Stress – nature, Symptoms and management. Emotional intelligence, Management of emotions – Class room implementation.

PART - IV

IV. Content: (40 Marks)

Classes VI – X Syllabus:

Theme - I: Diversity on the Earth

Reading, Making and Analysis of Maps -different types of maps - directions -scale - conventional symbols use in maps-measuring heights , distances - Contour Lines- Representation of relief features on maps- uses of maps- past and present-Maps Down the Ages-reading of thematic maps-atlas-globe-a model -the earth grid system- Using an atlas to find latitude and longitude of places, time.

Our Universe, the Sun and the Earth – energy form sun- temperature - The evolution of the Earth- earth movements – seasons- regions on earth-condition -Movements of the Earth's-crust - Internal Structure of the Earth- Realms of the earth

Lithosphere- 'first order' landforms- oceans and continents -diverse features - Second Order landforms-mountains, plains and plateaus- diverse people living in different kinds of landforms in India and Andhra Pradesh -plate tectonics-Volcanoes-earth quakes –disaster management- Mining and minerals- new trends in mining and minerals.- renewable and non-renewable –Indian relief features –location-geological background-major relief divisions in India-and Andhra Pradesh

Hydrosphere- Hydrological cycle - water sources - oceans - relief of the oceans - salty-movements - oceans as resouse waves, tides, currents - ocean as resource – Indian, Andhra Pradesh river and water resources –ground water-tanks-recharging ground water-floods- Rational and equitable Use of water-Andhra Pradesh water , land and trees protection act .

Atmosphere- structure of atmosphere Pressure Belts and Planetary Winds- Carioles effect-winds- weather and climate –factors which influence weather and climate –seasons in india-types of rainfall- Global Warming and Climate Change-anthropological global warming - IPCC- Impact of climate change on India-

Biosphere- Natural vegetation- different kinds of forests- human society and environment-pollution and effects-depletion of resources- using and protesting forests

Theme - II: Production Exchange and Livelihoods

From Gathering Food to Growing food – The Earliest People - Agriculture in Our Times - Trade in Agricultural Produce -Trade in Agricultural Produce – agricultural in India, Andhra Pradesh-types of farming-cropping season-crops-importance of agriculture –green revolution –effects- dry land agriculture –Food security – nutrition status –PDS-sustainable development and equity -handicrafts and handlooms- industrial revolution- beginning of industrial revolution- Sources of Energy and Industrial Development-urbanisation and slums-production in a factory Livelihood and Struggles Urban Workers - Minerals and Mining - Impact of Technology on Livelihoods –technology changes in agricultural, industrial ,service sectors -importance of transport system –transport system in India, traffic education – Andhra Pradesh- money and banking- finance literacy-credits and finance system- prices and cost of living - Role of government in regulating prices- The Government Budget and Taxation –direct and indirect taxes-industries in India-new policies for industries -service activates in India -growth and development-comparing of different countries and states-sectors of economy-employment- organized and unorganized sectors –employment in India-population –people and settlement-urbanisation in India , urbanisation problems-people and migration –types of migrations –village economy –Globalization –factors –impact-fair globalization-other issues.

Theme -III: Political Systems and Governance

Community Decision Making in a Tribe - Emergence of Kingdoms and Republics – Mahajanapadas- First Empires – mouryan empire- ashoka –kingdoms and empires in the deccan- New Kings and Kingdoms(between seventh and twelth centuries)-mahamud ghazni – the cholas and other- The Kakatiyas - Emergence of a Regional Kingdom- The Kings of Vijayanagara-srikirshna devaraya-Mughal Empire- Establishment of British Empire in India-the revolt 1857-after revolt-british rule in india- Landlords and Tenants under the British and the Nizam - National Movement - The Early Phase 1885-1919 -National Movement - The Last Phase 1919-1947 –national movement in India – partition – integration of states-Independent India 1947-77 – state reorganisation-social and economic change-foreign policy – wars –emergency- independent India 1977-2000

Changing cultural tradition in Europe- the ancient , medieval world in Europe-renaissance-humanism-realism-the new concept of human beings-debates within Christianity –Beginning of the modern science-exploration of sea routes –democratic and nationalist revolution in 17^{th},18^{th} and 19^{th} centuries – the glorious revolution- American independence –french revolution- rise of nationalism in Europe-the revolts 1830-1848 –Germany unification-unification of Italy-industrialisation and social change –social protest movements – luddism-socialism-women movements – colonialism in latin America , Asia , Africa- impact of colonialism in India-adivasi revolts-the British governament's industrial policy-labourers' stuggles-the world between 1900-1950-world war I and world war II- causes – the treaty of Versailles – the league of nationas-consequences of the world war-Russian socialist revolution-the great depression- Nazism –post war world and India – UNO-Cold war-non alignment movement- the growth of nationalism in the middle east-peace movement and collapse of USSR-National liberation movements in the colonies .

Democratic Government - Village Panchayats - Local Self – Government in Urban Areas – Making of Laws in the State Assembly-Implementation of Laws in the District - The Indian Constitution - the making of independent India 's constitution –Parliamentary system – federalism- the constitution today- Elections system in India – electoral literacy- Parliament and Central Government - Law and Justice –Supreme court –high court- other courts – worldly expansion of democracy- the democracy an evolving idea.

Theme -IV: Social Organisation and Inequities

Diversity in Our Society - Towards Gender Equality –caste discrimination and the struggle for equalities –livelihood and struggles of Urban workers –workers rights –abolishment of zamindari system-poverty-Rights –Human rights and fundamental rights- Women rights , protection acts – children rights – RTI-RTE-legal service authority- Lok Adalat –consumer rights - social movements in our time

Theme - V: Religion and Society

Religion and Society in Early Times – hunter- gatherers-early farmers and herdrers-Indus valley civilisation –Vedas- Jainism ,Buddhism-flok religion-bhakthi-nathpanthis

,siddhas,yogis.- sufism -kabir – gurunank-Devotion and Love towards God –Hindu religion-Bhakti movement-Christianity-Islam- the belief in supreme god-social and religious reform movements-Christian missionaries and oriental scholars-Bramha samaj- Arya Samaj-Swami Vivekananda –reforms and education among muslims –social reformers in andrapradesh-social reforms and caste system-narayana guru-jyothirao phule – dr br ambedker-understanding Secularism-

Theme -VI: Culture and Communication

Language, Writing and Great Books - Sculptures and Buildings –Performing Arts and Artistes in Modern times-burrakatha – tholubommalata –bharatanatyam-Film and print media-role of media in freedom movement- sports Nationalism –other games and their status.

Intermediate Syllabus:

Geography:

General Geography-Definition and scope of Geography – Branches of Geography-Geography as an integrating Discipline and as Spacial Science with physical, biological and social sciences.
Solar System-Origin and Evolution of solar system-Rotation and Revolution of the Earth and their effects-Latitudes and Longitudes-Standard Time and International Date line.
The Earth - Interior of the Earth-Wegner's theory of continental drift -Major Rock types and their characteristics.
Geomorphology -Major landforms: Mountains, Plateaus and Plains-Geomorphic Process: Weathering - Physical and Chemical Weathering-Landforms associated with wind and river – Erosional and depositional.
Climatology -Climate: Elements of weather and climate-Atmosphere: Composition and structure of atmosphere -Insolation: Insolation and Heat Budget of the Planet Earth-Temperature: Factors influencing Temperature, Vertical and horizontal distribution of temperature Pressure- Global pressure belts WindsPlanetary winds, Seasonal and Local winds-Precipitation: Forms and types of rain fall (Convectional, Orographic and Cyclonic rain fall).
Bio geography -Biomes of the world- Equatorial, Tropical and Temporate -Biodiversity and Conservation -Concept of Ecosystem and Ecological Balance- Oceanography, Hydrology and Natural hazards
Oceanography-Divisions of the Ocean floor- Continental shelf, Continental slope, Deep Sea plains and Ocean deeps-Ocean Temperatures- Vertical and horizontal distribution-Ocean Salinity Definition, vertical and horizontal distribution-Oceanic Movements: Waves, Tides and Currents, (Currents of Atlantic, Pacific and Indian Ocean)
Hydrology-Elements of Hydrological cycle: Precipitation, evaporation, evapo-transpiration, run off, infiltration and recharge -Hydrological Cycle.
Natural Hazards-Causes and Spatial distribution of floods, droughts, cyclones, Tsunamis, Earthquakes and landslides Global Warming and its consequences-Disaster Management in India-Human Geography : Definition, Content and scope- Man and Environment: Definition, Content, Classification of environment-Environmental impact World Population : Growth, Factors influencing, density and distribution
Human activities - Primary, Secondary and tertiary activities-Resources - Definition, Classification and Conservation-Agriculture -Definition, Types, food crops (Rice and wheat)

Non food crops (Cotton, Sugarcane) and Plantation crops-(Rubber, tea and coffee) their Significance, Conditions - for cultivation, production and distribution.
Definition and Classification (Metallic - Iron), non Metallic – bauxite and (fuel minerals - coal and petroleum) Industries - Location factors, types of industries -Agro – based (Cotton textiles) Forest based (Paper mills) -Mineral based (Iron and steel) - Chemical based (Fertilizers)- Transportation -Road ways, Railways, Water ways and Air ways - Rail ways- Intensive net work rail way, Regional rail-ways and Trans continental railways - Water ways- Mjor sea ports: London, San Francisco-Reo De Janeiro, Cape Town, Kolkata and Sydney- Major Air ports- Tokyo, Paris, Chicago, Bogota and -Wellington
Physical features of India - Major features - Northern mountains, Indo – Gangetic-plains, Peninsular plateau of India and coastal plains- Major rivers of India - Perennial rivers- Indus, Ganges and Brahmaputra-Non Perennial rivers- Narmada, Tapati, Mahanadi, -Godavari, Krishna, Pennar and Cauvery - Climate of India - Cold weather season: Temperature Rainfall & Pressure distribution Hot weather season- Temperature, Rainfall & Pressure distribution South west monsoon season- Temperature, Rainfall & Pressure distribution North east monsoon season: Temperature, Rainfall & Pressure distribution-Natural vegetation of India- Types of vegetation based on rainfall and their-distribution. Evergreen forest, deciduous forest, scrub -forest, & Thorny forest -Soils - Definition, factors for formation, types and - their distribution.
Population- Growth trends from 1901 to 2001, Distribution based-on density, problems of high population- Irrigation-Types of irrigation: canals, wells and tanks. Major -multipurpose projects. Bakranangal, Hirakud, -Damodar valley corporation and Nagarjuna Sagar- Agriculture: Cropped area, production and distribution of -selected crops: Rice, Wheat, Millets, Coffee, Tea, Sugarcane, Cotton, Jute and tobacco; Problems of Indian agriculture.
Minerals- Production and distribution of coal, petroleum, iron, mica and manganese, bauxite. Industries- Location factors growth and distribution of iron and steel, cotton textile and ship building industries- Transportation-Means of Transport – Road ways, Rail ways, Water - ways and Air ways; Major ports of India – Mumbai, -Cochin, Kandla, Kolkata, Visakhapatnam and Chennai.
Geography of Andhra Pradesh: Location, Physiography and Climate, Population.

History:

What is History: Definition - Scope – Sources – Historiography – Relationship with other Social Sciences – Impact of Geography on history - Relevance of History.
Ancient Civilizations and Culture : Pre Harappan Cultures - Harappan Civilization – Script, town planning, society, economy and culture - Vedic age and Post Vedic Culture.
Early States, Empires and Economy : Early States – 16 Mahajanapadas - Rise of Magadha – Economy and Agriculture – urbanization.
Early Societies, and religious movements: Early Societies – Social differences – Religious movements – Jainism – Buddhism and other sects Ajjivikas and Lokayats.
Polity, Economy, Society and Culture between 3rd to 7th Century A.D. : Mauryas - Kushanas – Guptas – Pushyabhuties – Origin of feudalism – Polity, Society, Economy and Culture.
Deccan and South India up to 8th A.D: Sangam age – Satavahanas – Pallavas – Chalukyas – Rastrakutas – Cholas – Polity, Society, Economy and culture.
Age of Delhi Sultanate: Sources/Travellors Accounts - Arab Invasions – Turkish invasions – Delhi Sultanate – Polity, Economy, Society and Culture.
Age of Mughals: Chronicles/Sources – Mughal rule – Babur, Humayun, Shershah, Akbar, Jahangir, ShahJahan and Aurangazeb - Polity, Economy, Society and culture - Disintegration - Maratas, Sikhs.

Bhakti and Sufi Traditions 8 A.D. 16 Century A.D: Prevailing Religious Traditions and beliefs in the Society – Bhakti Saints and their Preachings – Sufism – Main features and their impact.
Deccan and South India 8th A.D – 16 the A.D : Sources - Kakatiyas – Vijyanagara – Bahamanis – Qutbshahis and Asafjahis – a brief survey.
India under the Colonial Rule : Sources - Portuguese – Dutch – French – English East India Company – Era of Governor Generals and their Polices – Reforms of Viceroys – 1857 Mutiny.
Indian National Movement: Background to National Movement, Socio-religious movement – rise of Nationalism – Vandemataram movement – Home rule movement – Emergence of Mahatma Gandhi and leadership – Revolutionary movement, Subhash Chandra Bose – Poona Pact Quit India movement – Partition of India – Emergence of Independent India.
The Modern World- Beginning of Modern Age, Renaissance, Development in Science, The Reformation Movement, Rise of Nation States, Struggle against Absolute Monarchies - Capitalism and Industrial Revolution -The Revolutionary Movements -The Glorious Revolution, The American war of Independence, The French Revolution of 1789 - .Nationalist Movements: Rise and fall of Napoleon, French Revolution of 1830 and the 1848 Revolt, Unification of Germany and Italy, Socialist Movements – Rise of Working class, Paris Commune of 1871
Imperialism: Factors in the rise of Imperialism, Forms and Methods of Imperialism, Scramble for Africa and Asia
Contemporary World: The First World war, League of Nations, The Russian Revolution of 1905 and 1917 -The World upto World War II: Rise of Fascism and Nazism, Militarism in Japan, U.S.A. and U.S.S.R. after World War I, Turkey after World War I, Failure of League of Nations, Spanish Civil war, World war II, The Nationalist Movements in Asia and Africa, Emergence of Latin America
The World after World War II: Formation of Military Blocks, Role of independent Nations of Asia and Africa in the World Affairs, Non-Alignment Movement, Role of UNO in preserving World Peace, Problems of Disarmament and Nuclear Weapons, Prominent Personalities of the World.

