GURUKULAM
Syllabus for Recruitment Test
Category of Post: PGT – Biological Science

Part – I
GENERAL KNOWLEDGE AND CURRENT AFFAIRS (Marks: 08)

Part – II
CHILD DEVELOPMENT AND PEDAGOGY (Marks: 08)

1. Development of Child

Development, Growth & Maturation – Concept & Nature, Principles of development, Factors influencing Development – Biological, Psychological, Sociological, Dimensions of Development and their interrelationships – Physical & Motor, Cognitive, Emotional, Social, Moral, Language relating to Infancy, early Childhood, late Child hood, Adolescence, Understanding Development – Piaget, Kohlberg, Chomsky, Carl Rogers, Individual differences – Intra & Inter Individual differences in the areas of Attitudes, Aptitude, Interest, Habits, Intelligence and their Assessment, Development of Personality – Concept, Factors and Assessment of Personality, Adjustment, Behavioural problems, Pro-social behaviour and Mental Health, Methods and Approaches of Child Development – Observation, Interview, Case study, Experimental, Cross sectional and Longitudinal, Developmental tasks and Hazards

2. Understanding Learning

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

3. Pedagogical Concerns

Teaching and its relationship with learning and learner, Learners in Contexts: Situating learner in the socio-political and cultural context, Children from diverse contexts–Children With Special Needs (CWSN), Inclusive Education, Understanding of pedagogic methods – Enquiry based learning, Project based learning, Survey, Observation and Activity based learning, Individual and Group learning: Issues and concerns with respect to organizing learning in class room like Study habits, Self learning and Learning to learn skills, Organizing learning in heterogeneous class room groups – Socio-economic background, Abilities and Interest, Paradigms of organizing Learning-Teacher centric, Subject centric and Learner centric, Teaching as Planned activity – Elements of Planning, Phases of Teaching – Pre active, Interactive and Post active, General and Subject related skills, competencies required in teaching and attributes of good facilitator, Learning resources – Self, Home, School, Community, Technology, Class room Management: Role of student, teacher, Leadership style of teacher, Creation of non-threatening learning environment, Managing behaviour problems, Guidance & Counselling, Punishment and its legal implications, Rights of a child, Time Management, Distinction between Assessment for Learning & Assessment of Learning, School based Assessment, Continuous & Comprehensive Evaluation: Perspective & Practice Understanding teaching & learning in the context of NCF, 2005 & Right To Education Act, 2009.

Part - III
PERSPECTIVES IN EDUCATION (Marks: 08)

1. History of Education
Pre-Vedic and Post-Vedic period, Medieval Education, Recommendations of various committees during British period with special reference to Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944), Recommendations of various committees during post independent period with special reference to Mudaliar Commission (1952-53), Kothari Commission(1964-66), Ishwarbhai Patel committee (1977), NPE-1986, POA-1992

2. Teacher Empowerment
Meaning, 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:
Environmental Education, Meaning and scope of Environmental Education, Concept of sustainable development, Role of Teacher, School and NGOs in development and protection of environment, Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities, Economics of Education, Meaning and scope, Education as Human Capital, Education and Human Resource Development, Literacy – Saakshar Bharat Mission, Population Education, Significance of Population Education, Population situation, policies and programmes in India, Approaches to Population Education and role of school and teacher, Themes of population Education, Family life Education, Sustainable development, Adolescence Education, Health Education, Gender – Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills, Inclusive Education, Conceptual Clarification and Definition, Prevalence, Myths & Facts, Characteristics, Classification & Types, Importance of Early Identification and assessment, Planning Inclusive Education, Classroom Management in Inclusive Education, Evaluation, Documentation and Record Maintenance, Psycho-Social management, Awareness & Sensitization Strategies, Liberalization, Privatization and Globalization, Value Education, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Mid-day-meals, Rashtriya Madhyamika Siksha Abhiyan(RMSA), KGBVs and SUCCESS Schools.

4. Acts / Rights:
Right of Children to Free and Compulsory Education Act, 2009 and Child Rights.

5. National Curriculum Framework, 2005:
Perspective, Learning and Knowledge, Curricular Areas, School Stages and Assessment, School and Classroom Environment and Systemic Reforms.

Part - IV
LANGUAGE - ENGLISH (Marks: 08)

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

9. Direct and Indirect – Speech
10. Clauses
11. Active and Passive Voice
12. Use of Phrases
13. Comprehension of a Prose passage / Poems
14. Vocabulary

Part - V
CONTENT BOTANY & ZOOLOGY (Marks: 40)

BOTANY

1. Classification of Plant Kingdom

2. Branches of Botany

3. Bacteria and Viruses:
General account of Viruses: Characteristics, Chemistry, Ultra structure, Composition, Replication, Bacteriophage, Transmission of plant viruses. General account of Bacteria: Characteristics, Shape, Ultra structure of the cell, Nutrition, Reproduction, Classification and Importance.

4. Algae:
Introduction and general classification of algae, criteria for the classification, thallus organisation of algae, economic importance of algae, general characteristics structure, reproduction, pigments, phylogeny, life cycles of Chlamedomonas, Volvox, Oedogonium, Chara, Vauchaeria, Ecocarpus, Polysiphonia.

5. Fungi:
General characteristics of fungi, occurrence, thallus structure of fungi, modes of nutrition, reproduction, phylogeny of these types: Albugo, Mucor, Penicillium, Puccinia, Peziza, Alternaria. General account of Lichens, Economic importance of Fungi.

6. Bryophyta:
General characteristics of Bryophyta, sporophyte, evolution in Bryophyta, classification of Bryophyta, structure, reproduction in Marchantia, Anthoceros, Polytrichum.

7. Pteridophyta:
General characteristics of Pteridophyta, classification of Pteridophyta, structure, reproduction in Rhynia, Lycopodium, Equisetum and Marsilea.

8. Palaeobotany:
Origin & evolution of land plants, Homospory, Heterospory, origin of seed, Telome theory and Origin of Sporophyte.

9. Gymnosperms:
Characteristics and classification of Gymnosperms, Morphology, Life History & affinities of Cycas, Pinus & Gnetum.

10. Angiosperms:
Taxonomy of Angiosperms, Systems of Classification: Hutchinson, Takhtajan, Pressey, Engler & Prantl, Bentham & Hooker. Principles of taxonomy: Criteria of classification, categories of classification, International code of Botanical Nomenclature, principles, typification, citation & authority. Study of the following families with reference to their characteristics, economic

importance and attributes etc. a) Annonaceae b) Malvaceae c) Fabaceae d) Caesalpinaceae e) Mimosaceae f) Cucurbitaceae g) Asclepiadaceae h) Euphorbiaceae i) Orchidaceae j) Rubiaceae k) Poaceae

11. Cell Biology and Anatomy:

Ultra structure of cell and cell organelles, cell wall structure, tissue and tissue systems, meristems, shoot & root apices, normal & anomalous secondary growth.

12. Cytology, genetics and Evolution:

Mitosis and Meiosis; Chromosome (Morphology, Structure, importance); concept of gene laws of inheritance; gene action; genetic code; linkage and crossing over; general account of mutations; polyploidy and its role in crop improvement, Concept of Primitive flower; development of anther and ovule; general account of embryosac and types of embryo; fertilization; endosperm morphology and types; polyembryony and apomixes.

13. Ecology:

Ecosystem: Concept, biotic & abiotic components, ecological pyramids, productivity. Biogeochemical cycles (Carbon, Nitrogen, Sulphur, Phosphorous cycles), Plant succession – Xerosere and Hydrosere Bio-diversity and conservation.

14. Physiology

Absorption and translocation of water; Transpiration and stomatal behaviour; Absorption and uptake of Ions, Donnan's equilibrium; Role of micronutrients in plant growth; Translocation of solutes; Photosynthesis (Light and dark reaction, Red drop, Emerson effect, Two pigment systems, Mechanism of Hydrogen transfer, Calvin cycle, Enzymes of CO_2 reduction, Hatch and slack cycle, C4 cycle, CAM Pathway, Factors affecting photosynthesis, Pigments.); Respiration (Glycolysis, Pentose phosphate shunt, structure and role of mitochondria, Kreb's cycle, Oxidative Phosphorylation, Photorespiration, respiratory quotient, fermentation, Pasteur effect, factors affecting.); The enzymes (Nomenclature and classification, structure and composition, Mode of enzyme action , Factors affecting.); Nitrogen metabolism and bio synthesis of proteins, Nitrogen fixation, Nitrogen cycle, (Physical and Biological); Nitrogen assimilation, Amino acid metabolism, Plant Hormones(Auxins, Gibberellins, Cytokinins, Abscissic acid – general account.)

