

GOVERNMENT OF ANDHRA PRADESH

DEPARTMENT OF SCHOOL EDUCATION

STATE COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING

**DSC – 2018 TGT - Syllabus, Structure
and Pattern of Examination**

TGT – Languages & Non - Languages (TRT):

- i) There are two papers for TGT Paper – I English Language proficiency, Paper – II Main Examination.
- ii) Paper – I English Language proficiency Test shall be conducted for 100 Marks with 100 questions. Duration of the examination shall be 1.30 hours.
- iii) Paper – II the TRT for TGT (APMS, APREI) – Languages and Non - Languages shall be conducted for 80 marks with 160 questions. Each question contains ½ mark. Duration of the examination shall be 2.30 hours.
- iv) Paper – I is only qualifying Examination and marks scored are not counted for preparation of merit list.
- v) The minimum qualifying marks for paper – I are OC – 60Marks, BC- 60 Marks and SC/ST/PH – 50Marks.
- vi) If the candidate not scored qualifying marks in Paper – I, Paper – II will not be evaluated and shall not be considered for selection.
- vii) The candidates who are appearing for the post of TGT languages (Telugu, English, Sanskrit and Hindi) need not appear for paper – I (English language Proficiency)
- viii) 20% marks weightage will be calculated from TET.
- ix) The Child Development and Pedagogy content shall be replaced with Educational Psychology and the syllabus for this shall be 2014-2016 B. Ed Syllabus of A.P. Universities (Telugu Academy Text Books).
- x) Telugu Medium, English Medium candidates are eligible for the post of TGT.

The areas to be tested for the post of TGT: (Languages - English, Telugu, Hindi & Non – Languages- Mathematics, Science, Social Studies): -

- General knowledge and current affairs.
- Perspectives in Education
- Classroom implications of Educational Psychology
- Methodology of the concerned subject.
- Methodology, Perspectives in Education and Psychology will be tested from 2014-2016 B.Ed Syllabus of A.P. Universities (Telugu Academy Text Books).
- The syllabus for the content part is from class VI to Intermediate of Present A.P. state syllabus (For Classes VI – X AP Government Text Books and for Intermediate Telugu Academy Text Books).

Paper - I

English Language Proficiency test for TGT:

Division	Subjects	No. of questions	Marks	Syllabus
Part – I	English Language proficiency Test	100	100	English Language proficiency (Difficulty Level Upto Class X)
Total		100	100	

Paper - II

Structure and Syllabus for TGT (TRT):

Division	Subjects	No. of questions	Marks	Syllabus
Part – I	G.K. & Current affairs	20	10	Standard G.K and Events happened in the year 2018.
Part – II	Perspectives in Education	10	5	2014-2016 B. Ed Syllabus of A.P. Universities Telugu Academy Text Books
Part – III	Classroom implications of Educational Psychology	10	5	2014-2016 B. Ed Syllabus of A.P. Universities Telugu Academy Text Books
Part – IV	Content of concerned Subject	80	40	VI – X Present A.P. Government Text Books, Intermediate -Telugu Academy Text Books for concerned applied post subject.
	Methodology of concerned Subject	40	20	2014-2016 B. Ed Syllabus of A.P. Universities Telugu Academy Text Books for concerned applied post subject.
Total		160	80	
TET Weightage			20	
TOTAL			100	

Note: If any ambiguity on the content it is suggested to refer NCERT Text Books also.

The question paper will be only in English Medium for Non - Language Subjects

**Government of Andhra Pradesh
Department of School Education
State Council of Educational Research & Training
Category of Post: TGT**

Paper I – ENGLISH LANGUAGE PROFICIENCY Test Syllabus

English: (Content) (Marks: 100) (Difficulty level upto Class X)

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 – 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)) (Class VI to Intermediate level syllabus)

- 1) **6వ తరగతి నుండి ఇంటర్మీడియట్ వరకు గల ఆంధ్రప్రదేశ్ ప్రభుత్వ తెలుగు వాచకాలలోని అంశాలు:**
(ఉపవాచకాలతో సహా) **40 మార్కులు**
కవికాలాదులు, నేపథ్యాలు, ఉద్దేశాలు, మూల గ్రంథాలు, 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, తత్వమ, ఆచ్ఛిక, 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

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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.
- 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 – 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) (Class VI to Intermediate level syllabus)