Civics:

Scope and Significance of political Science - Introduction to Civics and Political Science, Origin and Evolution, Meaning, Definitions, What do we study? Why do we study?
State - State – Meaning, Definitions, Elements, Relation of state with other Institutions – Society, Association, Government.
Nationalism - Nation, Nationality, Nationalism, Factors contributing for Nationality, Is India a Nation? Meaning, Forms (Traditional and modern)
law -Meaning, Definitions, Classification, Law and morality, Rule of Law. Liberty and Equality – Meaning, Definitions, Types, Safeguards, Liberty – Equality.
Rights and Responsibilities– Meaning, Definitions, functions Forms, Relationship between Rights and Responsibilities, Human Rights
Justice - Justice – Meaning, Forms of Justice, Social Justice.
Citizenship - Meaning, Definitions, Methods of Acquiring, Citizen – Alien , Loss of Citizenship, Hindrances to Good Citizenship, Universal Citizenship
Democracy- Meaning, Definitions, features, types, merits, devices, future
Secularism -Meaning, Secular State, Western Model, Indian Model, Why India was made a Secular State? Criticism of Indian Secularism
Constitution– Meaning, Definitions, features, Classification

Government - Unitary, Federal, Parliamentary, Presidential, Theory of Separation of Powers, Organs of Government

Indian Constitution: Indian National Movement- Government of India Acts – 1909, 1919 & 1935-

Salient features of Indian Constitution

Fundamental Rights &Directive Principles of State Policy- Fundamental Rights- Directive Principles of state Policy- Fundamental Duties

Union Government- Union Executive – President of India - Vice – President of India - Prime Minister & Council of Ministers

Indian Parliament - Lok Sabha-Composition – Powers and functions- Rajya Sabha: Composition – Powers and functions

Parliamentary Committees- Public Accounts Committee – Estimates -Committee – Committee on Public Undertakings

Union Judiciary - Supreme Court of India – Composition- Powers and Functions of Supreme Court -of India - Judicial Review

State Government- State Executive – Governor- Powers and Functions-Chief Minister - Powers and Functions- Council of Ministers

State Legislature-Legislative Assembly- Composition – Powers and Functions- Legislative Council-Composition – Powers and Functions - Legislative Committees: Public Accounts Committee – Estimates-Committee and Ethics Committee

State Judiciary-High Court – Composition- Powers and Functions of High Court- District Courts: Composition – Powers and Functions.

Union – State Relations - Legislative Relations-Administrative Relations- Financial Relations

Local Government-Rural Local Government - Panchayati Raj Institutions – 73rd Constitution Amendment Act- Urban Local Government: Municipalities - Municipal Corporation – 74th Constitution Amendment Act- District Collector : Role in Local Governments

India's Foreign Policy - Determinants of Foreign Policy- Basic features of India's Foreign Policy-

South Asian Association for Regional Cooperation (SAARC)

United Nation Organization (UNO)-Origin of UNO-Principal Organs of UNO- Achievements and failures of UNO

Contemporary Trends and Issues- Globalization- Terrorism-Corruption.

Economics:

Origin and meaning of Economics - Definitions of Economics; Adam Smith, Alfred Marshall, Lionel Robbins, Paul Samuelson, & Jocob Viner- Concept of Economics – Micro & Macro Economics Deductive and Inductive Method, Static and Dynamic Analysis, Positive and Normative Economics. Goods: (Free, Economic, Consumer, Producer, and Intermediary), Wealth, Income, Utility, Value, Price, wants and welfare.

Theory of Consumption - Cardinal and Ordinal Utility, the law of Diminishing Marginal Utility – Limitations – Importance; law of Equi-Marginal Utility Limitations and – Importance of the Law, Indifference Curve Analysis – Properties and Consumer's Equilibrium.

Theory of Demand - Meaning – Demand Function – Determinants of Demand, Demand Schedule – Demand Curve, Law of Demand, Exceptions to Law of Demand - Causes for the downward slope of the demand curve, Types of Demand – Price Demand, Income Demand, and Cross Demand- Elasticity of Demand – Meaning and Types – Price Elasticity, and Income Elasticity and Cross Elasticity – Price Elasticity-Types; Measurement of Price

Elasticity of Demand- Point Method. Arc Method, Total Outlay Method. Determinants of Elasticity of Demand; Importance of Elasticity of Demand.

Theory of Production - Meaning - Production Function – Factors of Production; Short-run and Long-run Production Function; Law of variable proportions - Law of returns to scale; Economies of Scale - Internal and External- Supply – Supply Function - Determinants of Supply — Law of Supply- Cost Analysis – Basic Concepts of Costs- (Money, Real, Opportunity, Fixed and Variable, Total, Average and Marginal costs)- Revenue Analysis – Revenue under perfect and imperfect competition.

Theory of Value - Meaning and Classification of Markets – Perfect competition – features – price determination- Short-run and Long-run equilibrium of a firm and Industry- Imperfect Competition – Monopoly – Price Determination – Price-Discrimination-Monopolistic Competition- Features- Meaning of Oligopoly – Duopoly.

Theory of Distribution - Determination of Factor Prices – Marginal Productivity Theory - Rent – Ricardian theory of Rent – Modern theory - Quasi Rent – Transfer earnings - Wages – Meaning and types of wages – Money and Real wages - Interest- Meaning – Gross and Net interests - Profits – Meaning – Gross and Net profits.

National Income : Definitions of National Income and Concepts- Measurement of National Income – Census of Product Method – Census of Income Method – Census of Expenditure Method- Methods of Measuring National Income in India; Problems and importance

Macro Economic Aspects - Classical theory of Employment –J.B. Say Law of Markets-Limitations – J.M. Keynes Effective Demand- Public Economics - Public Revenue – Public Expenditure – Public debt – Components of Budget.

Money, Banking and Inflation - Money – Definitions and Functions of money – Types of Money - Banking – Commercial Banks – Functions; Central Bank – Functions – Reserve Bank of India – Net Banking- Inflation – Definitions – Types – Causes and Effects of inflation – Remedial Measures.

Statistics for Economics - Meaning, Scope and Importance of Statistics in Economics with Diagrams (Bar diagrams and Pie diagrams)-Measures of central tendency – Mean, Median, Mode.

Economic Growth And Development - Differences Between Economic Growth and Development classification of the world countries - Indicators of Economic development - Determinants of Economic Development - Characteristic features of Developed Countries - Characteristic features of Developing countries with special reference to India

Population and Human Resources Development - Theory of Demographic Transition - World Population - Causes of rapid Growth of population in India - Occupational distribution of population of India - Meaning of Human Resources Development - Role of Education and Health in Economic Development- Human Development Index (HDI)

National Income - Trends in the growth of India's National Income - Trends in distribution of national income by industry Origin - Share of Public Sector and Private Sector in Gross Domestic Product - Share of Organised and Un-organised Sector in Net Domestic Product - Income Inequalities - Causes of Income Inequalities - Measures to control income inequalities -Unemployment in India – Poverty - Micro Finace-Eradication of Poverty

Agriculture Sector-Importance of agriculture in India - Features of Indian agriculture - Agriculture Labour in India - Land utilization pattern in India - Cropping pattern in India - Organic Farming -Irrigation facilities in India - Productivity of agriculture - Land holdings in India - Land reforms in India - Green Revolution in India - Rural credit in India - Rural Indebtedness in India - Agricultural

Marketing - Industrial Sector - Significance of the Indian Industrial Sector in Post –Reform Period -Industrial Policy Resolution 1948 - Industrial Policy Resolution 1956 - Industrial Policy Resolution 1991 - National Manufacturing Policy- Disinvestment - National

Investment Fund (NIF) -Foreign Direct Investment -Special Economic Zones (SEZs) - Causes of industrial backwardness in India -Small Scale Enterprises (MSMEs) - Industrial Estates - Industrial Finance in India - The Industrial Development under the Five Year Plans in India.

Tertiary Sector - Importance of Services Sector -India's Services Sector - State-Wise Comparison of Services - Infrastructure Development - Tourism - Banking and Insurance - Communication -Science and Technology - Software Industry in India

Planning And Economic Reforms - Meaning of Planning -NITI Ayog -Five Year Plans in India - XII Five Year Plan - Regional Imbalances - Role of Trade in Economic Development - Economic Reforms in India - GATT – WTO

Environment and Sustainable Economic Development - Environment - Economic Development -Environment and Economic Linkages. - Harmony between Environment & Economy

Economy Of Andhra Pradesh - History of Andhra Pradesh - Characteristic features of A.P. Economy -Demographic features - Occupational distribution of labour - Health Sector - Education -Environment - Agricultural sector - Industrial sector - Service and Infrastructure sector - Information and Technology - Tourism -Andhra Pradesh and Welfare Programmes/ Schemes

Economic Statistics - Measures of Dispersion - Definitions of Dispersion - Importance of Measuring Variation -Properties of a good measure of variation -Methods of Studying Variation - Measures of Dispersion for average - Lorenz Curve - Correlation -Index Numbers - Weighted Aggregation Method.

V. Methodology (Marks: 20)

1. **Aims and objectives of learning Social Sciences**

   - values through Social Sciences - learning objectives and illustrations - learning objectives in constructivist approach - Academic Standards

2. **School curriculum and resources in Social Sciences**

   - NCF-2005, RTE-2009, SCF-2011 - syllabus – Learning Resources.

3. **Social Sciences as on integrating area of study: Context and concerns**

   - Distinguishing between Natural and Social Sciences - Social Studies and various Social Sciences -contributions of some eminent Social Scientists

4. **Approaches and strategies for learning Social Sciences**

   - collaborative learning approach - 5E learning model - problem solving approach - planning -concept mapping

5. **Community Resources and Social Sciences Laboratory**

6. **Tools and techniques of assessment for learning: Social Sciences**

7. Evaluation - CCE - assessment framework - assessment learning of students with special need

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training
DSC – SCHOOL ASSISTANT SYLLABUS - TAMIL

1.	**G.K & current Affairs -**	-	**10M**
2.	**Perspectives in Education**	–	**05M**
3.	**Classroom implications of Educational Psychology**	–	**05M**
4.	**Content**	-	**40M**
5.	**Methodology**	-	**20M**
	Total	-	**80 M**

PART - I

I. General knowledge and current affairs (marks: 10)

PART - II

II. Perspectives in education (marks: 05)

1. **History of Education :**
   - The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
   - Education in Pre Independent era - Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944).
   - Education in Post Independent era - Mudaliar Commission (1952-53), Kothari Commission (1964-66), Ishwarbhai Patel committee (1977), NPE-1986, POA-1992
2. **Teacher Empowerment:**
   - Need, interventions for empowerment, Professional code of conduct for teachers, Teacher motivation, Professional development of Teachers and Teacher organizations, National / State Level Organizations for Teacher Education, Maintenance of Records and Registers in Schools.
3. **Educational Concerns in Contemporary India:**
   - Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities.
   - Economics of Education, Education as Human Capital, Education and Human Resource Development, Literacy - Saakshar Bharat Mission.
   - Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
   - Inclusive Education - Classroom Management in Inclusive Education
   - Role of Education in view of Liberalization, Privatization and Globalization

- Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs, Model Schools.
- Incentives and special provisions – Mid Day Meals, Free Books, Scholarship, Awards, Welfare Hostels, Transportation.
- Current Trends in Education – Badi pelusthondi, Badi ki Vasta, Mavuru – Mana Badi, Vidyanjali, Swacha Patasala, Inspire, Kalavutsav.

4. **Acts / Rights:**
   - Right of Children to Free and Compulsory Education Act - 2009
   - Right to Information Act - 2005
   - Child Rights
   - Human Rights.

5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

PART - III

III. Classroom implications of Educational Psychology – 05Marks

1. **Individual differences:** Inter and intra individual differences, meaning, nature and theories of intelligence with special emphasis to multiple intelligence, IQ, assessment of intelligence, EQ, Creativity. Attitude, Aptitude, Interest, Habit and its Influence on Intelligence – Class room implementation.
2. **Learning:** Theories and approaches of learning, learning curves, Factors, Phases, Dimensions of learning, Types of learning, Transfer of learning. Memory, Forgetting, Learning and assessment– Class room implementation.
3. **Personality:** Nature, characteristics and theories of personality, factors of Personality, Assessment of Personality, Mental health, Adjustment, Stress – nature, Symptoms and management. Emotional intelligence, Management of emotions – Class room implementation.

PART - IV

IV. Content : 40 Marks

1. **6-ஆம் வகுப்பு முதல் மேனிலை வகுப்பு வரை உள்ள ஆந்திர பிரதேச பாடப்புத்தகத்தில் உள்ள பாடப்பொருள்.**

   ஆசிரியர் குறிப்பு - பின்னனி - நோக்கம் - முதல் நூல்கள் - சிறப்பு அம்சங்கள் - முன் கருத்து - வாழ்க்கை குறிப்பு - பாடப்பொருள் கருத்துகள் - கல்வித்திறன்கள்.