15. Economic Botany:

Utilisation of plants, food plants, fibres, vegetable oils, wood yielding plants, spices, medicinal plants, beverages and rubber.

16. Recent aspects of Botany:

Genetic Engineering; Plant tissue culture; Social forestry; Environmental Pollution (Water, Soil, Air) Health hazards and control, Biotechnology.

ZOOLOGY

1. Classification of Animal Kingdom

2. Non Chordata

Classification of Non Chordata

General characteristics and features of

Protozoa	: Polystomella, Trypanozoma type study.
Porifera	: Canal system, histology & Spicules.
Cnideria	: Obelia type study,
Platihelmenthes	: Fasciola type study,
Nematodes	: Ascaris

Annelida : Earth worm, Leech type study
Arthropoda : Palaemon type study
Mollusca : Snail type study
Echinodermata : Star fish type study

3. Chordata
Classification of Chordata
General characteristics and type study of the following with reference to skeletal system, respiratory system, circulatory system and nervous system.
Pisces : Scoliodon
Amphibia : Frog
Reptilia : Calotes
Aves : Pigeon
Mammalia : Rabbit

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

5. Genetics:
Mendel's Law of inheritance – critical view, Linkage, crossing-over, sex-linked inheritance, mutations, inborn errors of Metabolism, human Genetics and genetic engineering.

6. Physiology:
Vitamins, Enzymes, Carbohydrates, Proteins and Lipids metabolism, Osmoregulation, Thermo-regulation, Excretion in vertebrates, muscle contraction, Nerve Impulse, vertebrate hormones and Mammalian reproduction.

7. Animal Behaviour:
Taxis, reflexes, instinctive behaviour, motivatived behaviour, learning imprinting, habituation, classical conditioning, instrumental conditioning, trial and error learning, physiology and phylogeny of leaning, biological rhythms – circadian, lunar and circannual rhythms.

8. Developmental Biology:
Gastrulation in Frog and Chick, Development of Chick upto 24 hrs, Foetal membranes of chick, Placenta in Mammals (Formation and types)

9. Evolution:
Origin of Life – Modern concepts, theories of Evolution, Isolation, Speciation, Natural Selection, Hardy Weinberg's Law, population genetics and evolution, adaptations, evolution of Man. Zoogeographical realms of the world.

10. Ecology:
Concept of Ecosystem, Biogeochemical cycles, influence of environmental factors on animals , energy flow in Ecosystem, food chains & tropic levels, community ecology. Ecological Succession, Environmental Pollution – Air, water, land, noise, radio active, thermal and visual; Effects of pollution on ecosystem, prevention of pollution.

11. Wild Life in India and Conservation of Wild Life.

Part -VI

TEACHING METHODOLOGY (Marks: 08)

1. The Nature & Scope of Science:

A brief introduction of Oriental and Western Science, Nature of Science, Scope of Science, Substantive and Syntactic Structure of Science.

2. Aims and Values of Teaching Biological Sciences:

Aims of teaching Biological Sciences, Values of teaching Biological Sciences.

3. Objectives of Teaching Biological Sciences:

Importance of Objectives of Teaching Biological Sciences, Bloom's Taxonomy of Educational Objectives and limitations, Writing Instructional Objectives and Specifications.

4. Approaches and Methods of Teaching Biological Sciences:

Inductive Approach and Deductive Approach, Methods of Teaching 1. Lecture Method, 2. Lecture cum Demonstration Method, 3. Heuristic Method, 4. Project Method, 5. Experimental Method, 6. Laboratory Method.

5. Planning for effective Instruction:

Year Plan, Unit Plan, Lesson Plan – Herbartian and Bloom's Approach, Criteria for Evaluation of Lesson Plan. Self Evaluation and Peer Evaluation, Learning experiences – Characteristics, Classification, Sources and Relevance, Teaching – Learning Material and Resources in Biological Sciences.

6. Science Laboratories:

Importance of Practical work in Biological Sciences, Planning Science Laboratory, Procurement, Care and Maintenance of Laboratory Equipment, Maintenance of different Registers, Safety and First aid, Development of Improvised Apparatus.

7. Science Curriculum:

Principles of Curriculum Construction, Defects in the existing School Science Curriculum, Correlation of Biological Sciences with other School Subjects, Qualities of a good Biological Science Text-book.

8. Biological Science Teacher:

Qualities of a good Biological Sciences Teacher, Roles and Responsibilities

9. Non-formal Science Education:

Science club, Eco-club, Blue-club, Red ribbon club, Science fairs – Objectives, levels of organizations, importance, Science Laboratories, Role of NGO`S and State in popularizing science.

10. Evaluation:

Concept and process of Measurement and Evaluation, Continuous Comprehensive Evaluation, Tools of Evaluation, Preparation of Scholastic Achievement Test (SAT), Analysis and interpretation of scores.

GURUKULAM
Syllabus for Recruitment Test
Category of Post: PGT – English

Part – I
GENERAL KNOWLEDGE AND CURRENT AFFAIRS (Marks: 08)

Part – II
CHILD DEVELOPMENT AND PEDAGOGY (Marks: 08)

1. Development of Child

Development, Growth & Maturation – Concept & Nature, Principles of development, Factors influencing Development – Biological, Psychological, Sociological, Dimensions of Development and their interrelationships – Physical & Motor, Cognitive, Emotional, Social, Moral, Language relating to Infancy, early Childhood, late Child hood, Adolescence, Understanding Development – Piaget, Kohlberg, Chomsky, Carl Rogers, Individual differences – Intra & Inter Individual differences in the areas of Attitudes, Aptitude, Interest, Habits, Intelligence and their Assessment, Development of Personality – Concept, Factors and Assessment of Personality, Adjustment, Behavioural problems, Pro-social behaviour and Mental Health, Methods and Approaches of Child Development – Observation, Interview, Case study, Experimental, Cross sectional and Longitudinal, Developmental tasks and Hazards

2. Understanding Learning

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

3. Pedagogical Concerns

Teaching and its relationship with learning and learner, Learners in Contexts: Situating learner in the socio-political and cultural context, Children from diverse contexts–Children With Special Needs (CWSN), Inclusive Education, Understanding of pedagogic methods – Enquiry based learning, Project based learning, Survey, Observation and Activity based learning, Individual and Group learning: Issues and concerns with respect to organizing learning in class room like Study habits, Self learning and Learning to learn skills, Organizing learning in heterogeneous class room groups – Socio-economic background, Abilities and Interest, Paradigms of organizing Learning-Teacher centric, Subject centric and Learner centric, Teaching as Planned activity – Elements of Planning, Phases of Teaching – Pre active, Interactive and Post active, General and Subject related skills, competencies required in teaching and attributes of good facilitator, Learning resources – Self, Home, School, Community, Technology, Class room Management: Role of student, teacher, Leadership style of teacher, Creation of non-threatening learning environment, Managing behaviour problems, Guidance & Counselling, Punishment and its legal implications, Rights of a child, Time Management, Distinction between Assessment for Learning & Assessment of Learning, School based Assessment, Continuous & Comprehensive Evaluation: Perspective & Practice Understanding teaching & learning in the context of NCF, 2005 & Right To Education Act, 2009.

Part - III
PERSPECTIVES IN EDUCATION (Marks: 08)

1. History of Education :
Pre-Vedic and Post-Vedic period, Medieval Education, Recommendations of various committees during British period with special reference to Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944), Recommendations of various committees during post independent period with special reference to Mudaliar Commission (1952-53), Kothari Commission(1964-66), Ishwarbhai Patel committee (1977), NPE-1986, POA-1992

2. Teacher Empowerment:
Meaning, 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:
Environmental Education, Meaning and scope of Environmental Education, Concept of sustainable development, Role of Teacher, School and NGOs in development and protection of environment, Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities, Economics of Education, Meaning and scope, Education as Human Capital, Education and Human Resource Development, Literacy – Saakshar Bharat Mission, Population Education, Significance of Population Education, Population situation, policies and programmes in India, Approaches to Population Education and role of school and teacher, Themes of population Education, Family life Education, Sustainable development, Adolescence Education, Health Education, Gender – Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills, Inclusive Education, Conceptual Clarification and Definition, Prevalence, Myths & Facts, Characteristics, Classification & Types, Importance of Early Identification and assessment, Planning Inclusive Education, Classroom Management in Inclusive Education, Evaluation, Documentation and Record Maintenance, Psycho-Social management, Awareness & Sensitization Strategies, Liberalization, Privatization and Globalization, Value Education, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Mid-day-meals, Rashtriya Madhyamika Siksha Abhiyan(RMSA), KGBVs and SUCCESS Schools.