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	
Punctuation and Capitalization	LEVEL OF TESTING 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	<p>*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;</p> <p>*Figures of Speech - Simile, Metaphor, Apostrophe, Personification, Metonymy, Synecdoche, irony and alliteration;</p> <p>*Rhyme Scheme</p>

Poetry Study (Detailed Study)	<ol style="list-style-type: none"> 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)	<ol style="list-style-type: none"> 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)	<ol style="list-style-type: none"> 1. Pride and Prejudice (Jane Austen) 2. Swami and Friends (R.K.Narayan)
Drama (Detailed Study)	<ol style="list-style-type: none"> 1. Macbeth (Shakespeare) 2. Murder in the Cathedral (T.S.Eliot)
Short Story (Detailed Study)	<ol style="list-style-type: none"> 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

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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.
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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 Ethics 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) (Class VI to Intermediate level syllabus)

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) साहित्यिक विधाएँ (कविता, कहानी, उपन्यास, नाटक आदि)
3. **हिंदी भाषा का इतिहास:** उद्भव और विकास: हिंदी राष्ट्र भाषा, राजभाषा और विश्व भाषा के रूप 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 आधार 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 साहित्य)**

V. Methodology (Marks: 20)

1. भाषा-अर्थ, परिभाषा, महत्व, प्रकृति और स्वरूप, ध्वनि विज्ञान, शब्द विज्ञान, वाक्य विज्ञान, विविध 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 हिंदी का स्थान।
2. हिंदी भाषा शिक्षण प्राथमिक, माध्यमिक और उच्च माध्यमिक स्तर पर
 - (1) हिंदी भाषा - शिक्षण के उद्देश्य
 - (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 मॉन्टेसरी, 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।
पठना: 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 सहगामी 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 एवं 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 – SANSKRIT 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. Sanskrit Content (Marks: 40)) (Class VI to Intermediate level syllabus)

Note: 6 कक्ष्यातः 12 कक्ष्यापर्यन्तं प्राच्य / संयुक्त पाठशालासंस्कृतपाठ्यपुस्तकेषु
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 -
अलङ्कारसंप्रदायाः - रसवादाः च।

संस्कृतव्याकरणम् - संज्ञाप्रकरणम्
संधिप्रकरणम्
समासप्रकरणम्
स्त्रीप्रत्ययप्रकरणम्
विभक्त्यर्थप्रकरणम्

भाषांशाः	समानार्थकाः विरुद्धार्थकाः छन्दः अलङ्कारः प्रत्ययाः विभक्तिः क्रियापदः व्युत्पत्त्यर्थाः संख्यावाचकाः प्रयोगविपरिणामः इत्यादयः
पठनावगमनम्	परिचित/अपरिचित पद्य/गद्यांशाः - तदाधारितप्रश्नाः।

V. Methodology (20 Marks)

पाठ्यक्रमे संस्कृतस्य महत्त्वम् - 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
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 :

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- Value Education – Morel Value and Professional Eathics in Education.
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- 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

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)) (Class VI to Intermediate level syllabus)

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 – Measures 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 cards & 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 Bayes'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° , 30° & 60° , 0° & 90°) –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 - Aryabhata, 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: TGT
Paper II – General 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) (Class VI to Intermediate level syllabus)

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, gaseous, 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 (C_p and C_v), 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 C_p and C_v (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, earthing, 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 - Dalton's 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 Broglie's hypothesis, Heisenberg's uncertainty 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, Exothermic 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, Energetics: 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, NaHCO_3 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 K_p and K_c , 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 K_a and K_b -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-stoichiometric 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) S_N2 mechanism (b) S_N1 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 properties 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, PX_3 , dehydration and oxidation (iii) Reactions of phenols-electrophilic 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 PCl_5 , PCl_3 , $SOCl_2$, 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, Polyester 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 quaternary 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 pharmacological 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, Inheritance 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) Syntactical 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 – 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) (Class VI to Intermediate level syllabus)

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 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- Coriolis 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 protecting 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 activities 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 – mौर्यan empire- ashoka –kingdoms and empires in the deccan- New Kings and Kingdoms(between seventh and twelfth 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 17th,18th and 19th 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-advansi revolts-the British government’s industrial policy-labourers’ struggles-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-burra-katha – 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 Spatial 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 (Convictional, Orographic and Cyclonic rain fall).

Bio geography -Biomes of the world- Equatorial, Tropical and Temperate -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-Major 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, Tapi, 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. Bakranagal, 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 Ajivikas 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/Travellers 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 Viceroy – 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, & Jacob 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 Finance-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 an 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