2. **சொல்லாக்கம் :**

அருஞ்சொற்பொருள் – இருபொருள் – பலபொருள் குறித்த ஒரு சொல் – ஒரு பொருள் குறித்த பல சொற்கள் – மரபுத்தொடர் – பழமொழிகள் – வழக்கு – வழூஉச் சொற்கள் – தொகைச் சொற்கள்

3. **மொழித் திறன்கள் :**

புணர்ச்சி – வேற்றுமை – பிறமொழிச் சொற்கள் – வாக்கியங்கள் – தொடர்கள் – வினா விடை – பெயர் – வினை – பதம் – வல்லினம் மிகும்–மிகா பொருள் – இலக்கணக் குறிப்பு

4. **தமிழ் இலக்கிய வரலாறு :**
5. **தமிழ் மொழி வரலாறு :**

பேச்சு மொழி – எழுத்து மொழி – மொழியின் தோற்றம் – திராவிட மொழியினம் – கடன் வாங்கல் – மரூஉ – ஒலிக் குறிப்பு – கிளை மொழி – பொது மொழி – போலச் செய்தல் – வழக்கம் – இலக்கணம் – மொழியின் நிலை

6. **இலக்கிய திறனாய்வு :**
7. **குழந்தை இலக்கியம் மற்றும் இலக்கணம் :**

குழந்தை இலக்கணம் (அடிப்படை இலக்கணம்) திணை, பால், எண், இடம், காலம், மாத்திரை, வழு, போலி, இரட்டைக் கிளவி, அடுக்குத்தொடர்.

யாப்பின் உறுப்புகள் – அணி – விளக்கம் – அடையாளம் காண வகைகள்

*** மெதடாலஜி ***

V. தமிழ் மொழி கற்பித்தல் முறைகள் 20 Marks

1. மொழி பல்வேறு கருத்துகள்.
2. மொழித் திறன்கள்.
3. திட்டமிடுதல் பாடப் புத்தகங்கள்.
4. கல்வி தொழில்நுட்பவியல் – துணை கல்விச் செயற்பாடுகள்.
5. இலக்கிய செயல்முறைகள் – கற்பித்தல் முறைகள்.
6. மதிப்பீடு மற்றும் தேர்வுகள்.

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DSC – SCHOOL ASSISTANT SYLLABUS - TELUGU

1.	**G.K & current Affairs -**	**-**	**10M**
2.	**Perspectives in Education**	**–**	**05M**
3.	**Classroom implications of Educational Psychology**	**–**	**05M**
4.	**Content**	**-**	**40M**
5.	**Methodology**	**-**	**20M**
	Total	**-**	**80 M**

PART - I

I. General Knowledge And Current Affairs (Marks: 10)

PART - II

II. Perspectives In Education (Marks: 05)

1. **History of Education :**
   - The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
   - Education in Pre Independent era - Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944).
   - Education in Post Independent era - Mudaliar Commission (1952-53), Kothari Commission (1964-66), Ishwarbhai Patel committee (1977), NPE-1986, POA-1992
2. **Teacher Empowerment:**
   - Need, interventions for empowerment, Professional code of conduct for teachers, Teacher motivation, Professional development of Teachers and Teacher organizations, National / State Level Organizations for Teacher Education, Maintenance of Records and Registers in Schools.
3. **Educational Concerns in Contemporary India:**
   - Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities.
   - Economics of Education, Education as Human Capital, Education and Human Resource Development, Literacy - Saakshar Bharat Mission.
   - Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
   - Inclusive Education - Classroom Management in Inclusive Education
   - Role of Education in view of Liberalization, Privatization and Globalization
   - Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs, Model Schools.

- Incentives and special provisions – Mid Day Meals, Free Books, Scholarship, Awards, Welfare Hostels, Transportation.
- Current Trends in Education – Badi pelusthondi, Badi ki Vasta, Mavuru – Mana Badi, Vidyanjali, Swacha Patasala, Inspire, Kalavutsav.

4. **Acts / Rights:**
   - Right of Children to Free and Compulsory Education Act - 2009
   - Right to Information Act - 2005
   - Child Rights
   - Human Rights.

5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

PART - III

III. Classroom implications of Educational Psychology – 05Marks

1. **Individual differences:** Inter and intra individual differences, meaning, nature and theories of intelligence with special emphasis to multiple intelligence, IQ, assessment of intelligence, EQ, Creativity. Attitude, Aptitude, Interest, Habit and its Influence on Intelligence – Class room implementation.
2. **Learning:** Theories and approaches of learning, learning curves, Factors, Phases, Dimensions of learning, Types of learning, Transfer of learning. Memory, Forgetting, Learning and assessment– Class room implementation.
3. **Personality:** Nature, characteristics and theories of personality, factors of Personality, Assessment of Personality, Mental health, Adjustment, Stress – nature, Symptoms and management. Emotional intelligence, Management of emotions – Class room implementation.

PART – IV

IV. Countent (40 Marks)

1) 6వ తరగతి నుండి ఇంటర్మీడియట్ వరకు గల ఆంధ్రప్రదేశ్ ప్రభుత్వ తెలుగు వాచకాలలలోని అంశాలు:

(ఉపవాచకాలతో సహా) **40 మార్కులు**

కవికాలాదులు, నేపధ్యాలు, ఉద్దేశాలు, మూల గ్రంధాలు, విశేషాంశాలు, ఇతివృత్తాలు,

పాఠ్యాంశ విషయాలు మొ॥వి; విద్యాప్రమాణాలు.

2) పదజాలం:

అర్థాలు, పర్యాయపదాలు, నానార్థాలు, వ్యుత్పత్త్యర్థాలు, ప్రకృతి – వికృతులు, జాతీయాలు,

సామెతలు మొ॥వి.

3) భాషాంశాలు:

సంధులు, సమాసాలు, ఛందస్సు, అలంకారాలు, పారిభాషికపదాలు క్రియలు, వాక్యాలు మొ॥వి.

4) తెలుగు సాహిత్య చరిత్ర:

5) తెలుగు భాషా చరిత్ర:

తెలుగులో అన్యదేశాలు; మాండలికాలు; అర్థవిపరిమాణం; ధ్వనుల మార్పు

6) సాహిత్య విమర్శ:

7) బాల వ్యాకరణం:

సంజ్ఞ, సంధి, తత్సమ, ఆచ్చిక, సమాస, పరిచ్ఛేదములు.

8) ఛందస్సు: (వృత్తాలు, జాతులు, ఉపజాతులు)

యతులు, ప్రాసల రకాలు – ఛందో దర్పణం

V. తెలుగు బోధనా పద్ధతులు : 20 మార్కులు

బి.ఎడ్ తెలుగు బోధనా పద్ధతులు. (తెలుగు అకాడమీ ప్రచురణ)

1. భాష – వివిధ భావనలు
2. భాషానైపుణ్యాలు
3. ప్రణాళిక రచన – పాఠ్యగ్రంథాలు
4. విద్యా సాంకేతిక శాస్త్రం – సహపాఠ్య కార్యక్రమాలు
5. సాహిత్య ప్రక్రియలు – బోధనా పద్ధతులు
6. మూల్యాంకనం – పరీక్షలు

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training
DSC – SCHOOL ASSISTANT SYLLABUS - URDU

1.	**G.K & current Affairs -**	**-**	**10M**
2.	**Perspectives in Education**	**–**	**05M**
3.	**Classroom implications of Educational Psychology**	**–**	**05M**
4.	**Content**	**-**	**40M**
5.	**Methodology**	**-**	**20M**
	Total	**-**	**80 M**

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   - Health and Physical Education
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PART – IV

IV. Content (40 Marks)

I ۔ جماعت ششم تا انٹرمیڈیٹ کی ریاست آندھراپردیس کی طبع شدہ درسی کتابوں میں موجود مضامین ۔

A) ۔ شعراء و ادباء کی سوانح حیات ، ادبی کارنامے اور ان کے کرداروں کا جائزہ ۔

B) ۔ تصانیف ، اسباق کے مرکزی خیالات

C) ۔ ایوارڈس

II ۔ لفظیات :۔

A) ۔ معنی

B) ۔ مترادفات

C) ۔ ذومعنی

D) ۔ سابقے ، لاحقے

E) ۔ اضداد

F) ۔ محاورے

G) ۔ کہاوتیں ۔

III ۔ زبان شناسی :۔

A) ۔ مرکب الفاظ

B) ۔ علم عروض

C) ۔ متضاد الفاظ

D) ۔ جملے کی قسمیں ، اپنی نوعیت کے اعتبار سے فعل کی قسمیں ۔

IV ۔ اردو زبان کی تاریخ :۔

A) ۔ زبان کی ابتدا ، مفہوم ماہیت ارتقائی عوامل

B) ۔ زبان کی ابتدا اور مختلف نظریات

C) ۔ اقسام زبان

D) ۔ ہندوستانی دستور اور آندھراپردیش میں اردو کا مقام و موقف۔

V ۔ A) ۔ علم بیان

B) ۔ رموزو اوقاف

C) ۔ حروف شمسی و قمری

D) ۔ صنعتیں

E) ۔ غزل کے اجزاء

F) ۔ علم اعداد

G) ۔ تکرار لفظی

H) ۔ اصناف نثر و نظم

I) ۔ تذکیر و تانیث

J) ۔ فعل فاعل مفعول

V. Methodology (20 Marks)

اردو طریقۂ تدریس

A) ۔ زبان کی مہارتیں

B) ۔ اردو کے تدریسی مقاصد

C) ۔ معلم اردو اور تدریس

D) ۔ تدریس اور اسباق کا منصوبہ

F) ۔ نصابی اور ہم نصابی مشاغل

G) ۔ اندازۂ قدر

H) ۔ قومی کونسل برائے فروغ اردو نئی دہلی کی خدمات ۔

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training

DSC – LANGUAGE PANDIT SYLLABUS - HINDI

1.	**G.K & current Affairs -**	-	**10M**
2.	**Perspectives in Education**	–	**05M**
3.	**Classroom implications of Educational Psychology**	–	**05M**
4.	**Content**	-	**40M**
5.	**Methodology**	-	**20M**
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PART - III

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PART - IV

IV. Hindi Content (Marks: 40)

1. हिंदी साहित्य का इतिहास आदिकाल - भक्ति काल - रीतिकाल और आधुनिक काल।
2. आधुनिक साहित्य साहित्यिक विधाएँ प्रमुखवाद (छायावाद, प्रगतिवाद,प्रयोगवाद, रहस्यवाद आदि)
3. हिंदी भाषा का उद्‌भव और विकासः हिंदी राष्ट्र भाषा, राजभाषा और विश्वभाषा के रुप में - देश की एकता और हिंदी - देवनगरी लिपि।
4. हिंदी की बोलियाँ और उपभाषाएँ।
5. भारतीय काव्यशास्त्र परिभाषा - प्रयोजन और लक्षण - रस - छंद - अलंकार।
6. **भाषा तत्व और व्याकरणः** वर्णमाला (स्वर, व्यंजन भेद वर्णों का उच्चारण स्थान) **शब्दभेदः** (रूप परिवर्तन के अधार पर विकारी अविकारी शब्द व्युत्पत्ति के आधार पर रूढी,यौगिक, योग रूढ) उपसर्ग, प्रत्य, लिंग वचन, कारक - काल - संधि, समास, पर्यायावाची शब्द, विलोम शब्द, शब्द परिचय तत्सम, तद्‌भवदेशी, विदेशी, क्रिया - सकर्मक, अकर्मक प्रेरणार्थक क्रियाएँ - मुहावरे, लोकोक्ति, कहावत, विराम चिह्न।
7. हिंदी पाठ्य पुस्तकें (द्वितीय भाषा) छठवीं कक्षा से दसवीं कक्षा तक (उपवाचक और पठनहेतु साहित)

V. Methodology (Marks: 20)

1. (1) भाषा-अर्थ और स्वरुप
   (2) माध्यमिक स्तर पर हिंदी शिक्षण के उद्देश्य, प्रथम भाषा के रूप में, द्वितीय भाषा के रूप में।
   (3) भाषा की समास्या - त्रिभाषा सूत्र
2. (1) आदर्श हिंदी - अध्यापक के गुण
   (2) अच्छे शिक्षण की विशेषताएँ।
   (3) भाषा - शिक्षण की सामान्य सिद्धांत
   (4) भाषा - शिक्षण के सूत्र
   (5) भाषा - शिक्षण की प्रणालियाँ
   (6) भाषा - शिक्षण की विधियाँ।
3. (1) शिक्षण में भाषा - कौशलों का महत्व
   (2) भाषा कौशलों का विकासः सुनना - ध्वनि की उत्पत्ति ध्वनि और श्रवण का पारस्परिक संबंध। बोलना - शब्दोच्चारण - वाकयंत्र, शुध्दोच्चारण का अभ्यास - मैखिक अभिव्यक्ति - पाठशाल में वार्तालाप का अभ्यास पढना - विशेषताएँ - वाचन के प्रकार, वाचन संबंधी दोष और उपचार - लिखना - महत्व - नियम, विधियाँ - प्रकार, अक्षर विन्यास भाषा - कौशलों का समन्वय।
4. (1) शिक्षण उद्धेश्यों का वर्गीकरण
   (2) न्यूनतम अधिगम - स्तर
   (3) पाठ - योजना (गद्य, पद्य, व्याकरण, रचना, पत्र - लेखन)
   (4) इकाई - योजना
   (5) शिक्षण - उपकरण
   (6) भाषा शिक्षण पद्धतियों (प्रत्यक्ष,परोक्ष, खेल, डाल्टन सूक्षम शिक्षण आदि)
5. (1) पाठ्यक्रम
   (2) पाठ्यपुस्तक
   (3) पुस्तकालय
   (4) भाषा सहगामी क्रियाएँ
6. (1) मूल्यांकन की धारणा
   (2) उत्तम परीक्षा की विशेषताऐं।
   (3) उपलब्धि परीक्षा
   (4) निरंतर समग्र मूल्यांकन
   (5) उद्देश्य आधारित मूल्यांकन।
   (6) उपचारात्मक और निदानात्मक शिक्षण।

Government of Andhra Pradesh
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State Council of Educational Research & Training
DSC – LANGUAGE PANDIT SYLLABUS – KANNADA

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   - Right of Children to Free and Compulsory Education Act - 2009
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   - Child Rights
   - Human Rights.