4. Acts / Rights:
Right of Children to Free and Compulsory Education Act, 2009 and Child Rights.

5. National Curriculum Framework, 2005:
Perspective, Learning and Knowledge, Curricular Areas, School Stages and Assessment, School and Classroom Environment and Systemic Reforms.

Part - IV
CONTENT: ENGLISH (Marks: 48)

I. Reading Comprehension of an unseen prose text

II. Language and Communication
- Parts of Speech
- Articles-Determiners
- Conjunctions (Linkers/Connectors/ Cohesive devices).
- Prepositions
- Adverbs –Types and their order in sentenses.
- Tense and Time

- Adjectives including Degrees of Comparison
- Modals
- Word Order in Sentences
- Clauses
- Types of Sentences
- Voice
- Direct and Indirect Speech
- Non-finites (Infinitives, Gerunds and Participles)
- Complex and Compound Sentences
- Phrasal Verbs/Idioms/Prepositional Phrases
- Punctuation Marks
- Phonetics -Sounds, Stress and Intonation, Minimal Pairs, Minimal Contrastive Pairs
- Composition- Letter writing, Message writing, Notice writing, Report writing, Article writing, Paragraph writing and Precis writing

III. Literature

A. Detailed study of English Literature from 1798 to 1900 with special reference to Wordsworth, S.T.Coleridge, John Keats , Shelley, Lord Byron, Charles Lamb, Charles Dickens, William Hazlitt, Alfred Lord Tennyson, Robert Browning, Mathew Arnold, George Eliot, Thomas Carlyle and John Ruskin.

B. Reading Comprehension of a literary Prose and Poem.

C. Poetry

Name of the Poet Title	Title
William Shakespeare	-Let Me Not To The Marriage of True Minds(A sonnet)
John Milton	On Time On Shakespeare
William Wordsworth	The Solitary Reaper Education of Nature A Slumber Did My Spirit Seal The World Is Too Much With Us
William Blake	A Poison Tree The Divine Image The School Boy
John Keats	On The Grasshopper and The Cricket Ode to The Nightingale Ode to Autumn
John Donne	A Literature Upon the Shadow The Sunne Rising
W.B.Yeats	The Wild Swans of Coole Byzantium The Second Coming
S.T.Coleridge	The Rime of The Ancient Mariner
Emily Dickinson	Trees
Robert Frost	The Road Not Taken Dust of Snow Stopping By Woods on a Snowy Evening
Rabindranath Tagore	The Last Bargain

	Where The Mind is Without Fear From Lover's Gift
Sarojini Naidu	The Bangle Sellers

C. Prose (Essay/Short Story/Novel)

Name of the Essayist/Writer/Novelist	Title
Francis Bacon	Of Studies
Charles Lamb	Dream Children-A Reverie
Oscar Wilde	The Nightingale and The Rose
Stephen Leacock	How to Live to be 200 The Conjuror's Revenge
E.V.Lucas	The face on the Wall
O'Henry	After Twenty Years
Isaac Asimov	Robots and People
A.G.Gardiner	On Shaking Hands
R.K. Laxman	The Gold Frame
Ruskin Bond	How Far is the River
George Orwell	Animal Farm (Original version)
R.K.Narayan	Next Sunday The Guide
Jane Austen	Pride and Prejudice
Jawahar Lal Nehru	Chapter III (The Quest) of Discovery of India

D. Drama

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

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

E. Literary Criticism

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

Part - V

TEACHING METHODOLOGY (Marks: 08)

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

GURUKULAM
Syllabus for Recruitment Test
Category of Post: PGT – Hindi

Part – I
GENERAL KNOWLEDGE AND CURRENT AFFAIRS (Marks: 08)

Part – II
CHILD DEVELOPMENT AND PEDAGOGY (Marks: 08)

1. Development of Child

Development, Growth & Maturation – Concept & Nature, Principles of development, Factors influencing Development – Biological, Psychological, Sociological, Dimensions of Development and their interrelationships – Physical & Motor, Cognitive, Emotional, Social, Moral, Language relating to Infancy, early Childhood, late Child hood, Adolescence, Understanding Development – Piaget, Kohlberg, Chomsky, Carl Rogers, Individual differences – Intra & Inter Individual differences in the areas of Attitudes, Aptitude, Interest, Habits, Intelligence and their Assessment, Development of Personality – Concept, Factors and Assessment of Personality, Adjustment, Behavioural problems, Pro-social behaviour and Mental Health, Methods and Approaches of Child Development – Observation, Interview, Case study, Experimental, Cross sectional and Longitudinal, Developmental tasks and Hazards.

2. Understanding Learning

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

3. Pedagogical Concerns

Teaching and its relationship with learning and learner, Learners in Contexts: Situating learner in the socio-political and cultural context, Children from diverse contexts–Children With Special Needs (CWSN), Inclusive Education, Understanding of pedagogic methods – Enquiry based learning, Project based learning, Survey, Observation and Activity based learning, Individual and Group learning: Issues and concerns with respect to organizing learning in class room like Study habits, Self learning and Learning to learn skills, Organizing learning in heterogeneous class room groups – Socio-economic background, Abilities and Interest, Paradigms of organizing Learning-Teacher centric, Subject centric and Learner centric, Teaching as Planned activity – Elements of Planning, Phases of Teaching – Pre active, Interactive and Post active, General and Subject related skills, competencies required in teaching and attributes of good facilitator, Learning resources – Self, Home, School, Community, Technology, Class room Management: Role of student, teacher, Leadership style of teacher, Creation of non-threatening learning environment, Managing behaviour problems, Guidance & Counselling, Punishment and its legal implications, Rights of a child, Time Management, Distinction between Assessment for Learning & Assessment of Learning, School based Assessment, Continuous & Comprehensive Evaluation: Perspective & Practice Understanding teaching & learning in the context of NCF, 2005 & Right To Education Act, 2009.

Part - III
PERSPECTIVES IN EDUCATION (Marks: 08)

1. History of Education :
Pre-Vedic and Post-Vedic period, Medieval Education, Recommendations of various committees during British period with special reference to Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944), Recommendations of various committees during post independent period with special reference to Mudaliar Commission (1952-53), Kothari Commission(1964-66), Ishwarbhai Patel committee (1977), NPE-1986, POA-1992

2. Teacher Empowerment:
Meaning, 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:
Environmental Education, Meaning and scope of Environmental Education, Concept of sustainable development, Role of Teacher, School and NGOs in development and protection of environment, Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities, Economics of Education, Meaning and scope, Education as Human Capital, Education and Human Resource Development, Literacy – Saakshar Bharat Mission, Population Education, Significance of Population Education, Population situation, policies and programmes in India, Approaches to Population Education and role of school and teacher, Themes of population Education, Family life Education, Sustainable development, Adolescence Education, Health Education, Gender – Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills, Inclusive Education, Conceptual Clarification and Definition, Prevalence, Myths & Facts, Characteristics, Classification & Types, Importance of Early Identification and assessment, Planning Inclusive Education, Classroom Management in Inclusive Education, Evaluation, Documentation and Record Maintenance, Psycho-Social management, Awareness & Sensitization Strategies, Liberalization, Privatization and Globalization, Value Education, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Mid-day-meals, Rashtriya Madhyamika Siksha Abhiyan(RMSA), KGBVs and SUCCESS Schools.

4. Acts / Rights: Right of Children to Free and Compulsory Education Act, 2009 and Child Rights.

5. National Curriculum Framework, 2005:
Perspective, Learning and Knowledge, Curricular Areas, School Stages and Assessment, School and Classroom Environment and Systemic Reforms.

Part - IV
LANGUAGE: ENGLISH (Marks: 08)

1. Poets, Essayists, Novelists, Dramatists and their works.
2. Forms of Language – Story, Essay, Letter writing, Editorial, Précis writing, note-making, autobiography and biography.
3. Pronunciation – Sounds – Use of dictionary
4. Parts of Speech
5. Tenses

6. Types of Sentences
7. Articles and Prepositions
8. Degrees of Comparison
9. Direct and Indirect – Speech
10. Clauses
11. Active and Passive Voice
12. Use of Phrases
13. Comprehension of a Prose passage / Poems
14. Vocabulary

CONTENT (Marks: 40)

I. कवि / लेखक रचनाएँ विषयवसतु , पुष्ठभुमि, चिरत्र-चित्रण, भाषा शैली आदि।
II. साहित्यक विधाएँ और उनकी विशेषताएँ
III. आधुनिक साहित्य – विभिन्न प्रक्तत्तियाँ और वाद
IV. हिन्दी भाषा पर अन्य साहित्य / भाषाओँ का प्रभाव
V. हिन्दी भाषा : उपभाषाएँ और बोलियाँ.
VI. हिन्दी भाषा – साहित्य में भारतिय काव्य शास्त्र : अर्थ, परिभाषा, प्रयोजन और लक्षण
VII. भाषा तत्व और व्याकरण :
- शब्द विचार : अपसर्ग –प्रत्यय
- शब्द भेद
- लिंग , बचन कारक ,काल
- शब्द रुपानतर
- शब्द – अर्थ, भिन्न–भिन्न अर्थ, पर्यावाची शब्द और विलोम शब्द
- शब्द परिचय : तत्सम , तदभब, देशज और विदेशी
- वाक्य संस्चना, भेद
- वाच्य
- संधि – समास
- मुहावरे – लोकपक्तियाँ ,कहावतें
- वर्तनी
- विशिष्ट प्रयोग (जैसे चाहिए, अपना -----)
- व्याकरण – परिभाषाएँ

VIII. अनुवाद – आवश्यकता – प्रकार
IX. बोधक गदयाँश

Teaching Methodology (Marks : 8)

I. भाषा – अर्थ, परिभाषा, महत्व

प्रक्रुति और स्वरुप

हिन्दी भाषा – प्रथम भाषा के रुप में

- द्रितीय भाषा के रुप में
- सरकारी भाषा के रुप में
- त्रिभाषा – सुत्र
- भारतिए संविधान में हिन्दी का स्थान

II. हिन्दी भाषा शिक्षण - प्राथमिक, माध्यामिक और उच्च माध्यामिक स्तर पर

- हिन्दी भाषा – शिक्षण के उद्देश्य
- अच्छे शिक्षण की विशेषताएँ
- भाषा-शिक्षण के सामान्य सिद्धान्त
- शिक्षण – सुत्र

- शिक्षण प्रणालियाँ
- शिक्षण पद्धतियाँ
- सफल शिक्षक की विशेषताएँ

III. शिक्षण में भाषा –कौशलों का महत्व

सुनना : ध्वनि की उत्पत्ति,ध्वनि श्रवरण और पारस्परिक संबंध

बोलना : शब्दोच्चारण, वाक्यंत्र शुद्धोच्चारण का अभ्यास, मौखिक अबिव्यक्ति, पाठशाला में वार्तालाप का अभ्यास

पढना: वाचन की विशेषताएँ, प्रकार, दोष और उपचार

लिखना: महत्व, नियम, विधियाँ,प्रकार, अक्षर- विन्यास

भाषा- कौशलों का विकास

IV. शिक्षण उद्देशयों का वर्गीकरण

- पाठ – योजना (गद्य,पद्य, व्याकरण,पत्र-लेखन और रचना)
- इकाई – योजना
- सुक्ष्म शिक्षण – पाठ –योजना
- शिक्षण – उपकरण

V. पाठय पुस्तक

पुस्तकालय

पाठ्यक्रम

पाठ – सहगामी क्रियाएँ

भाषा – प्रयोगशाला

VI.

- मूल्यांकन की धारणा
- निरंतर समग्र मूल्यांकन
- उद्देश्य अधारित मूल्यांकन
- उत्तम परीक्षा की विशेषताएँ
- उपलब्धि- परीक्षा, प्रशन पत्र- निर्माण
- निदानात्मक एंव उपचारात्मक
- शिक्षण

GURUKULAM
Syllabus for Recruitment Test
Category of Post: PGT - Maths

Part – I
GENERAL KNOWLEDGE AND CURRENT AFFAIRS (Marks: 08)

Part – II
CHILD DEVELOPMENT AND PEDAGOGY (Marks: 08)

1. Development of Child

Development, Growth & Maturation – Concept & Nature, Principles of development, Factors influencing Development – Biological, Psychological, Sociological, Dimensions of Development and their interrelationships – Physical & Motor, Cognitive, Emotional, Social, Moral, Language relating to Infancy, early Childhood, late Child hood, Adolescence, Understanding Development – Piaget, Kohlberg, Chomsky, Carl Rogers, Individual differences – Intra & Inter Individual differences in the areas of Attitudes, Aptitude, Interest, Habits, Intelligence and their Assessment, Development of Personality – Concept, Factors and Assessment of Personality, Adjustment, Behavioural problems, Pro-social behaviour and Mental Health, Methods and Approaches of Child Development – Observation, Interview, Case study, Experimental, Cross sectional and Longitudinal, Developmental tasks and Hazards.

2. Understanding Learning

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

3. Pedagogical Concerns

Teaching and its relationship with learning and learner, Learners in Contexts: Situating learner in the socio-political and cultural context, Children from diverse contexts–Children With Special Needs (CWSN), Inclusive Education, Understanding of pedagogic methods – Enquiry based learning, Project based learning, Survey, Observation and Activity based learning, Individual and Group learning: Issues and concerns with respect to organizing learning in class room like Study habits, Self learning and Learning to learn skills, Organizing learning in heterogeneous class room groups – Socio-economic background, Abilities and Interest, Paradigms of organizing Learning-Teacher centric, Subject centric and Learner centric, Teaching as Planned activity – Elements of Planning, Phases of Teaching – Pre active, Interactive and Post active, General and Subject related skills, competencies required in teaching and attributes of good facilitator, Learning resources – Self, Home, School, Community, Technology, Class room Management: Role of student, teacher, Leadership style of teacher, Creation of non-threatening learning environment, Managing behaviour problems, Guidance & Counselling, Punishment and its legal implications, Rights of a child, Time Management, Distinction between Assessment for Learning & Assessment of Learning, School based Assessment, Continuous & Comprehensive Evaluation: Perspective & Practice Understanding teaching & learning in the context of NCF, 2005 & Right To Education Act, 2009.

Part - III
PERSPECTIVES IN EDUCATION (Marks: 08)

1. History of Education :
Pre-Vedic and Post-Vedic period, Medieval Education, Recommendations of various committees during British period with special reference to Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944), Recommendations of various committees during post independent period with special reference to Mudaliar Commission (1952-53), Kothari Commission(1964-66), Ishwarbhai Patel committee (1977), NPE-1986, POA-1992

2. Teacher Empowerment:
Meaning, 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:
Environmental Education, Meaning and scope of Environmental Education, Concept of sustainable development, Role of Teacher, School and NGOs in development and protection of environment, Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities, Economics of Education, Meaning and scope, Education as Human Capital, Education and Human Resource Development, Literacy – Saakshar Bharat Mission, Population Education, Significance of Population Education, Population situation, policies and programmes in India, Approaches to Population Education and role of school and teacher, Themes of population Education, Family life Education, Sustainable development, Adolescence Education, Health Education, Gender – Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills, Inclusive Education, Conceptual Clarification and Definition, Prevalence, Myths & Facts, Characteristics, Classification & Types, Importance of Early Identification and assessment, Planning Inclusive Education, Classroom Management in Inclusive Education, Evaluation, Documentation and Record Maintenance, Psycho-Social management, Awareness & Sensitization Strategies, Liberalization, Privatization and Globalization, Value Education, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Mid-day-meals, Rashtriya Madhyamika Siksha Abhiyan(RMSA), KGBVs and SUCCESS Schools.

4. Acts / Rights:
Right of Children to Free and Compulsory Education Act, 2009 and Child Rights.

5. National Curriculum Framework, 2005:
Perspective, Learning and Knowledge, Curricular Areas, School Stages and Assessment, School and Classroom Environment and Systemic Reforms.

Part - IV
LANGUAGE - ENGLISH (Marks: 08)

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

9. Direct and Indirect – Speech
10. Clauses
11. Active and Passive Voice
12. Use of Phrases
13. Comprehension of a Prose passage / Poems
14. Vocabulary

Part - V
CONTENT (Marks: 40)

1. Sets :
Sets and their representations. Union and Intersection of sets, Difference of sets, Complement of a set.

2. Relations & Functions :
Definition of relation, domain, co-domain and range of a relation. Function as a special kind of relation from one set to another. Domain, co-domain & range of a function, Real valued function of the real variable, domain and range of these functions, constant, identity, polynomial, rational, modulus, signum and greatest integer functions. Sum, difference, product and quotients of functions. Union, intersection and complements of sets, and their algebraic properties, Relations, equivalence relations, mappings, one-one, into and onto mappings, composition of mappings.