5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

PART - III

III. Classroom Implications of Educational Psychology – 05marks

1. **Individual differences:** Inter and intra individual differences, meaning, nature and theories of intelligence with special emphasis to multiple intelligence, IQ, assessment of intelligence, EQ, Creativity. Attitude, Aptitude, Interest, Habit and its Influence on Intelligence – Class room implementation.
2. **Learning:** Theories and approaches of learning, learning curves, Factors, Phases, Dimensions of learning, Types of learning, Transfer of learning. Memory, Forgetting, Learning and assessment– Class room implementation.
3. **Personality:** Nature, characteristics and theories of personality, factors of Personality, Assessment of Personality, Mental health, Adjustment, Stress – nature, Symptoms and management. Emotional intelligence, Management of emotions – Class room implementation.

PART – IV

IV. Content (40 Marks)

- **3 ರಿಂದ 8 ನೇ ತರಗತಿಗಳ ಕನ್ನಡ ಪಠ್ಯಪುಸ್ತಕಗಳು, ಪೂರಕ ಪಾಠಗಳಗಳಲ್ಲಿನ ವಿಷಯಗಳು :**
  ಕವಿ - ಕಾಲಘಟ್ಟಗಳು, ಕಾವ್ಯಗಳು, ನಾಟಕ, ಸಣ್ಣ ಕತೆ, ಲಲಿತ ಪ್ರಬಂಧ, ಬಿರುದುಗಳು, ಪಾತ್ರಗಳು, ವಿಶೇಷ ಅಂಶಗಳು.

- **ಪದ ಸಂಪತ್ತು** - ಅರ್ಥಗಳು, ನಾನಾರ್ಥಗಳು,ಸಮನಾರ್ಥಕ ಪದಗಳು, ವ್ಯುತ್ಪತ್ತಿ ಅರ್ಥಗಳು, ತತ್ಸಮ - ತದ್ಭವ, ನುಡಿಗಟ್ಟುಗಳು ಮತ್ತು ಲೋಕೋಕ್ತಿಗಳು - ವಿವರಣೆ, ಗುರ್ತಿಸುವುದು.

- **ಭಾಷಾಂಶಗಳು :**
  ಸಂಧಿಗಳು, ಸಮಾಸಗಳು, ಛಂದಸ್ಸು (ಮಾತ್ರಾ ಛಂದಸ್ಸು, ವೃತ್ತಗಳು) ಶಬ್ದಾಲಂಕಾರ, ಅರ್ಥಾಲಂಕಾರ, ಪದ, ಧಾತು, ಪ್ರತ್ಯಯಗಳು ಮತ್ತು ವ್ಯಾಕರಣ ಪಾರಿಭಾಷಿಕ ಪದಗಳು, ಪುರುಷಗಳು ಇತರೆ ಅಂಶಗಳು.

- **ಕನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆ :**
  ಸಾಹಿತ್ಯ ಚಳುವಳಿ (ನವ್ಯ, ನವೋದಯ, ಪ್ರಗತಿಶೀಲ, ದಲಿತ - ಬಂಡಾಯ, ವ್ಯಾಖ್ಯಾನೆಗಳು, ಕವಿ - ಕಾಲ ಘಟ್ಟಗಳು, ಪಾತ್ರಗಳು, ಆಧುನಿಕ ಸಾಹಿತ್ಯದ ಧೋರಣೆ ಮತ್ತು ಚಳುವಳಿಗಳು.

- **ಭಾಷಾ ಚರಿತ್ರೆ :**
  ಧ್ವನ್ಯಂಗಗಳು, ಧ್ವನಿ ಉತ್ಪತ್ತಿ, ಅರ್ಥ ಪರಿಣಾಮಗಳು, ದೇಶ್ಯ - ಅನ್ಯದೇಶ್ಯ, ಪ್ರಾದೇಶಿಕ, ಗ್ರಾಂಥಿಕ ಭಾಷೆಗಳು.

- **ಸಾಹಿತ್ಯ ವಿಮರ್ಶೆ :**
  ಕಾವ್ಯ ವ್ಯಾಖ್ಯಾನ, ಕಾವ್ಯ ಪ್ರಯೋಜನಗಳು

- **ಸರಳ ವ್ಯಾಕರಣ :**
  ಲಿಂಗ, ಕಾಲ, ವಚನ, ವಿಭಕ್ತಿ, ಪುರುಷಗಳು, ನಾಮಪದ, ಸರ್ವನಾಮ, ಅವ್ಯಯಗಳು

V. Methodology (20 Marks)

ಕನ್ನಡ ಭಾಷಾ ಬೋಧನಾ ಪದ್ಧತಿಗಳು

1) **ಕನ್ನಡ ಭಾಷಾ ಬೋಧನೆ ಮತ್ತು ಬೋಧಕ** : ಬೋಧನೆಯ ಉದ್ದೇಶಗಳು ಮತ್ತು ಗುರಿಗಳು, ವಿಧಾನಗಳು
2) **ಭಾಷಾ ಕೌಶಲ್ಯಗಳು** : ವಾಚನ ಕೌಶಲ್ಯ - ಉದ್ದೇಶಗಳು, ಪ್ರಕಾರಗಳು, ಮಹತ್ವ, ಓದುಗಾರಿಕೆಯನ್ನು ವಿಧಾನಗಳು, ಗಮನಿಸಬೇಕಾದ ಅಂಶಗಳು, ಧ್ವನ್ಯಂಗಗಳ ಉತ್ಪಾದನಾ ಕಾರ್ಯ.
3) **ಲೇಖನ ಕೌಶಲ್ಯಗಳು** : ಲೇಖನ ಕೌಶಲ್ಯ - ಉದ್ದೇಶಗಳು - ಕಲಿಸುವ ಕ್ರಮಗಳು - ಗಮನಿಸಬೇಕಾದ ಅಂಶಗಳು - ದೋಷಗಳ ನಿವಾರಣೋಪಾಯಗಳು.
4) **ಮಾತುಗಾರಿಕೆ** : ಉದ್ದೇಶಗಳು- ಉತ್ತಮ ಪಡಿಸುವ ಚಟುವಟಿಕೆಗಳು - ದೋಷಗಳು ಮತ್ತು ನಿವಾರಣೆ ಉಪಾಯಗಳು
5) **ಬೋಧನಾ ಪದ್ಧತಿಗಳು** : ಪದ್ಯ ಬೋಧನೆ ಮಹತ್ವ - ಬೋಧಿಸುವ ಕ್ರಮ -ಪದ್ಧತಿಗಳು , ಗದ್ಯ ಬೋಧನೆ - ಮಹತ್ವ - ಕ್ರಮ - ಪದ್ಧತಿಗಳು, ವ್ಯಾಕರಣ ಬೋಧನೆ - ಮಹತ್ವ - ಉದ್ದೇಶ - ಗುರಿಗಳು - ಪದ್ಧತಿಗಳು - ವಿಧಾನಗಳು
6) **ಪಠ್ಯಕ್ರಮ ರಚನೆ** : ತತ್ವಗಳು - ಗಮನಿಸಬೇಕಾದ ಅಂಶಗಳು - ರಾಷ್ಟ್ರೀಕರಣ - ವಾಚನಾಲಯ
7) **ಬೋಧನಾ ಸಂಪನ್ಮೂಲಗಳು** : ಬೋಧನೋಪಕರಣಗಳ ಮಹತ್ವ - ಪಾತ್ರ - ವರ್ಗೀಕರಣ - ಬೋಧನೋಪಕರಣಗಳನ್ನು ಬಳಸುವ ರೀತಿ .
8) **ಮೌಲ್ಯಮಾಪನ** : ಭಾಷಾಭಿವೃದ್ಧಿಯನ್ನು ಅಳೆಯಲು ವಿವಿಧ ಮೌಲ್ಯ ಮಾಪನ ಪರೀಕ್ಷೆಗಳು- ಮೌಲ್ಯಮಾಪನ ವಿಧಗಳು - ನೀಲ ನಕ್ಷೆ

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training
DSC – LANGUAGE PANDIT SYLLABUS - ODIYA

1.	**G.K & current Affairs -**	-	**10M**
2.	**Perspectives in Education**	–	**05M**
3.	**Classroom implications of Educational Psychology**	–	**05M**
4.	**Content**	-	**40M**
5.	**Methodology**	-	**20M**
	Total	-	**80 M**

PART - I

I. General Knowledge And Current Affairs (Marks: 10)

PART - II

II. Perspectives In Education (Marks: 05)

1. **History of Education :**
   - The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
   - Education in Pre Independent era - Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944).
   - Education in Post Independent era - Mudaliar Commission (1952-53), Kothari Commission (1964-66), Ishwarbhai Patel committee (1977), NPE-1986, POA-1992
2. **Teacher Empowerment:**
   - Need, interventions for empowerment, Professional code of conduct for teachers, Teacher motivation, Professional development of Teachers and Teacher organizations, National / State Level Organizations for Teacher Education, Maintenance of Records and Registers in Schools.
3. **Educational Concerns in Contemporary India:**
   - Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities.
   - Economics of Education, Education as Human Capital, Education and Human Resource Development, Literacy - Saakshar Bharat Mission.
   - Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
   - Inclusive Education - Classroom Management in Inclusive Education
   - Role of Education in view of Liberalization, Privatization and Globalization
   - Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya

Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs, Model Schools.

- Incentives and special provisions – Mid Day Meals, Free Books, Scholarship, Awards, Welfare Hostels, Transportation.
- Current Trends in Education – Badi pelusthondi, Badi ki Vasta, Mavuru – Mana Badi, Vidyanjali, Swacha Patasala, Inspire, Kalavutsav.

4. **Acts / Rights:**
   - Right of Children to Free and Compulsory Education Act - 2009
   - Right to Information Act - 2005
   - Child Rights
   - Human Rights.

5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

PART - III

III. Classroom Implications of Educational Psychology – 05marks

1. **Individual differences:** Inter and intra individual differences, meaning, nature and theories of intelligence with special emphasis to multiple intelligence, IQ, assessment of intelligence, EQ, Creativity. Attitude, Aptitude, Interest, Habit and its Influence on Intelligence – Class room implementation.

2. **Learning:** Theories and approaches of learning, learning curves, Factors, Phases, Dimensions of learning, Types of learning, Transfer of learning. Memory, Forgetting, Learning and assessment– Class room implementation.

3. **Personality:** Nature, characteristics and theories of personality, factors of Personality, Assessment of Personality, Mental health, Adjustment, Stress – nature, Symptoms and management. Emotional intelligence, Management of emotions – Class room implementation.

PART - IV

IV. Content:-[40 Marks]

1) ତୃତୀୟଶ୍ରେଣୀରୁଅଷ୍ଟମଶ୍ରେଣୀପର୍ଯ୍ୟନ୍ତସାହିତ୍ୟପାଠ୍ୟବହିଅନ୍ତର୍ଗତ :-
ବିଷୟବସ୍ତୁ, କବି/ଲେଖକପରିଚୟ, ରଚନାବଳୀ, ଉପାଧି୍ଓ ପୁରସ୍କାର,
ପୃଷ୍ଠଭୂମି,ପୂର୍ବାପରପ୍ରସଙ୍ଗ, ବୈଶିଷ୍ଟ୍ୟ, ଉଦ୍ଦଶ୍ୟ,ବିଭିନ୍ନ ଚରିତ୍ର

2) ଶବ୍ଦଭଣ୍ଡାର :-
ପାଠ୍ୟାଂଶଭିତ୍ତିକଶବ୍ଦାର୍ଥ, ଭିନ୍ନାର୍ଥ, ପ୍ରତିଶବ୍ଦ, ଭିନ୍ନଜାତୀୟଶବ୍ଦ, ବିପରୀତାର୍ଥବୋଧକଶବ୍ଦ,
ସମୋଚ୍ଚାରିତଶବ୍ଦ, ଯୁଗ୍ମଶବ୍ଦ, ଗଦ୍ୟ/ପଦ୍ୟରୂପ, ଏକପଦରେପ୍ରକାଶ, ପୂର୍ବ/ପରପଦଯୋଗ,
ଲିଙ୍ଗବଚନ, ପୁରୁଷ, ରୂଢ଼ି, ଲୋକବାଣୀ

3) ଭାଷାପ୍ରକରଣ :-
ସନ୍ଧି, ସମାସ, ଅଳଙ୍କାର, ଉପସର୍ଗ,କୃଦନ୍ତ,ତଦ୍ଧିତ, ପ୍ରତ୍ୟୟ, ତତ୍ସମ,
ତଦ୍ଭବ, ଦେଶଜ, ବୈଦେଶିକଶବ୍ଦ, ସାଧାରଣଅଶୁଦ୍ଧଶବ୍ଦ