3. Principle of Mathematical Induction: Processes of the proof by induction.

4. Permutations & Combinations :
Fundamental principle of counting. Factorial n, Permutations and combinations, derivation of formulae and their connections, simple applications.

5. Complex Numbers:
Algebraic properties of complex numbers, argand plane and polar representation of complex numbers, Statement of Fundamental Theorem of Algebra, solution of quadratic equations in the complex number system. Modulus and Argument of a complex number, square root of a complex number, Cube roots of unity, triangle inequality.

6. Linear Inequalities:
Algebraic solutions of linear inequalities in one variable and their representation on the number line. Graphical solution of linear inequalities in two variables, Solution of system of linear inequalities in two variables – graphically, Absolute value, Inequality of means, Cauchy-Schwarz Inequality, Tchebychef's Inequality

7. Binomial Theorem:
Statement and proof of the binomial theorem for positive integral indices. Pascal's triangle, general and middle term in binomial expansion, simple applications. Binomial Theorem for any index, Properties of Binomial Co-efficients, Simple applications for approximations.

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

9. Elementary Number Theory:

Peano's Aximms, Principle of Induction; First Principal, Second Principle, Third Principle, Basic Representation Theorem, Greatest Integer Function Test of Divisibility, Euclid's algorithm, The Unique Factorisation Theorem, Congruence, Sum of divisors of a number. Euler's totient function, Theorems of Fermat and Wilson

10. Quadratic Equations;

Quadratic equations in real and complex number system and their solutions. Relation between roots and co-efficients, nature of roots, formation of quadratic equations with given roots; Symmetric functions of roots, equations reducible to quadratic equations – application to practical problems. Polynomial functions, Remainder & Factor Theorems and their converse, Relation between roots and coefficients, Symmetric functions of the roots of an equation. Common roots.

11. Matrices and Determinants:

Determinants and matrices of order two and three, properties of determinants, Evaluation of determinants. Area of triangles using determinants, Addition and multiplication of matrices, adjoint and inverse of matrix. Test of consistency and solution of simultaneous linear equations using determinants and matrices.

12.Two dimensional Geometry:

Distance formula, section formula, area of a triangle, condition for the collinearity of three points, centroid and in-centre of a triangle, locus and its equation, translation of axes, slope of a line, parallel and perpendicular lines, intercepts of a line on the coordinate axes. Various forms of equations of a line, intersection of lines, angle between two lines, conditions for concurrence of three lines, distance of a point from a line, Equations of internal and external bisectors of angles between two lines, coordinates of centroid, orthocentre and circumcentre of a triangle, equation of family of lines passing through the point of intersection of two lines, homogeneous equation of second degree in x and y, angle between pair of lines through the origin, combined equation of the bisectors of the bisectors of the angles between a pair of lines, condition for the general second degree equation to represent a pair of lines, point of intersection and angle between pair of lines. Standard form of equation of a circle, general form of the equation of a circle, its radius and centre, equation of a circle in the parametric form, equation of a circle when the end points of a diameter are given, points of intersection of a line and a circle with the centre at the origin and condition for a line to be tangent to the circle, length of the tangent, equation of the tangent, equation of a family of circles through the intersection of two circles, condition for two intersecting circles to be orthogonal. Sections of cones, equations of conic sections (parabola, ellipse and hyperbola) in standard forms, condition for $y = mx + c$ to be a tangent and points(s) of tangency.

13. TRIGONOMETRIC FUNCTIONS:

Positive and negative angles, Measuring angles in radians & in degrees and conversion from one measure to another. Definition of trigonometric functions with the help of unit circle. Expressing sin (x+y) and cos (x+y) in terms of sin x , sing y, cos x & cos y. Identities related to sin 2x, tan 2x, sin 3x and tan3x. Solution of trigonometric equations, proofs and simple applications of sine and cosine formulae. Solution of triangle. Heights and Distances. INVERSE TRIGONOMETRIC FUNCTIONS: Definition, range, domain, principal value branches. Graphs of inverse trigonometric functions. Elementary properties of inverse trigonometric functions.

14. DIFFERENTIAL CALCULUS:

Polynomials, rational, trigonometric, logarithmic and exponential functions, Inverse functions. Graphs of simple functions, Limits, Continuity and differentiability; Derivative, Geometrical interpretation of the derivative, Derivative of sum, difference, product and quotient of functions. Derivatives of polynomial and trigonometric functions, Derivatives of composite functions; chain rule, derivatives of inverse trigonometric functions, derivative of implicit function, Exponential and

logarithmic functions and their derivatives, Logarithmic differentiation, Derivative of functions expressed in parametric forms. Second order derivatives. Rolle's and Lagrange's Mean Value Theorems and their geometric interpretations.

APPLICATIONS OF DERIVATIVES:
Applications of derivatives: rate of change, increasing / decreasing functions, tangents & normals, approximation, maxima and minima.

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

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

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

17. SOLID GEOMETRY
Coordinates of a point in space, distance between two points ; Section formula, Direction cosines / ratios of a line joining two points –
THE PLANE : Equation of Plane in terms of its intercepts on the axis through the given points, Length of the perpendicular from a given point to a given plane, Bisectors of angles between two Planes, Combined Equation of Two Planes, orthogonal projection on a plane.
THE LINE : Equations of a Line, angle between a line and a Plane, the Condition that a given line may lie in a given plane, the condition that two given lines are coplanar, Number of arbitrary constants in the Equations of a Straight Line. Sets of Conditions which determine a line, the Shortest distance between two lines. The length and Equations of the line of Shortest distance between two straight lines, Length of the perpendicular from a given point to a given line, Intersection of three planes, Triangular Prism, skew lines.
THE SPHERE: Definition and equation of the Sphere, Equation of the sphere through four given points, Plane section of the sphere, Intersection of Two Spheres; Equation of a Sphere through a given circle : Intersection of a sphere and a line. Power of a point; Tangent Plane; Plane of Contact, Polar Plane, Conjugate points, Conjugate planes: Angle of intersection of Two Spheres. Conditions for two spheres to be orthogonal: Radical Plane, Coaxial System of Spheres; Simplified form of the equation of Two Spheres.
Cones, cylinders and Conicoids: Definitions of a cone, vertex, guiding curve, generators, Equation of the cone with a given vertex and guiding curve, Enveloping cone of a sphere, Quadratic of cones with vertex at origin, Condition that the general equation of the second degree should represent a cone, Condition that a cone may have three mutually perpendicular generators, Intersection of a line and a quadric cone. Tangent lines and tangent plane at a point. Condition that a plane may touch a cone. Reciprocal cones. Intersection of two cones with a

common vertex. Right circular cone. Equation of the right circular cone with a given vertex, axis and semi-vertical angle. Definition of a cylinder, Equation to the cylinder whose generators intersect a given conic and are parallel to a given line, enveloping cylinder of a sphere. The right circular cylinder, Equation of the right circular cylinder with a given axis and radius. The general equation of the second degree shapes of some surfaces, Nature of Ellipsoid, Nature of Hyperboloid of one sheet.

19. STATISTICS :

Measures of central tendency for grouped and ungrouped data. Measures of dispersion; for ungrouped / grouped data. Analysis of frequency distributions with equal means but different variances.

20. PROBABILITY:

Random experiments: outcome, sample spaces. Events: occurrence of events, exhaustive events, mutually exclusive events, Probability of an event, probability of 'not', 'and' & 'or' events., Multiplication theorem on probability. Conditional probability, independent events, Baye's theorem, Random variable and its probability distribution, Binomial and Poisson distributions and their properties.

21. LINEAR ALGEBRA:

Examples of vector spaces, vector spaces and subspace, independence in vector spaces, existence of a Basis, the row and column spaces of a matrix, sum and intersection of subspaces. Linear Transformations and Matrices, Kernel, Image, and Isomorphism, change of bases, Similarity, Rank and Nullity. Inner Product spaces, orthonormal sets and the Gram-Schmidt Process, the Method of Least Squares. Basic theory of Eigenvectors and Eigenvalues, algebraic and geometric multiplicity of eigen value, diagonalization of matrices, application to system of linear differential equations. Generalized Inverses of matrices, Moore-Penrose generalized inverse. Real quadratic forms, reduction and classification of quadratic forms, index and signature, triangular reduction of a pair of forms, singular value decomposition, extrema of quadratic forms. Jordan canonical form, vector and matrix decomposition. Field extensions, fundamental theorem of Galois theory, splitting fields, algebraic closure and normality, Galois group of a polynomial, finite fields, separability, cyclic extensions, solvability by radicals.