4) <u>ପଦ ଓ ବାକ୍ୟ ପ୍ରକରଣ</u> :-

ବିଶେଷ୍ୟ, ବିଶେଷଣ, ସର୍ବନାମ, କ୍ରିୟା,ଅବ୍ୟୟ,କାରକ, ବିଭକ୍ତି,

ବାକ୍ୟ ବିଚାର

5) <u>ଓଡ଼ିଆସାହିତ୍ୟରଇତିହାସ :</u> -

କବିଓଲେଖକମାନଙ୍କସମୟ, ରଚନାବଳୀ, ଉପାଧି, ବିଭିନ୍ନଚରିତ୍ର,

ବୈଶିଷ୍ଟ୍ୟ ତଥା ପୁରାଣ, କାବ୍ୟ, କବିତା, ଚମ୍ପୂ, ଚଉତିଶା,ପ୍ରବନ୍ଧ, ଉପନ୍ୟାସ,ଗଳ୍ପ, ନାଟକ,

ଏକାଙ୍କିକା, ସମୀକ୍ଷା, ଜୀବନୀ, ଆତ୍ମଜୀବନୀ, ଭ୍ରମଣ କାହାଣୀରସଂଜ୍ଞା, ସ୍ୱରୂପ, ଗଠନରୀତି,

ଲକ୍ଷଣ, ପ୍ରକାର ଭେଦ ଓ ବିକାଶଧାରା

6) <u>ଭାଷାବିଜ୍ଞାନ</u> :-

ଭାଷାବିଜ୍ଞାନରସଂଜ୍ଞା, ସ୍ୱରୂପ, ବିଭିନ୍ନ ବିଭାଗ, ଧ୍ୱନିବିଜ୍ଞାନ ଏବଂ ଓଡ଼ିଆ ଭାଷାର

ଧ୍ୱନିଗତବୈଶିଷ୍ଟ୍ୟ, ଅର୍ଥପରିବର୍ତ୍ତନ

7) <u>ସାହିତ୍ୟସମାଲୋଚନା ଓ ଓଡିଆ ପତ୍ର ପତ୍ରିକା</u>:-

ଓଡ଼ିଆସମାଲୋଚନାସାହିତ୍ୟ ଏବଂ ଆଧୁନିକ ଓଡିଆ ସାହିତ୍ୟ ବିକାଶରେ

ପତ୍ରପତ୍ରିକାର ଭୂମିକା

V. Methodology – 20 Marks

1. ମାତୃଭାଷା ଓ ଶିକ୍ଷାକ୍ଷେତ୍ରରେମାତୃଭାଷାରଗୁରୁତ୍ୱ
2. ମାତୃଭାଷାଶିକ୍ଷାଦାନରଲକ୍ଷ୍ୟଓଉଦ୍ଦେଶ୍ୟ
3. ଭାଷାଗତଦକ୍ଷତାସାଧନପାଇଁଆବଶ୍ୟକୀୟକୌଶଳ – ଶ୍ରେଣୀକକ୍ଷସହଅନ୍ୱୟ
4. ଶିକ୍ଷାଦାନପଦ୍ଧତି
5. ପାଠ୍ୟଯୋଜନା
6. ଶିକ୍ଷଣଉପକରଣରଭୂମିକା
7. ସହପାଠ୍ୟକାର୍ଯ୍ୟକ୍ରମ – ପ୍ରଯୁକ୍ତିବିଦ୍ୟାରବ୍ୟବହାର
8. ସୃଜନଶୀଳରବିକାଶ
9. ନିରବଚ୍ଛିନ୍ନସଂବ୍ୟାପକମୂଲ୍ୟାୟନପଦ୍ଧତି [CCE]

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training
DSC – LANGUAGE PANDIT SYLLABUS - SANSKRIT

1.	**G.K & current Affairs -**	**-**	**10M**
2.	**Perspectives in Education**	**–**	**05M**
3.	**Classroom implications of Educational Psychology**	**–**	**05M**
4.	**Content**	**-**	**40M**
5.	**Methodology**	**-**	**20M**
	Total	**-**	**80 M**

PART - I

I. General Knowledge And Current Affairs (Marks: 10)

PART - II

II. Perspectives In Education (Marks: 05)

1. **History of Education :**
   - The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
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   - Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
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   - Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs, Model Schools.

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   - Right to Information Act - 2005
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PART - III

III. Classroom Implications of Educational Psychology – 05marks

1. **Individual differences:** Inter and intra individual differences, meaning, nature and theories of intelligence with special emphasis to multiple intelligence, IQ, assessment of intelligence, EQ, Creativity. Attitude, Aptitude, Interest, Habit and its Influence on Intelligence – Class room implementation.
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3. **Personality:** Nature, characteristics and theories of personality, factors of Personality, Assessment of Personality, Mental health, Adjustment, Stress – nature, Symptoms and management. Emotional intelligence, Management of emotions – Class room implementation.

PART - IV

IV. Sanskrit Content (Marks: 40)

Note: 3 कक्ष्यातः, 8 कक्ष्यापर्यन्तं प्राच्य / संयुक्त पाठशालासंस्कृतपाठ्यपुस्तेकषु विद्यमानांशाः पाठ्येतरांशाः च ।

कवयः - काव्यम् - रचयितारः - रचनाः स्तोत्राणि इत्यादयः।

रचनाप्रक्रियाः इतिहास - पुराण - काव्य - नाटक - कथा - आत्मकथा - गीतम् - इत्यादि प्रक्रियानां स्वरूपविवरणम्।

वेदवाङ्मयम् - वेदाः - वेदाङ्गानि - उपनिषदः।

भाषास्वरूपम् - भाषोत्पत्ति विषयकवादाः - भाषाकुटुंबम्।

साहित्यविमर्शः - काव्य प्रयोजनं - काव्यलक्षण - काव्यभेदाः - शैली - अलङ्कारसांप्रदायाः।

संस्कृतव्याकरणम् - संज्ञाप्रकरणम्
संधिप्रकरणम्
समासप्रकरणम्

भाषांशाः समानार्थकाः

विरुद्धार्थकाः
सन्धिः
समासः
छन्दः
अलङ्कारः
विभाक्तिः
क्रियापदम्
प्रत्ययान्ताः
व्युत्पत्यर्थाः
संख्यावाचकाः
प्रयोगविपरिणामम्

पठनावगमनम् परिचित/अपरिचत पद्य/गद्यांशाः - तदाधारितप्रश्नाः।

V. Methodology (Marks 20)

पाठ्यक्रमे संस्कृतस्य महत्वम् - स्थानम्।
संस्कृतशिक्षणस्य उद्देश्यानि - सामान्यसिद्धान्ताः - शिक्षणापद्धतीः।
पाठ्यक्रमयोजना - पाठ्यग्रन्थः।
विद्यासांकेतिक - सहपाठ्यकार्यक्रमाः।
विद्यालयव्यवस्था।
साहित्यप्रक्रियाः बोधनापद्धतीः।
शिक्षणाकौशलानि।
मूल्याङ्कनम् - परीक्षा च।

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training

DSC – LANGUAGE PANDIT SYLLABUS - TAMIL

1.	**G.K & current Affairs -**	-	**10M**
2.	**Perspectives in Education**	–	**05M**
3.	**Classroom implications of Educational Psychology**	–	**05M**
4.	**Content**	-	**40M**
5.	**Methodology**	-	**20M**
	Total	-	**80 M**

PART - I

I. General Knowledge And Current Affairs (Marks: 10)

PART - II

II. Perspectives In Education (Marks: 05)

1. **History of Education :**
   - The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
   - Education in Pre Independent era - Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944).
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2. **Teacher Empowerment:**
   - Need, interventions for empowerment, Professional code of conduct for teachers, Teacher motivation, Professional development of Teachers and Teacher organizations, National / State Level Organizations for Teacher Education, Maintenance of Records and Registers in Schools.
3. **Educational Concerns in Contemporary India:**
   - Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities.
   - Economics of Education, Education as Human Capital, Education and Human Resource Development, Literacy - Saakshar Bharat Mission.
   - Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
   - Inclusive Education - Classroom Management in Inclusive Education
   - Role of Education in view of Liberalization, Privatization and Globalization
   - Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs, Model Schools.

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- Current Trends in Education – Badi pelusthondi, Badi ki Vasta, Mavuru – Mana Badi, Vidyanjali, Swacha Patasala, Inspire, Kalavutsav.

4. **Acts / Rights:**
   - Right of Children to Free and Compulsory Education Act - 2009
   - Right to Information Act - 2005
   - Child Rights
   - Human Rights.

5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

PART - III

III. Classroom Implications of Educational Psychology – 05marks

1. **Individual differences:** Inter and intra individual differences, meaning, nature and theories of intelligence with special emphasis to multiple intelligence, IQ, assessment of intelligence, EQ, Creativity. Attitude, Aptitude, Interest, Habit and its Influence on Intelligence – Class room implementation.
2. **Learning:** Theories and approaches of learning, learning curves, Factors, Phases, Dimensions of learning, Types of learning, Transfer of learning. Memory, Forgetting, Learning and assessment– Class room implementation.
3. **Personality:** Nature, characteristics and theories of personality, factors of Personality, Assessment of Personality, Mental health, Adjustment, Stress – nature, Symptoms and management. Emotional intelligence, Management of emotions – Class room implementation.

PART - IV

IV. Content : 40 Marks

1. **3-ஆம் வகுப்பிலிருந்து 8-ஆம் வகுப்பு வரையுள்ள பாடப்புத்தகத்திலுள்ள பாடப்பொருள்**

   புலவர், கவிஞர்களின் குறிப்பு – காவியங்கள் – பிறபடைப்புகள் – விருதுகள் கதாபாத்திரங்கள் – சிறப்பு அம்சங்கள்.

2. **சொல்லாக்கம் :**

   அருஞ்சொற்பொருள் – ஒரு சொல் பலபொருள் – ஒரு பொருள் பலசொல் – மரபுத்தொடர்கள் – பழமொழி – தொகைச்சொல் – சேர்த்து எழுதுக – பிரித்து எழுதுக – இருபொருள்.

3. மொழித்திறன் :

புணர்ச்சி – வேற்றுமை – யாப்பு – அணி – பதம் – நால்வகை இலக்கண சொற்கள் – வாக்கிய வகைகள் – வினை வகைகள்.

தமிழ் இலக்கிய வரலாறு :

பல்வேறு முறைகள் – மையக்கருத்து – கவிஞர்கள் மற்றும் கவிதை நடை – விருதுகள் – கதாபாத்திரங்கள் – சிறப்பு அம்சங்கள் – நவீன கவிதை முறைகள் – மொழி போராட்டங்கள்.

4. மொழி வரலாறு :

ஒலி வேறுபாடு – பொருள் வேறுபாடு – பிறமொழி – எழுத்துமொழி – வட்டார மொழி – மரூஉ – மொழியின் தோற்றம் – மொழியின் பண்பாடு – கிளைமொழி – பொதுமொழி – சிறப்புமொழி – திராவிட மொழியினம்.

5. இலக்கிய திறனாய்வு :

காவியங்கள் – மையக்கருத்து – காவியங்களின் பயன் – வரையறைகள் – மொழிநடை நன்னெறிகள்.

6. குழந்தை இலக்கியம் மற்றும் இலக்கணம் :

குழந்தை பாடல்கள் – குழந்தை கவிஞர்கள் – எண் – மாத்திரை – காலம் – இடம் – இன எழுத்து – வினா எழுத்து – இரட்டைக்கிளவி – அடுக்குத்தொடர் – சுட்டு – திணை – பால்.

V. Methodology (20 Marks)

தமிழ்மொழி கற்பித்தல் முறைகள்:

1. மொழி பல்வேறு கருத்துகள்
2. மொழித் திறன்கள்
3. திட்டமிடுதல்
4. கல்வி தொழில் நுட்பங்கள் – நுட்பவியல் துணை கல்விச் செயற்பாடுகள்
5. இலக்கிய செயல்முறைகள் – கற்பித்தல் முறைகள்
6. மதிப்பீடு மற்றும் தேர்வுகள்

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training
DSC – LANGUAGE PANDIT SYLLABUS - TELUGU

1.	**G.K & current Affairs -**	-	**10M**
2.	**Perspectives in Education**	–	**05M**
3.	**Classroom implications of Educational Psychology**	–	**05M**
4.	**Content**	-	**40M**
5.	**Methodology**	-	**20M**
	Total	-	**80 M**

PART - I

I. General Knowledge And Current Affairs (Marks: 10)

PART - II

II. Perspectives In Education (Marks: 05)

1. **History of Education :**
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   - Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
   - Inclusive Education - Classroom Management in Inclusive Education
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5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

PART - III

III. Classroom Implications of Educational Psychology – 05marks

1. **Individual differences:** Inter and intra individual differences, meaning, nature and theories of intelligence with special emphasis to multiple intelligence, IQ, assessment of intelligence, EQ, Creativity. Attitude, Aptitude, Interest, Habit and its Influence on Intelligence – Class room implementation.
2. **Learning:** Theories and approaches of learning, learning curves, Factors, Phases, Dimensions of learning, Types of learning, Transfer of learning. Memory, Forgetting, Learning and assessment– Class room implementation.
3. **Personality:** Nature, characteristics and theories of personality, factors of Personality, Assessment of Personality, Mental health, Adjustment, Stress – nature, Symptoms and management. Emotional intelligence, Management of emotions – Class room implementation.

PART – IV

IV. Content (40 Marks)

1) 3వ తరగతి నుండి 8వ తరగతి వరకు గల తెలుగు వాచకా పాఠ్యాంశాలు:

(ఉపవాచకాలతో సహా)

కవికాలాదులు, కావ్యాలు, ఇతర రచనలు, బిరుదులు, పాత్రలు, విశేషాంశాలు, విద్యాప్రమాణాలు.

2) పదజాలం:

అర్థాలు, పర్యాయపదాలు, నానార్థాలు, వ్యుత్పత్త్యర్థాలు, ప్రకృతి – వికృతులు, జాతీయాలు,
సామెతలు వివరణలు, పొడుపు కథలు

3) భాషాంశాలు:

సంధులు, సమాసాలు, ఛందస్సు(జాతులు, ఉపజాతులు, వృత్తాలు) అలంకారాలు(శబ్ద, అర్థాలంకారాలు) పదం, ప్రాతిపదిక, ప్రత్యయాలు మరియు వ్యాకరణ పారిభాషికపదాలు (పరుషాలు, నిత్యం, తత్సమం, ఉపధ, కళలు మొదలగునవి) క్రియలు – రకాలు, వాక్యాలు – రకాలు మొదలగునవి.

4) తెలుగు సాహిత్య చరిత్ర:

వివిధ ప్రక్రియలు – నిర్వచనాలు, కవి కాలాదులు, బిరుదులు, పాత్రలు, విశేషాంశాలు, ఆధునిక కవిత్వ ధోరణులు, ఉద్యమాలు

5) భాషా చరిత్ర:

- ధ్వనులు మార్పు
- అర్థవిపరిణామం
- అన్యదేశ్యాలు
- మాండలిక భాష

6) సాహిత్య విమర్శ:

- కావ్యం – నిర్వచనం – కావ్య ప్రయోజనం.

7) బాల వ్యాకరణం

సంజ్ఞ, సంధి, తత్సమ, సమాస పరిచ్ఛేదములు

V. Methodology (20 Marks)

బి.ఎడ్ తెలుగు బోధనా పద్ధతులు. (తెలుగు అకాడమీ ప్రచురణ)

1. భాష – వివిధ భావనలు
2. భాషానైపుణ్యాలు
3. ప్రణాళిక రచన – పాఠ్యగ్రంథాలు
4. విద్యా సాంకేతిక శాస్త్రం – సహపాఠ్య కార్యక్రమాలు
5. సాహిత్య ప్రక్రియలు – బోధనా పద్ధతులు
6. మూల్యాంకనం – పరీక్షలు

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training
DSC – LANGUAGE PANDIT SYLLABUS - URDU

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3.	**Classroom implications of Educational Psychology**	**–**	**05M**
4.	**Content**	**-**	**40M**
5.	**Methodology**	**-**	**20M**
	Total	**-**	**80 M**

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PART - II

II. Perspectives In Education (Marks: 05)

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PART - III

III. Classroom Implications of Educational Psychology – 05marks

1. **Individual differences:** Inter and intra individual differences, meaning, nature and theories of intelligence with special emphasis to multiple intelligence, IQ, assessment of intelligence, EQ, Creativity. Attitude, Aptitude, Interest, Habit and its Influence on Intelligence – Class room implementation.
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PART – IV

IV. Content (40 Marks)

I ۔ شعراء ادباء کی سوانح عمری ، کارنامے ، تصانیف ، القاب ، خطابات ، اسباق اور تعلیمی معیارات ۔

II ۔ لفظیات : معنی ، مترادفات ، ذو معنی ، سابقے ، لاحقے ، اضداد ، محاورے ، کہاوتیں وغیرہ ۔

III ۔ زبان شناسی : مرکب الفاظ ، تشبیہہ ، علم ہجا ، مفرد جملہ اور مرکب جملہ ، ہم آہنگ الفاظ ، فعل ، فاعل ، مفعول ، فعل حال کے اقسام ، تذکیر و تانیث ، رموز و اوقاف ۔

IV ۔ اصناف نثر و نظم ، صنعت ، اعراب ، ردیف ، قافیہ ۔

V ۔ 1 ۔ اردو کی ترقی و ترویج میں معاون ادارے

2 ۔ زبان کی قسمیں

3 ۔ آندھرا پردیش میں اردو کا موقف

4 ۔ آندھرا پردیش میں اردو اکیڈمی کے اہم کارنامے

V. Methodology (20 Marks)

اردو و تدریس کے طریقے :

1) زبان ۔ مختلف نظریات

2) زبان اور بنیادی مہارتیں

3) منصوبوں کی تخلیق ۔ درسی کتب

4) نصاب اور ہم نصابی کاروائیاں

5) ادبی کارکردگیاں ۔ تدریسی طریقے

6) اندازۂ قدر / جانچ ۔ امتحانات

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training
DSC – ART and DRAWING

1.	**G.K & current Affairs -**	-	**05M**
2.	**Perspectives in Education**	–	**05M**
3.	**Educational Psychology**	–	**05M**
4.	**Language ability (Telugu)**	–	**15M**
5.	**Content & Methodologies**	-	**70M**
	Total	-	**100 M**

PART - I

I. General Knowledge And Current Affairs (Marks: 05)

PART - II

II. Perspectives In Education (Marks: 05)

1. **History of Education :**
   - The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
   - Education in Pre Independent era - Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944).
   - Education in Post Independent era - Mudaliar Commission (1952-53), Kothari Commission (1964-66), Ishwarbhai Patel committee (1977), NPE-1986, POA-1992
2. **Teacher Empowerment:**
   - Need, interventions for empowerment, Professional code of conduct for teachers, Teacher motivation, Professional development of Teachers and Teacher organizations, National / State Level Organizations for Teacher Education, Maintenance of Records and Registers in Schools.
3. **Educational Concerns in Contemporary India:**
   - Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities.
   - Economics of Education, Education as Human Capital, Education and Human Resource Development, Literacy - Saakshar Bharat Mission.
   - Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
   - Inclusive Education - Classroom Management in Inclusive Education
   - Role of Education in view of Liberalization, Privatization and Globalization
   - Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs,

Model Schools.

- Incentives and special provisions – Mid Day Meals, Free Books, Scholarship, Awards, Welfare Hostels, Transportation.
- Current Trends in Education – Badi pelusthondi, Badi ki Vasta, Mavuru – Mana Badi, Vidyanjali, Swacha Patasala, Inspire, Kalavutsav.

4. **Acts / Rights:**
   - Right of Children to Free and Compulsory Education Act - 2009
   - Right to Information Act - 2005
   - Child Rights
   - Human Rights.

5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

PART - III

III. Educational Psychology – 05Marks

1. **Development of Child:** Development, Growth & Maturation – Concept & Nature. Principles of development and their education implication. Factors influencing Development – Biological, Psychological, Sociological, emotional. Dimensions of Development and their interrelationship – Physical & Motor, Cognitive, Emotional, Social, Moral, Language relating to Infancy, early Childhood, late Child hood, Adolescence. Understanding Development – Piaget, Kohlberg, Chomsky, Carl Rogers, Erikson.
2. **Individual differences:** Inter and intra individual differences, meaning, nature and theories of intelligence with special emphasis to multiple intelligence, IQ, assessment of intelligence, EQ, Creativity. Attitude, Aptitude, Interest, Habit and its Influence on Intelligence – Class room implementation.
3. **Learning:** Theories and approaches of learning, learning curves, Factors, Phases, Dimensions of learning, Types of learning, Transfer of learning. Memory, Forgetting, Learning and assessment– Class room implementation – Children with special need – Inclusive Education.
4. **Personality:** Nature, characteristics and theories of personality, factors of Personality, Assessment of Personality, Mental health, Adjustment, Stress – nature, Symptoms and management. Emotional intelligence, Management of emotions – Class room implementation.

PART – IV

Language Ability (Telugu): (15 Marks)

1) (3వ తరగతి నుండి 8వ తరగతి వరకు గల ఆంధ్రప్రదేశ్ తెలుగు వాచకాలలో పాఠ్యభాగ విషయాలు)

A) కవి పరిచయాలు

B) పాత్రలు

C) ఇతి వృత్తాలు

D) సందర్భాలు

E) నేపథ్యాలు

F) విద్యా ప్రమాణాలు

2) పదజాలం:-

A) అర్థాలు

B) పర్యాయపదాలు

C) నానార్థాలు

D) వ్యుత్పత్త్యర్థాలు

E) జాతీయాలు

F) సామెతలు – వివరణ, గుర్తించడం.

G) పొడుపు కథలు

3) భాషాంశాలు:

A) విభక్తి ప్రత్యయాలు

B) ఔపవిభక్తికాలు

C) పారిభాషిక పదాలు – (ద్రుత ప్రకృతికాలు, కళలు, ఆమ్రేడితం, సంధి, వచనాలు, కాలాలు,లింగాలు, సమాసం, ఆగమం, ఆదేశం, బహుళం)

D) సంధులు – తెలుగు సంధులు– (అత్వ, ఇత్వ, ఉత్వ, యడాగమ, సరళాదేశ, ఆమ్రేడిత, ద్విరుక్తటకార, గసడదవాదేశ సంధులు.)
సంస్కృత సంధులు– (సవర్ణదీర్ఘ, గుణ, యణాదేశ, వృద్ధి సంధులు.)

E) సమాసాలు – (ద్వంద్వ, ద్విగు, తత్పురుష సమాసాలు)

F) ఛందస్సు – గణవిభజన, గణాల గుర్తింపు

G) అలంకారాలు –
వృత్యనుప్రాస, ఛేకానుప్రాస, అంత్యానుప్రాస (శబ్దాలంకారాలు) ఉపమా, ఉత్ప్రేక్ష, అతిశయోక్తి (అర్థాలంకారాలు). అలంకారాలు గుర్తించుట, లక్ష్య లక్షణ సమన్వయం చేయుట.

H) వాక్యాలు– (ఆశ్చర్యార్థక, విధ్యర్థక, నిషేధార్థక, అనుమత్యర్థక, సామర్థ్యార్థక, సందేహార్థక, ఆశీరర్థక, ప్రార్థనార్థక, ప్రశ్నార్థక, హేత్వర్థక, కర్తరి, కర్మణి వాక్యాలు)

PART – V

Content and Methodology – 70Marks

Drawing

I. Principles, Techniques, and Materials used in Drawing:

1. Pencils (Black & White and Colour)
2. Pastels
3. Charcoal sticks
4. Sketch Pens

II. Subjects

1. Drawing from Nature (Leaves, Flowers, Trees, Birds, Animals, etc.)
2. Object Drawing (Household objects like Jars, Bottles, Bowls, etc.)

Painting

I. Materials used in Painting

1. Handmade paper	2. Oil Colour Sheets	3. Canvas boards
4. Cloth for Fabric painting	5. Water Colours	6.Oil Colours
7. Acrylic Colours	8. Fabric Colours	9. Palette Knives for colour mixing
10. Brushes	11.Water Colour Palette	

II.Subjects

1. Land Scape Painting	2. Still life
3. Composition (Memory Painting)	4.Portrait Painting

Basic Knowledge in Colour Theory

Applied Arts

I. Materials Used

1. Poster Colours	2. Indian Ink	3. Drawing Sheets
4. Ivory Card	5. Mount Board	

II. Subjects

1. Different types of lettering (Roman, Gothic) in Telugu and English.
2. Poster Design
3. Geometrical Designs
4. Creative Design (without using Geometrical instruments)

Sculpture

I. Materials Used

1. Clay	2. Readymade Paper Pulp

II.Subject

1. Clay modelling from Nature like Birds, Animals, Flowers, Fruits, Trees, Human Figures etc.
2. Geometrical: 3D forms like Cube, Sphere, Pyramid etc.
3. Creative Abstract Forms

Art History

1. Pre Historic Art forms from India (Rock Paintings of Bhimbhetka, etc)
2. Harappa and Mohenjodaro Civilization and Art &Culture
3. Telangana Art and Craft Logos and Symbols : Present and Past
4. Basic knowledge of famous Artists like

a) Michealangelo	b) Leonardo Da Vinci	c) Vincent Vangogh
d) Salvador Dali	e) Pablo Picasso	f) Raja Ravi Varma
g) M F Husain		

Also our own famous Artists like Late Sri P.T. Reddy, Late Sri Kapu Rajaiah, Late Sri Kondapally Seshagiri Rao, Padma Sri Jagadish Mittal, Padma Sri K. Laxma Goud, Sri Thota Vaikuntam, Sri Surya Prakash.

General knowledge about Worldfamous paintings and sculptures

1. Monalisa
2. Ajanta Paintings
3. Ellora and famous Temple Sculptures of India
4. Traditional Indian miniature paintings
5. Contemporary (Modern) Indian Art
6. European Art and Artists

Psychology

1. Methods and advantages of Educational Psychology
2. Laws of learning
3. Types of Intelligence
4. Intelligence Quotient
5. Personality Traits, Factors responsible

Philosophy

1. Study of relationship between Philosophy and Education
2. Aims of Education
3. Universal free and Compulsory Education
4. Use of Audio visual aids for teaching
5. Importance of work experience in Education

Methods of Teaching

1. Factors of Teaching and learning
2. Principles (Maxims) of Teaching
3. Steps in lesson planning
4. Methods of Teaching
5. Assessment and Evaluation

Curricular and Co-Curricular Activities

1. Importance of Curriculum
2. Importance of Co-Curricular Activities on the Campus such as Workshops and Seminars, Conferences, Exchange Programmes, Art Competitions

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training
DSC – CRAFTS

1.	**G.K & current Affairs -**	-	**05M**
2.	**Perspectives in Education**	–	**05M**
3.	**Educational Psychology**	–	**05M**
4.	**Language ability (Telugu)**	–	**15M**
5.	**Content & Methodologies**	-	**70M**
	Total	-	**100 M**

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I. General Knowledge And Current Affairs (Marks: 05)

PART - II

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PART - III

III. Educational Psychology – 05Marks

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PART – IV

Language Ability (Telugu) : (15 Marks)

1)(3వ తరగతి నుండి 8వ తరగతి వరకు గల ఆంధ్రప్రదేశ్ తెలుగు వాచకాలలో పాఠ్యభాగ విషయాలు)

A) కవి పరిచయాలు

B) పాత్రలు

C) ఇతి వృత్తాలు

D) సందర్భాలు

E) నేపథ్యాలు

F) విద్యా ప్రమాణాలు

2) పదజాలం:-

A) అర్థాలు

B) పర్యాయపదాలు

C) నానార్థాలు

D) వ్యుత్పత్త్యర్థాలు

E) జాతీయాలు

F) సామెతలు – వివరణ, గుర్తించడం.

G) పొడుపు కథలు

3) భాషాంశాలు:

A) విభక్తి ప్రత్యయాలు

B) ఔపవిభక్తికాలు

C) పారిభాషిక పదాలు – (ద్రుత ప్రకృతికాలు, కళలు, ఆమ్రేడితం, సంధి, వచనాలు, కాలాలు,లింగాలు, సమాసం, ఆగమం, ఆదేశం, బహుళం)

D) సంధులు – తెలుగు సంధులు– (అత్వ, ఇత్వ, ఉత్వ, యడాగమ, సరళాదేశ, ఆమ్రేడిత, ద్విరుక్తటకార, గసడదవాదేశ సంధులు.)
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E) సమాసాలు – (ద్వంద్వ, ద్విగు, తత్పురుష సమాసాలు)

F) ఛందస్సు – గణవిభజన, గణాల గుర్తింపు

G) అలంకారాలు –
వృత్యనుప్రాస, ఛేకానుప్రాస, అంత్యానుప్రాస (శబ్దాలంకారాలు) ఉపమా, ఉత్ప్రేక్ష, అతిశయోక్తి (అర్థాలంకారాలు). అలంకారాలు గుర్తించుట, లక్ష్య లక్షణ సమన్వయం చేయుట.