22. ANALYSIS:

Monotone functions and functions of bounded variation, Real valued functions, continuous functions, Absolute continuity of functions, standard properties. Uniform continuity, sequence of functions, uniform convergence, power series and radius of convergence, Riemann-Stieltjes integration, standard properties, multiple integrals and their evaluation by repeated integration, change of variable in multiple integration . Uniform convergence in improper integrals, differentiation under the sign of integral – Leibnitz rule, Dirichlet integral, Liouville's extension, Introduction to n- dimensional Euclidean space, open and closed intervals (rectangles), compact sets, Bolzano-Weierstrass theorem, Heine-Borel theorem. Maxima-minima of functions of several variables, constrained maxima-minima of functions, Analytic function, Cauchy-Riemann equations, singularities, Statement of Cauchy theorem and of Cauchy integral formula with applications, Residue Statement of Cauchy theorem and of Cauchy integral formula with applications, Residue and contour integration, Fourier and Laplace transforms, Mellin's inversion theorem. Conformal Mapping, Elliptic Function. Elementary Functions (Exponential.,Logarithm, Complex Exponents, Trigs, Hyperbolic Functions) Integrals (Definite Integrals, Antiderivatives, Cauchy Goursat Theorem, Cauchy Integral Formula, Liouville's Theorem, Fundamental Theorem of Algebra, Maximum Modulus Principle) Series (Sequences, Convergence of Series, Taylor Series, Laurent Series, Absolute and Uniform Convergence, Power Series techniques) Residues and Poles (Residues, Cauchy's Residue Theorem, Residue at Infinity, Zeros of Analytic Functions.

23. ABSTRACT ALGEBRA AND REAL ANALYSIS:

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

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

Part - VI

TEACHING METHODOLOGY (Marks: 08)

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

GURUKULAM
Syllabus for Recruitment Test
Category of Post: PGT – Physical Science

Part – I
GENERAL KNOWLEDGE AND CURRENT AFFAIRS (Marks: 08)

Part – II
CHILD DEVELOPMENT AND PEDAGOGY (Marks: 08)

1. Development of Child

Development, Growth & Maturation – Concept & Nature, Principles of development, Factors influencing Development – Biological, Psychological, Sociological, Dimensions of Development and their interrelationships – Physical & Motor, Cognitive, Emotional, Social, Moral, Language relating to Infancy, early Childhood, late Child hood, Adolescence, Understanding Development – Piaget, Kohlberg, Chomsky, Carl Rogers, Individual differences – Intra & Inter Individual differences in the areas of Attitudes, Aptitude, Interest, Habits, Intelligence and their Assessment, Development of Personality – Concept, Factors and Assessment of Personality, Adjustment, Behavioural problems, Pro-social behaviour and Mental Health, Methods and Approaches of Child Development – Observation, Interview, Case study, Experimental, Cross sectional and Longitudinal, Developmental tasks and Hazards

2. Understanding Learning

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

3. Pedagogical Concerns

Teaching and its relationship with learning and learner, Learners in Contexts: Situating learner in the socio-political and cultural context, Children from diverse contexts–Children With Special Needs (CWSN), Inclusive Education, Understanding of pedagogic methods – Enquiry based learning, Project based learning, Survey, Observation and Activity based learning, Individual and Group learning: Issues and concerns with respect to organizing learning in class room like Study habits, Self learning and Learning to learn skills, Organizing learning in heterogeneous class room groups – Socio-economic background, Abilities and Interest, Paradigms of organizing Learning-Teacher centric, Subject centric and Learner centric, Teaching as Planned activity – Elements of Planning, Phases of Teaching – Pre active, Interactive and Post active, General and Subject related skills, competencies required in teaching and attributes of good facilitator, Learning resources – Self, Home, School, Community, Technology, Class room Management: Role of student, teacher, Leadership style of teacher, Creation of non-threatening learning environment, Managing behaviour problems, Guidance & Counselling, Punishment and its legal implications, Rights of a child, Time Management, Distinction between Assessment for Learning & Assessment of Learning, School based Assessment, Continuous & Comprehensive Evaluation: Perspective & Practice Understanding teaching & learning in the context of NCF, 2005 & Right To Education Act, 2009.

Part - III

PERSPECTIVES IN EDUCATION (Marks: 08)

1. History of Education :

Pre-Vedic and Post-Vedic period, Medieval Education, Recommendations of various committees during British period with special reference to Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944), Recommendations of various committees during post independent period with special reference to Mudaliar Commission (1952-53), Kothari Commission(1964-66), Ishwarbhai Patel committee (1977), NPE-1986, POA-1992

2. Teacher Empowerment:

Meaning, 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:

Environmental Education, Meaning and scope of Environmental Education, Concept of sustainable development, Role of Teacher, School and NGOs in development and protection of environment, Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities, Economics of Education, Meaning and scope, Education as Human Capital, Education and Human Resource Development, Literacy – Saakshar Bharat Mission, Population Education, Significance of Population Education, Population situation, policies and programmes in India, Approaches to Population Education and role of school and teacher, Themes of population Education, Family life Education, Sustainable development, Adolescence Education, Health Education, Gender – Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills, Inclusive Education, Conceptual Clarification and Definition, Prevalence, Myths & Facts, Characteristics, Classification & Types, Importance of Early Identification and assessment, Planning Inclusive Education, Classroom Management in Inclusive Education, Evaluation, Documentation and Record Maintenance, Psycho-Social management, Awareness & Sensitization Strategies, Liberalization, Privatization and Globalization, Value Education, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Mid-day-meals, Rashtriya Madhyamika Siksha Abhiyan(RMSA), KGBVs and SUCCESS Schools.

4. Acts / Rights:

Right of Children to Free and Compulsory Education Act, 2009 and Child Rights.

5. National Curriculum Framework, 2005:

Perspective, Learning and Knowledge, Curricular Areas, School Stages and Assessment, School and Classroom Environment and Systemic Reforms.

Part – IV

LANGUAGE - ENGLISH (Marks: 08)

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

10. Clauses
11. Active and Passive Voice
12. Use of Phrases
13. Comprehension of a Prose passage / Poems
14. Vocabulary

Part - V
CONTENT PHYSICS & CHEMISTRY (Marks: 40)

PHYSICS

I. MECHANICS:

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

II. WAVES AND OSCILLATIONS:

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

III. THERMODYNAMICS:

Kinetic theory of gases: Maxwell's law of distribution of molecular speeds, Toothed Wheel Experiment, Transport Phenomena –Viscosity of gases – thermal conductivity – diffusion of gases. Reversible and irreversible processes – Carnot's engine, Carnot's theorem – Second law of thermodynamics, Kelvin's and Claussius statements – Thermodynamic scale of temperature – Entropy, Change of Entropy, entropy (T-S) diagram. Thermodynamic potentials and Maxwell's equations: Derivation of Maxwell's thermodynamic relations –Clausius-Clayperon's equation – Derivation for ratio of specific heats –Derivation for difference of two specific heats for perfect gas. Joule Kelvin effect– expression for Joule Kelvin coefficient for perfect and Vanderwaal's gas; Low temperature Physics: Joule Kelvin effect – liquefaction of gas using porous plug experiment. Liquefaction of helium, Adiabatic demagnetization – Low temperatures – principle of Refrigeration, Refrigerator and Air conditioning machines, Effects of Chloro and Fluro Carbons on Ozone layer; Black body-Ferry's black body – Wein's law, Rayleigh-Jean's law – Quantum theory of radiation - Planck's law – Measurement of radiation – Types of pyrometers – Solar constant, Temperature of sun. Statistical Mechanics: Ensembles, Phase space, Maxwell-Boltzmann's distribution law, Molecular energies in an ideal gas, Bose-Einstein Distribution law, Fermi-Dirac Distribution law, Black Body Radiation, Rayleigh-Jean's formula, Planck's radiation law, Weins Displacement, Stefan's Boltzmann's law from Planck's formula.

IV. OPTICS:

The Matrix methods in paraxial optics: Matrix method, effect of translation, effect of refraction, imaging by a spherical refracting surface. Imaging by a co-axial optical system, Unit planes, Nodal planes, A system of two thin lenses. Aberrations and its types Interference: Principle of

superposition, coherence, Interference of light Interference by division of wave front: Interference by division of amplitude,Diffraction: Fresnel and Fraunhoffer diffraction, Resolving Power of grating, Polarization: Brewster's law, Malu's law, Babinet's compensator. Laser, Fibre Optics and Holography: Laser, Laser principle , Types of Lasers and its Applications. Fibre Optics: Optical fibres, Types of optical fibres, Principles of fibre communication and advantages of fibre communication. Holography: Basic Principle of Holography – Gabor hologram and its limitations, Holography applications.