H) వాక్యాలు– (ఆశ్చర్యార్థక, విధ్యర్థక, నిషేధార్థక, అనుమత్యర్థక, సామర్థ్యార్థక, సందేహార్థక, ఆశీరర్థక, ప్రార్థనార్థక, ప్రశ్నార్థక, హేత్వర్థక, కర్తరి, కర్మణి వాక్యాలు)

PART – V

Content and Methodology – 70Marks

Craft and Craft Education

I. Sewing Machine - Parts - Common Faults and Remedies, Equipment and Materials used in Garment Construction - Preparation of Fabric - Shrinking, Straightening and Pressing.

II. Plain Needle Work

a) Basic stitches - Even basting, Uneven basting, Running, Hemming and Back Stitch.

b) Seams and Seam Finishes - Plain Seam, Lapped Seam, French Seam, Run and Fell Seam, Pinked Seam Finish, Edge Stitch seam Finish, Double stitch seam finish, Herring Bone stitch seam finish.

c) Fullness in Garments

- Darts - Types - Single pointed darts, Double pointed darts and Decorative darts.
- Tucks - Types - Pin Tucks, Corded Tucks, Cross Tucks
- Pleats - Types - Knife pleats, Box pleats.

- Finishing of Raw edges and Finishes - Facing, Piping, Binding, False Hem.
- Placket opening and Fastners.

- Placket Openings - Simple Hem, Continuous Wrap Opening, Two Piece Bound opening
- Fastness - Button, Button holes, Shank buttons, Hooks and Eyes, Zips.

III. Collars, Pockets, Sleeves and Yokes

a) Collars - Types - Peter Pan Collars, Cape Collars, Shirt Collar.
b) Pockets - Types - Patch Pocket, Flap Pocket, Seam, Bound Pocket.
c) Sleeves - Plain Sleeves, Puff Sleeves
d) Yokes - Round yoke and Square yoke

IV.Mending

a) Darning - Types - Straight Tear, Hedge Tear
b) Patch Work - Plain Patch and Printed Patch

V. Drafting of Jangia and Jabla

a) Drafting of Jangia
b) Drafting of Jabla

VI.Drafting of Princess Petticoat, Frocks and Saree Petticoat

a) Drafting of Princess Petticoat
b) Drafting of Frock
c) Drafting of Saree Petticoat

VII.Drafting of Others

a) Drafting of Skirt; b.Drafting of Saree Blouse; c. Drafting of Punjabi Shirt
b) Drafting of Shalwar; d.Drafting of Chudidar

VIII.Embroidery

a) Tools, Techniques and Materials used in Hand Embroidery
b) Enlarging and reducing the design
c) Single line embroidery stitches - Running, Stem, Chain, Double knot stitch, Couching, Fly and Feather Stitch.
d) Filling Stitches - French knot, Satin, Herring bone, Button hole, Long and short stitch.
e) Contemporary stitches - Shadow stitch, Cross Stitch, applique stitch.
f) Banjara Work - Mirror work, quilting, Drawn thread work, Bead work.

IX.Machine Embroidery-Cording, Running, Round, Long and Short, Satin, Twine Cording, Applique Work, NetWork, Eyelet Work, Quilting Work

X. Psychology

a) Methods and advantages of Educational Psychology
b) Laws of learning
c) Types of Intelligence

d) Intelligence Quotient

e) Personality Traits, Factors responsible

Xl. Philosophy

a) Study of relationship between Philosophy and Education

b) Aims of Education

c) Universal free and Compulsory Education

d) Use of Audio visual aids for teaching

e) Importance of work experience in Education

Xll. Methods of Teaching

a) Factors of Teaching and learning

b) Principles (Maxims) of Teaching

c) Steps in lesson planning

d) Methods of Teaching

Xlll. Curricular and Co-Curricular Activities

a) Importance of Curriculum

b) Importance of Co-Curricular Activities on the Campus such as Workshops and Seminars, Conferences, Exchange Programmes, Art Competitions

XIV. Crafts

Carpenter

a) Safety precautions - General Safety, causes of accidents and avoidance.

b) Classification of hand tools, names and their uses; Measuring, marking, testing tools, types, sizes, striking tools, boring tools etc.

c) Classification functions and identification of timber, defects, diseases of Timber.

d) Nails and screws - Types, size and uses, nuts and bolts, washers, lock, hinges, hasp and staple, Tower bolt etc.

e) Basic principles of repairing work.

XV. Book Binding

a) Materials used in binding industry - paper, boards, book, cloth, leather etc.

b) Paper - Standard sizes, divisions and sub-divisions, kinds and qualities, handling and care of printed & unprinted sheets of paper.

c) Stitching and sewing - hand and machine methods.

d) Safety - Hazards in a binding shop - preventive measures.

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training
DSC – MUSIC SYLLABUS

1. G.K & current Affairs -	**–**	**05M**
2. Perspectives in Education	**–**	**05M**
3. Educational Psychology	**–**	**05M**
4. Language ability (Telugu)	**–**	**05M**
5. **Content & Methodology**	**–**	**50M**
Total	**–**	**70M**
6. **Skill Test**	**–**	**30M**
Total	**–**	**100 M**

PART - I

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- Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs, Model Schools.

- Incentives and special provisions – Mid Day Meals, Free Books, Scholarship, Awards, Welfare Hostels, Transportation.
- Current Trends in Education – Badi pelusthondi, Badi ki Vasta, Mavuru – Mana Badi, Vidyanjali, Swacha Patasala, Inspire, Kalavutsav.

4. **Acts / Rights:**
   - Right of Children to Free and Compulsory Education Act - 2009
   - Right to Information Act - 2005
   - Child Rights
   - Human Rights.

5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

PART - III

III. Educational Psychology – 05Marks

1. **Development of Child:** Development, Growth & Maturation – Concept & Nature. Principles of development and their education implication. Factors influencing Development – Biological, Psychological, Sociological, emotional. Dimensions of Development and their interrelationship – Physical & Motor, Cognitive, Emotional, Social, Moral, Language relating to Infancy, early Childhood, late Child hood, Adolescence. Understanding Development – Piaget, Kohlberg, Chomsky, Carl Rogers, Erikson.
2. **Individual differences:** Inter and intra individual differences, meaning, nature and theories of intelligence with special emphasis to multiple intelligence, IQ, assessment of intelligence, EQ, Creativity. Attitude, Aptitude, Interest, Habit and its Influence on Intelligence – Class room implementation.
3. **Learning:** Theories and approaches of learning, learning curves, Factors, Phases, Dimensions of learning, Types of learning, Transfer of learning. Memory, Forgetting, Learning and assessment– Class room implementation – Children with special need – Inclusive Education.
4. **Personality:** Nature, characteristics and theories of personality, factors of Personality, Assessment of Personality, Mental health, Adjustment, Stress – nature, Symptoms and management. Emotional intelligence, Management of emotions – Class room implementation.

PART – IV

Language Ability (Telugu): (05 Marks)

1) (3వ తరగతి నుండి 8వ తరగతి వరకు గల ఆంధ్రప్రదేశ్ తెలుగు వాచకాలలో పాఠ్యభాగ విషయాలు)

A) కవి పరిచయాలు

B) పాత్రలు

C) ఇతి వృత్తాలు

D) సందర్భాలు

E) నేపథ్యాలు

F) విద్యా ప్రమాణాలు

2) పదజాలం:-

A) అర్థాలు

B) పర్యాయపదాలు

C) నానార్థాలు

D) వ్యుత్పత్త్యర్థాలు

E) జాతీయాలు

F) సామెతలు – వివరణ, గుర్తించడం.

G) పొడుపు కథలు

3) భాషాంశాలు:

A) విభక్తి ప్రత్యయాలు

B) ఔపవిభక్తికాలు

C) పారిభాషిక పదాలు – (ద్రుత ప్రకృతికాలు, కళలు, ఆమ్రేడితం, సంధి, వచనాలు, కాలాలు,లింగాలు, సమాసం, ఆగమం, ఆదేశం, బహుళం)

D) సంధులు – తెలుగు సంధులు– (అత్వ, ఇత్వ, ఉత్వ, యడాగమ, సరళాదేశ, ఆమ్రేడిత, ద్విరుక్తటకార, గసడదవాదేశ సంధులు.)
సంస్కృత సంధులు– (సవర్ణదీర్ఘ, గుణ, యణాదేశ, వృద్ధి సంధులు.)

E) సమాసాలు – (ద్వంద్వ, ద్విగు, తత్పురుష సమాసాలు)

F) ఛందస్సు – గణవిభజన, గణాల గుర్తింపు

G) అలంకారాలు –
వృత్యనుప్రాస, ఛేకానుప్రాస, అంత్యానుప్రాస (శబ్దాలంకారాలు) ఉపమా, ఉత్ప్రేక్ష, అతిశయోక్తి (అర్థాలంకారాలు). అలంకారాలు గుర్తించుట, లక్ష్య లక్షణ సమన్వయం చేయుట.

H) వాక్యాలు– (ఆశ్చర్యార్థక, విధ్యర్థక, నిషేధార్థక, అనుమత్యర్థక, సామర్థ్యార్థక, సందేహార్థక, ఆశీరర్థక, ప్రార్థనార్థక, ప్రశ్నార్థక, హేత్వర్థక, కర్తరి, కర్మణి వాక్యాలు)

PART – V

Content and Methodology – 50Marks

1) **Unit – I – Technical Words**

1) Nadha 2) Sangeetha 3) Sruthi 4) Swara 5) Positions of Swara

6) Ascending and Decending order 7) Sthayi 8) Dhathu, Mathu 9) Tala

10) Repitation 11) Primary, Secondary, Tertiory Positions 12) Aksharakala

2) **Unit – II - Ragam**

A) Explanation of Raga, Datu Procedures

B) Classifications of Raga – Janya, Janaka Ragha Procedures

C) Thirteen Characters of Raga

D) Characters of the following Ragas: Mayamalavagoula, Shankarabharana, Kalyani, Kharahapriya, Harikhambhoji, Pantavarali, Khambhoji, Bhiravi, Purvikalyani, Mohana, Hamsa Dvani, Himdolam, Madhya Mavati, Bilahari, Arabhi, Chakravakam.

OR

Comparative Ragas for the above ragas in Hindustani Style

E) Evaluation of Raga

F) Gamaka

3) **Unit – III - Tala**

A) Explanation of Tala
B) Importance of Laya
C) Sapta Tala
D) Anga, Jyati, Kriya, Grah
E) Taladasa Pranalu
F) Understanding of 35 talas are in 10 tala in Hindustani Style
G) Chakutala

4) **Unit – IV - Different Music forms**

1) Geetam 2) Swarapallavi 3) Saraswathi 4) Varsham 5) Keerthana

6) Kurthi 7) Padam 8) Jaavali 9) Ashtapadi 10) Taramgam

OR

1) Dhrupad 2) Khayal 3) taranaa 4) Tappa 5) Tumri

6) Dadra 7) Chitee 8) Horee 9) Bhajan 10) Ghajal

5) Unit – V – Musical Instruments

1) TamBhura 2) Veena 3) Vyolin 4) Mrudamgam 5) Floot
6) Gotu 7) Nadhaswaram 8) Clarinate 9) Dolu 10) Ghatam

OR

1) Tanpuraa 2) Sitar 3) Vyolin 4) Saramgi 5) Shahanay
6) Harmoniyam 7) Basuri 8) Santoor 9) panaavaj 10) Tabala

6) Unit – VI – Vageyakara

1) Jayadevudu 2) Narayanateerdhulu 3) Puramdara Dasu
4) Annamaya 5) Ramadasu 6) Thyaga Raju
7) Muthuswami Deekshatar 8) Syama Sastri 9) Ksetraiah
10) Swathi Trirunal 11) Muttaya Bhagavtar 12) Vasudeva Chari
13) Sada Siva Brahemdrulu 14) Patnam Subramnyayyar

OR

1) Meera Bhi 2) Tulasi Dasu 3) Kabeer Dasu
4) Hari Dasu 5) Tansen 6) Tukaram
7) Ameer Kusru 8) Gopal Nayak 9) Bhatkamde
10) Vishnudigambar paluskar 11) Khiju Bavara 12) Sadaramg, Adaramg

7) Unit – VII – Individual Style of Music concepts

1) Ragalapana 2) Tanam 3) Neravali 4) Swara Kalpana 5) Pallavi

OR

6) The Process of Writing of Swarallipi
7) Writing of Swaralipi for different literature
8) The process of musical concert

8) Unit – VIII – Musical Development in the State of Andhra Pradesh (Telugu States)

A) Evaluation of Music
B) Contribution of Vageyakara in Andhra Pradesh
C) Different Dimensions of support towards in Andhra Pradesh
D) Academic Development of Music

9) **Unit – IX – Positions of Music, Different patterns of Music, reference books.**

A) Famous places of Music – Tamil Nadu, Karnataka, Kerala, Andhra Pradesh

B) Different patterns of Music and its importance- Devotional Music, Karanatic Music Hindustani Music, Folk Music, Light Music, Cinema Music.

10) **Unit – IX – Other Music forms**

A) Science of Music (Chandassu)

B) Contemporary Music

C) Teaching of Music in Schools

Part – VI

Skill Test (30 Marks):

Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training
DSC – PHYSICAL EDUCATION TEACHER (PET) SYLLABUS

1.	**G.K & current Affairs -**	–	**05M**
2.	**Perspectives in Education**	–	**05M**
3.	**Physical Education Pedagogy**	–	**10M**
4.	**Content**	–	**30M**
	Total		**50 M**
5.	**Physical Efficiency Test**	–	**30 M**
	Total	–	**80 M**

PART – I

General Knowledge and Current Affairs (Marks: 05)

PART – II

Perspectives in Education (Marks: 05)

1. **History of Education :**
   - The Education in Ancient India - Pre-Vedic and Post-Vedic period, Medieval Education.
   - Education in Pre Independent era - Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944).
   - Education in Post Independent era - Mudaliar Commission (1952-53), Kothari Commission (1964-66), Ishwarbhai Patel committee (1977), NPE-1986, POA-1992
2. **Teacher Empowerment:**
   - Need, interventions for empowerment, Professional code of conduct for teachers, Teacher motivation, Professional development of Teachers and Teacher organizations, National / State Level Organizations for Teacher Education, Maintenance of Records and Registers in Schools.
3. **Educational Concerns in Contemporary India:**
   - Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities.
   - Economics of Education, Education as Human Capital, Education and Human Resource Development, Literacy - Saakshar Bharat Mission.
   - Population Education, Gender - Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills.
   - Adolescence Education
   - Value Education – Morel Value and Professional Eathics in Education.
   - Health and Physical Education
   - Inclusive Education - Classroom Management in Inclusive Education

- Role of Education in view of Liberalization, Privatization and Globalization
- Programmes and Projects – APPEP, DPEP, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Rashtriya Madhyamika Siksha Abhiyan(RMSA), Rashtriya Aveshekar Abhiyan (RAA), KGBVs, Model Schools.
- Incentives and special provisions – Mid Day Meals, Free Books, Scholarship, Awards, Welfare Hostels, Transportation.
- Current Trends in Education – Badi pelusthondi, Badi ki Vasta, Mavuru – Mana Badi, Vidyanjali, Swacha Patasala, Inspire, Kalavutsav.