V. ELECTRICITY:

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

VI. MAGNETISM AND ELECTRO MAGNETISM:

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

VII. ELECTRONICS:

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

VIII. MODERN PHYSICS:

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

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

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

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

CHEMISTRY

I. GENERAL CHEMISTRY:

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

II. INORGANIC CHEMISTRY:

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

III. ORGANIC CHEMISTRY:

Structural theory in Organic Chemistry, Bond polarization, Alicyclic hydrocarbons Cycloalkanes Benzene and its reactivity, Concept of resonance, resonance energy, Heat of hydrogenation, heat of combustion of Benezene, mention of C-C bond lengths and orbital picture of Benzene,

Concept of aromaticity, Huckel's rule. Application to Benzenoid (Benzene, Napthalene) and Non Benzenoid compounds (cyclopropenyl cation, cyclo pentadienyl anion and tropylium cation) Reactions .General mechanism of electrophilic substitution, mechanism of nitration, Friedel Craft's alkylation and acylation, Orientation of aromatic substitution. Definition of ortho, para and meta directing groups. Ring activating and deactivating groups with examples (Electronic interpretation of various groups like NO2 and Phenolic). Orientation effect of (i) Amino, methoxy and methyl groups (ii) Carboxy, nitro, nitrile, carbonyl and Sulfonic acid groups. (iii). Halogens (Explanation by taking

minimum of one example from each type).Halogen compounds, Hydroxy compounds -Polyhydroxy compounds: Carbonyl compounds,Physical and chemical properties Base catalysed reactions with mechanism: Aldol, Cannizzaro reaction, Perkin reaction, Benzoin condensation, Haloform reaction, Knoevenagel reaction.Oxidation of aldehydes: BaeyerVilliger oxidation of ketones with mechanism.Reduction: Wolf Kishner reduction, MPV reduction, reduction with LiAlH4 and NaBH4 Analysis of aldehydes and ketones. Carboxylic acids and derivatives physical and chemical properties, Active methylene compounds Acetoacetic esters: Malonic ester: Synthetic applications, inter conversion: Nitrogen compounds: Carbohydrates: Amino acids and proteins

IV. PHYSICAL CHEMISTRY:

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

V. CHEMISTRY AND INDUSTRY:

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

Part - VI

TEACHING METHODOLOGY (Marks: 08)

1. The Nature of Science:

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

2. The History and Development of Science:

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

3. Aims and Values of teaching Physical Sciences:

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

4. Objectives of teaching Physical Sciences:

Meaning and importance of objectives, Bloom's Taxonomy of Educational objectives, Specific / Behavioural objectives / (Instructional objectives), Critique on Bloom's Taxonomy.

5. Approaches and Methods of teaching Physical Sciences:

Inductive and Deductive Approaches, Micro Teaching, Team Teaching, Lecture Method, Lecture Cum Demonstration Method, Historical Method, Heuristic Method, Project Method, Laboratory method, Problem Solving Method, Scientific Method, Multimedia Approach in Teaching Learning process, Programmed Learning, CAI and CAL.

6. Planning for effective instruction in Science:

Year Plan, Unit Plan, Lesson Plan, Learning experience, characteristics, classification, source and relevance.

7. Teaching Learning Material (TLM):

Characteristics and Importance of TLM, Classification and Types of TLM, Hardware and Software in TLM, TLM Principles to be followed, Edgar Dale's cone of learning experience.

8. Science laboratories:

Importance of Practical work in science, Planning of Science laboratories, Procurement, care and maintenance of laboratory equipment, Registers, Management of safety and science kits, Development of improvised Apparatus.

9. Physical Science Curriculum:

Principles of Curriculum Construction, Defects in the existing school science curriculum, Qualities of a good Science Text Book.

10. Non-formal Science Education:

Science Clubs, Science Fairs – purposes, levels, organization, advantages, Science Library, Role of NGOs and State in popularizing Science.

11. Evaluation:

Concept and Process of Evaluation, Tools of Evaluation, Preparation of Scholastic Achievement Test (SAT), Analysis and interpretation of Scores.

GURUKULAM
Syllabus for Recruitment Test
Category of Post: PGT – Social Studies

Part – I
GENERAL KNOWLEDGE AND CURRENT AFFAIRS (Marks: 08)

Part – II
CHILD DEVELOPMENT AND PEDAGOGY (Marks: 08)

1. Development of Child

Development, Growth & Maturation – Concept & Nature, Principles of development, Factors influencing Development – Biological, Psychological, Sociological, Dimensions of Development and their interrelationships – Physical & Motor, Cognitive, Emotional, Social, Moral, Language relating to Infancy, early Childhood, late Child hood, Adolescence, Understanding Development – Piaget, Kohlberg, Chomsky, Carl Rogers, Individual differences – Intra & Inter Individual differences in the areas of Attitudes, Aptitude, Interest, Habits, Intelligence and their Assessment, Development of Personality – Concept, Factors and Assessment of Personality, Adjustment, Behavioural problems, Pro-social behaviour and Mental Health, Methods and Approaches of Child Development – Observation, Interview, Case study, Experimental, Cross sectional and Longitudinal, Developmental tasks and Hazards.

2. Understanding Learning

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

3. Pedagogical Concerns

Teaching and its relationship with learning and learner, Learners in Contexts: Situating learner in the socio-political and cultural context, Children from diverse contexts–Children With Special Needs (CWSN), Inclusive Education, Understanding of pedagogic methods – Enquiry based learning, Project based learning, Survey, Observation and Activity based learning, Individual and Group learning: Issues and concerns with respect to organizing learning in class room like Study habits, Self learning and Learning to learn skills, Organizing learning in heterogeneous class room groups – Socio-economic background, Abilities and Interest, Paradigms of organizing Learning-Teacher centric, Subject centric and Learner centric, Teaching as Planned activity – Elements of Planning, Phases of Teaching – Pre active, Interactive and Post active, General and Subject related skills, competencies required in teaching and attributes of good facilitator, Learning resources – Self, Home, School, Community, Technology, Class room Management: Role of student, teacher, Leadership style of teacher, Creation of non-threatening learning environment, Managing behaviour problems, Guidance & Counselling, Punishment and its legal implications, Rights of a child, Time Management, Distinction between Assessment for Learning & Assessment of Learning, School based Assessment, Continuous & Comprehensive Evaluation: Perspective & Practice Understanding teaching & learning in the context of NCF, 2005 & Right To Education Act, 2009.

Part - III
PERSPECTIVES IN EDUCATION (Marks: 08)

1. History of Education :
Pre-Vedic and Post-Vedic period, Medieval Education, Recommendations of various committees during British period with special reference to Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944), Recommendations of various committees during post independent period with special reference to Mudaliar Commission (1952-53), Kothari Commission(1964-66), Ishwarbhai Patel committee (1977), NPE-1986, POA-1992

2. Teacher Empowerment:
Meaning, 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:
Environmental Education, Meaning and scope of Environmental Education, Concept of sustainable development, Role of Teacher, School and NGOs in development and protection of environment, Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities, Economics of Education, Meaning and scope, Education as Human Capital, Education and Human Resource Development, Literacy – Saakshar Bharat Mission, Population Education, Significance of Population Education, Population situation, policies and programmes in India, Approaches to Population Education and role of school and teacher, Themes of population Education, Family life Education, Sustainable development, Adolescence Education, Health Education, Gender – Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills, Inclusive Education, Conceptual Clarification and Definition, Prevalence, Myths & Facts, Characteristics, Classification & Types, Importance of Early Identification and assessment, Planning Inclusive Education, Classroom Management in Inclusive Education, Evaluation, Documentation and Record Maintenance, Psycho-Social management, Awareness & Sensitization Strategies, Liberalization, Privatization and Globalization, Value Education, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Mid-day-meals, Rashtriya Madhyamika Siksha Abhiyan(RMSA), KGBVs and SUCCESS Schools.

4. Acts / Rights:
Right of Children to Free and Compulsory Education Act, 2009 and Child Rights.

5. National Curriculum Framework, 2005:
Perspective, Learning and Knowledge, Curricular Areas, School Stages and Assessment, School and Classroom Environment and Systemic Reforms.