4. **Acts / Rights:**
   - Right of Children to Free and Compulsory Education Act - 2009
   - Right to Information Act - 2005
   - Child Rights
   - Human Rights.
5. **National Curriculum** - Framework, 2005: Perspective, Guiding Principles, Learning and Knowledge, Teaching Learning Process, Assessment, Systemic Reforms.

PART – III

Physical Education Pedogogy (Marks: 10)

a. Psychology: Meaning, Definition and Nature of Psychology – Definition of Sports Psychology – Importance of Sports Psychology. Motivation – Definition, Importance and types of motivation.

b. Stages of Growth and Development of Children – Physical, Mental, Social and Communication Skill development, Psycho-motor learning at different stages. Play -Theories of play.

c. Meaning, Definition, Importance and Factors influencing on methods of teaching.

d. Principles of Presentation Technique and Class management in Physical Education: Commands, Class formation, Teaching aids: Audio visuals.

e. Method of teaching: Command Method, Lecture Method, Demonstration Method, Discussion Method, Part Method, Whole Method, Part-Whole Methods, Whole part whole method and their application in minor, major, rhythmic calisthenics.

f. Lesson Plan: Concept of lesson plan Principles, importance of lesson plan. Preparation of Lesson Plan in Physical Education, Types of lesson plan– Steps in lesson plan.

g. Facilities and standards of Physical Education: Play fields, (Different play areas) Gymnasium, Swimming pool. Purchase & Care of sports equipments, Maintenance of Stock, Maintenance of records and Registers: Cash register, Tapal register, Stock Issue register, Attendance Register, Physical Fitness records, Health records and achievement records. Process of Verification, Write-off and Condemnation of Stock.

h. Time tables – Meaning and maintenance of Time table, factors influencing time table. Types of Physical Education periods.

i. Meaning and definition of Test, Measurement and evaluation, Importance of Test, Measurement and Evaluation in the field of physical education and

sports. Criteria of good test: Classification of tests, Test Administration(Pre, During and Post) Tests for different variables Speed – 50metre dash, Maximum speed -30metres dash with flying start, cardio vascular endurance – Cooper's 12 minutes run – walk test, Muscular endurance – Bent knee sit-ups – Explosive power – Standing Broad jump

j. Tournaments: Meaning of tournament and types of tournaments – Knock-out (Elimination), League (Round Robin), Knock-out cum league, League cum knockout, Double league, Double knockout, Challenge. Method of drawing Fixtures: Seeding, Special Seeding. Rotation Method, Stair case method.

k. Intramural and Extramural and their importance, Sports Day/ Play Day

PART – IV

Physical Education Content (Marks: 30)

1. Organization and Administration of Physical Education

- Meaning of the terms organization, Administration and supervision.
- Guiding Principles of Organization
- Time-Table; Factors influencing time-table; Types of Physical Education Periods; Time allotment for Intra-Murals, Extra Murals, Play days, Demonstrations.
- Budget and Accounting – Preparation and Administration of good budget.
- Records and Registers – Types of Registers – Stock, Issue, Attendance, Physical Measurement and fitness, Cumulative Register, Health Record.
- Supervision – Meaning and need; Guiding principles of supervision.

2. History of Physical Education

- Historical Development of Physical Education: Greece, Germany, British Period (Before 1947), Physical Education in India (After 1947), Contribution of Akhadas and Vyayamsalas, H.V.P. Mandals, Institutions / Bodies in Physical Educations and Sports: YMCA, LNIPE, NSNIS, IOA, SAI, SAF, SGF, PYKKA, RGKA, SATS, Physical Education & Sports Universities.
- Policies, Schemes, Awards: Bharata Ratna, Padmasri, Padmabhushan, Padmavibhushan, Arjuna, Dronacharya, Rajiv Khel Ratna, Ekalavya, Jhansi Laxmibai, Abhimanya, Trophies/ Cups in Physical Education and Sports at State/National level.
- Ancient and Modern Olympic Movement. Origin of Olympic Movement: Aims of Olympic movement, the early history of the Olympic movement. The significant stages in the development of the modern Olympic movement, Educational and cultural values of Olympic movement. Origin and History of ancient Olympic games.MODERN OLYMPIC GAMES: Significance of Olympic Ideals, Olympic Rings, Olympic Flag, ceremonial flag, Olympic symbol, Olympic Protocol for member countries, queens' baton, Olympic torch and protocol of modern Olympics Inaugural and valedictory functions. Different Olympic Games: Para Olympic Games, Summer Olympics, Winter Olympics, Youth Olympic Games.

- Committees of Olympic Games: International Olympic Committee - Structure and Functions, National Olympic committees and their role in Olympic movement, Olympic medal winners of India till to date.
- Various committees and their recommendations

3. Basic Anatomy, Physiology & Kinesiology

- Structure and Functions of cell
- Skeletal system: Bones – Axial and Appendicular Skeleton – Structure and Functions of bones – Types of bones
- Muscular system: Types of Muscles, Classification of Muscles
- Respiratory system: Structure of Human Respiratory system – Mechanism of Respiration.
- Digestive system: Structure of human digestive system and process of digestion.
- Circulatory system: Constituents of Blood and its functions, Structure and Functions of Human Heart.
- Excretory system: Structure and Functions of Kidneys and Skin.
- Nervous system: Structure and Functions of Human Brain and Spinal cord.
- Endocrine system: Functions of glands, Pituitary, Thyroid, Parathyroid, Adrenal and Pancreas.
- Effects of training on cardiovascular system, Effects of training on respiratory system, Effects of training on muscular system, Fatigue and performance in sports.
- Introduction to Kinesiology and Sports Biomechanics: Meaning and definition of kinesiology and sports biomechanics, importance of Kinesiology and sports Biomechanics in Physical Education and sports, Terminology of Fundamental Movements, Planes and Axes, gravity, base, centre of gravity, equilibrium, line of gravity

4. Health Education And Sports Injuries

- Meaning, Definition, Dimensions and Importance of Health; Principles of Health Education. Factors influencing health – Heredity, Environment and Health Habits. Coordinated school health programme – Health services, Health instruction, Health records and Health supervision
- Common Health Problems in India, Communicable (Epidemic & Endomic) and Non Communicable Diseases, Hygiene – Personal, Environmental, Occupational Health, Cleanliness and awareness through educational activities.
- Food and Nutrition – Essential Constituents of food – Proteins, CHO, Fats, Minerals, Vitamins – Balanced DIET – Under nutrition and malnutrition.
- Concept and Significance of Good Posture: Postural Deformities - Lordosis, Kyphosis, Kypholordosis, Scoliosis, Knocknees, Bow legs, flat foot and their Remedies, Corrective Exercises for Postural illnesses and deformities
- Meaning and Causes of Sports Injuries. Principles of prevention of sports injuries Common Sports Injuries, symptoms and their treatment, Ligament sprain – Muscle strain – Tennis elbow- Golfer's elbow, lower back strain – Dislocation – Fractures, Runners knee – Shin pain – Blisters – contusion, Abrasion, Laceration, Hematoma.
- Definition of First-Aid, DRABC formula (Danger, Response, Airways, Breathing & Circulation), Artificial respiration techniques – Mouth to mouth, mouth to nose respiration, First Aid for Hemorrhage, Fracture, Sprain and Strain, Drowning,

Heat Stroke and Heat Exhaustion; Concept of PRICE(Prevention, Rest, Ice, Compression and Elevation)

- Physiotherapy: Definition: Guiding principles of physiotherapy, Importance of physiotherapy. Treatment Modalities: Electrotherapy, infrared rays, Ultraviolet rays, short wave diathermy, ultra sound.
- Hydrotherapy and Massage: Hydrotherapy: Meaning and Methods, Criotherapy, Thermo therapy, Contrast Bath, Whirlpool Bath, Steam Bath, Sauna Bath, Hot Water Fomentation. Massage: Meaning and importance of massage, Indications and contraindications of massage. Types of Manipulation, Physiological effects of Massage.
- Therapeutic Exercise: Definition, Principles and Importance of Therapeutic Exercises. Classification of Therapeutic exercise: Passive Movements (Relaxed, Forced and passive stretching) active movements(concentric, Eccentric and static). Free Mobility Exercise for Shoulder, Wrist, Fingers, Hip, Ankle, Foot joints and Neck exercises.

5. Yoga In Physical Education & Sports

- Introduction: Meaning, Definition & Scope of Yoga, Aims, Objectives and functions of Yoga, Yoga practices in Upanishads and yoga sutra, Modern Trends in Yoga, Place and importance of Yoga in Physical Education and Sports.
- Early Yoga Practices: Astanga Yoga: Yama, Niyama, Asana, Pranayama, Pratyahara, Dharana, Dhyana and Samadhi. Streams of Yoga Practices: Hatha Yoga, Karma Yoga, Bhakti Yoga, Raja Yoga, Jnana Yoga.
- Basic Yogic Methods:Asana: Classification of Asanas, Sitting, Standing,Lying, Inverted asanas. Benefits of Asanas: Effects of Asanas on general health. Pranayama: Importance & impact on Muscular, Cardio Respiratory and Nervous System. Relaxation and meditation: Importance & impact on body at work and body at rest.. Bandhas: Jalandhara, Mula, Udyana. Mudras:Chin,Yoga,Aswini, Anjali, Brahma Mudra. Kriyas: Neti ,Nauli, Kapalabhati, Trataka, Dhauthi, Bhastrika.
- Yoga Education: Yoga Education for Youth Empowerment and human resource development. Difference between yogic practices and physical exercises, Yoga education centers in India and abroad, Competitions in Yoga Asanas.
- Types and importance of asanas with special reference to physical education and sports. Suryanamaskara of 12 stages
- School Games Federation of India – National School Games – Rules for Yogasana Competitions.

6. Recreation and leisure management:

- Basics Of Recreation: Meaning, Definition of Recreation and Leisure Management, Importance, Values of Recreation, Principles of Recreation. Fundamental modes of Recreation, qualities and qualifications of Leaders of Recreation.
- Recreation And Play: Theories of Recreation, Theories of Play, Therapeutic Recreation, Therapeutic use of activity, Recreation for the life, Role of recreation and leisure on the human development.
- Types Of Recreational Activities: Indoor, Outdoor games, Music, Dance, Picnics and Excursions.
- Recreational Agencies: Individual and Home agencies, Government Agencies, Voluntary Agencies, Private Agencies, Commercial Agencies.

7. **Sports training:**

- Introduction to Sports Training: Meaning and Definition of Sports Training, Aims and Objective of Sports Training, Principles of Sports Training. Methods of Sports Training: Continuous training, Interval training, Repetition training, Fartlek training, Resistance training, Circuit training, Plyometric training. Warm-up and warm-down, Athletic diet: Pre competition, during competition and post competition.
- Training Components, Meaning & Definition and their development methods: Speed, Strength, Endurance, Co-Ordination and Flexibility.
- Training Process: Load: Definition and Types of Load. Principles of Intensity and Volume of Load. Meaning and methods of Technical Training and Tactical Training.
- Training program and planning: Periodization – Meaning, Aims and types of Periodization: Preparatory, Competition, Transitional. Planning: Training session, Talent Identification and Development.

8. **Concepts of wellness management :**

- Wellness: Definition and scope of wellness- Wellness continuum and health - Dimensions of wellness - Physical Wellness - Emotional Wellness - Social Wellness - Spiritual wellness - Intellectual wellness and Environmental wellness.
- Exercise And Wellness: Physical wellness, exercise and physical health of different systems of human body, lifestyle diseases in relation to inactivity, Nutrition and exercise to physical wellness.
- Stress Management: Stress : Definition of Stress, Stress and Emotional health, Stress and physical health- Mechanism of stress and related degenerative diseases- Inter dependence of Spiritual wellness, Social wellness and Emotional wellness- Stress management techniques.
- Fitness And Body Composition: Health fitness components, body composition, muscular endurance, strength, Cardio Vascular fitness and flexibility, importance of cardio respiratory endurance .Obesity and health risk factors, childhood obesity and problems. Body composition indicators and measurements.

9. **Officiating And Coaching**

- Officiating, Meaning, importance and principles of officiating. Qualities and qualifications of good official, Duties of Officials, System of officiating in games and Rules of various Games (i.e. Hockey, Football, Handball, Volleyball, Basketball, Sepak takraw, Kabaddi, Kho-Kho, Throw ball, Tennis, Badminton, Ball Badminton, Cricket, Softball and Tennikoit). Layout of courts and fields of games.
- Track and field – layout of track and field, rules of track and field events – Runs, Jumps, Throws Systems of officiating in track and field events.

PART – V

Physical Efficiency Test (Marks: 30)

1. **100 Mts Run (or) 800 Mts Run for men, 400 Mts Run for women (Marks 10)**
2. **Long Jump (or) High Jump (Marks 10)**
3. **Shot put 16 lbs for Men, 8 lbs for Women (Marks 10)**