Part - IV
LANGUAGE - ENGLISH (Marks: 08)

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

9. Direct and Indirect – Speech
10. Clauses
11. Active and Passive Voice
12. Use of Phrases
13. Comprehension of a Prose passage / Poems
14. Vocabulary

Part - V
CONTENT ECONOMICS & CIVICS & GEOGRAPHY & HISTORY (Marks: 40)

ECONOMICS

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

2. Producer Behaviour and Supply:
Agents of Production, Production Function, Cost of Revenue – Meaning and Various types of Costs and revenue. Isoquants – Supply, Market Supply, Determinants of Supply, Supply Curve, Movement along shifts in Supply Curve. Price elasticity of Supply and its Measurement, Components and theories of Distribution. Welfare Economics – Pare to optimality, Private and Social Products, Consumer Surplus, Production Possibility Curve and Opportunity Cost.

3. Forms of Market and Price Determination:
Forms of Market – Meaning and features – Price determination under Perfect Competition, and Imperfect Competition – Monopoly, Duopoly, Monopolistic Competition, Oligopoly.

4. National Income and Related Aggregates:
Macro Economics : Meaning, Circular flow of income, Concepts of GDP, GNP, NDP, NNP (at Market price and factor cost), National Disposable and Personal Disposable income – Measurement of National income.

5. Determination of income and Employment:
Aggregate demand, Aggregate Supply and their Components. Propensity to consume and propensity to save. Involuntary Unemployment and full Employment. Determination of income and employment. Concept of Investment Multiplier and it's working. Inflation: Meaning, Causes and remedies.

6. Money and Banking:
Money – Meaning, evolution and functions – Classification of money – M_1, M_2, M_3 & M_4. Central Bank – meaning and functions methods of credit control. Commercial Banks – Meaning and functions. Recent Significant reforms and issues in Indian Banking system.

7. Indian Public Finance;
Salient Features of Indian Tax System – Direct and Indirect Taxes. Sources of Public revenue, GST, VAT – Tax and Expenditure Reforms. Government budget – Meaning and its components. Objectives of Government budget. Classification of receipts; Classification of expenditure.
Types of budget – meaning and implications; Measures to control different
deficits. Downsizing the role of Government.

8. International Economics:

Theories if International trade, the basis of International Trade – Classical theories of Trade – Adam Smith, Ricardo; Neo – Classical Theories – Herberler's opportunity Cost approaches; modern Theories of Trade – Hecksher and Ohlin Model; Factor Price Equalization Theorem; Rybezynski Theorem; Leontief's Paradox. Balance of Payments – Meaning and Components – Foreign Exchange rate – Meaning (Fixed and Flexible), Merits and demerits. IMF – the World Bank & its associates. WTO.

9. Concepts of:

Shares, debentures, SEBI, NSEW, BSE and various indices.

10. A.P.Economy:

State income: Sectoral Contribution, Population, Programmes initiated by the State Government towards Rural Development Programmes, Special Economic Zones, APIIC in the process of industrial development of Andhra Pradesh.

11. Introduction and Collection, Organization of data:

Meaning, Scope and importance of Statistics in Economics. Collection and Organization of data. Census of India and national Sample Survey Organization. Statistical Tools and Interpretation: Measures of Central Tendency, Measures of Dispersion, Measures of Correlation – Karl Pearson's Method, Spearman's rank correlation.

12. Economic Growth and Development –

Concepts – Factors affecting economic growth – A brief introduction of the State of Indian Economy on the eve of independence. Common goals of Five Year plans, Major Controversies on Planning in India. Main Features, Problems and Policies of Agriculture, industry and Foreign Trade.

13. Economic activities from 1950 to 1990, Economic Reforms since 1991:

Need and Main features, liberalization, Globalization and Privatization; an appraisal of LPG Policies.

14. Current Challenges facing Indian Economy:

Poverty and Unemployment – Meaning and Types programmes for alleviation of poverty and Unemployment – Rural development; Key issues – Credit and Marketing – Role of Cooperatives; Agricultural Diversification; Alternative Farming – Organic Farming, Human Capital Formation. Growth of Education Sector in India. Employment: Opportunities and other related issues. Infrastructural Problems and Policies. Sustainable Economic Development: Meaning; Effects of Economic Development on Resources and Environment.

15. Sectors of Indian Economy, consumer rights, Infrastructure, Rural Development.

CIVICS

I.

1. Concepts, Theories and Institutions:

a. Introduction: Definition, Scope and importance of political Science
b. State: Nation formation and its functions
c. Law: Sources of Law
d. Liberty and Equality: Their relationship

e. Kinds of rights

2. Ideologies; Individualism, Anarchism, Fascism and Socialism

3. Forms of Government

a. Democracy: Direct and Indirect
b. Unitary and Federal
c. Parliamentary and Presidential

Organs of Government

a. Legislature
b. Executive
c. Judiciary

II. Indian Government and policies

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

III. Political Thought

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

IV. Control over Administration

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

V. Government and Politics in Andhra Pradesh

1. Historical Background of the A.P.: Socio – Political Struggle in Hyderabad State

2. States Reorganization and Formation of Andhra Pradesh Party System: National and Regional Parties pressure Groups.

GEOGRAPHY

1. The Solar System and the Earth:

Origin and Evolution of the Solar System – Galaxy – The Earth as member of the Solar System, Origin of the Earth, Rotation and Revolution of the Earth and its effects, Latitudes and Longitudes – Standard Time and International Date Line.

2. The Earth:

Interior of the Earth – Structure, Temperature, Pressure and Density of the Earth's interior, Major Rock types and their characteristics (Igneous Rocks, Sedimentary Rocks and Metamorphic Rocks)

3. Major Landforms:
Mountains, Plateaus and Plains, Classification and distribution of Mountains in the World, Geomorphic process: Rock – Weathering, Mass wasting, Erosion and deposition, Origin and distribution of Plateaus in the World, Classification of Plains, Formation and types of Soils and its distribution in the World.

4. Climatology (Weather and Climate):
Atmosphere – Composition and Structure, Insolation – Factors influencing Insolation, Temperature – Factors Controlling Temperature, Distribution of Temperature and Inversion of Temperature, Pressure – Global Pressure Belts, Winds – Planetary, Seasonal, Local, Humidity and Precipitation – Rain : Types and Distribution of Rainfall, Weather Reports

5. Volcanoes : Types and Distribution of Volcanoes in the World.

6. Earthquakes: Causes and Effects of Earthquakes, Distribution of Earthquakes

7. Hydrosphere:
Oceans, the Temperature of Ocean Waters, Factors affecting Temperature and Distribution, Ocean Currents, Waves, Salinity and Distribution of Salinity, Tides, Ocean Resources and Deposits

8. Natural Hazards:
Floods, Droughts, Cyclones, Tsunamis, Tornadoes, Volcanoes, Earthquakes, Landslides

9. Major Natural Regions of the World:
The Equatorial Region, The Tropical Hot Deserts Region, The Savannas or the Tropical Grasslands Region, The Temperate Grasslands Region (Steppes), The Monsoon Lands, The Mediterranean Region, The Taiga Region and The Tundra Region

10. Continents:
Asia, Africa, Europe, North America, South America, Australia and Antarctica – with reference to Location and Extent, Physical features, Climate, Natural Vegetation and Wild life, Population, Agriculture, Minerals and Industries, Transportation and Trade.

11. World Population:
Population Growth and Density, Factors influencing the distribution of World Population, Population distribution patterns, Population problems in developing and developed countries

12. Geography of India and A.P. :
Location and Extent, Physical features – Relief and Drainage, Climate, Natural Vegetation, Soils, Irrigation, Power, Population, Minerals and Industries, Transport and Communication, Sea Ports and Towns, International Trade, Places of Interest

HISTORY

1. Study of the Past: Pre-historic Age, Proto-historic Age, Historic Age

2. Bronze Age Civilization

3. Early Iron Age Societies: Impact of Iron Age and the Growth of Civilization, Early Iron Civilization in India, The Ancient Chinese Civilization, Persian Civilization, Greek Civilization, Roman Civilization, Judaism and Christianity, The Early African Civilizations and the Early American Civilizations

4. The Medieval World: Main Features of Medieval Europe, Political Developments – Feudalism, The Holy Roman Empire, The Rise of Islam and the spread of Islam, India in Medieval Ages, Asia in the Medieval times – China and Japan

5. Ancient Indian Civilization: Indus Valley Civilization (Harappan Culture), Aryan Civilization – Early Vedic and Later Vedic Civilization

6. Political and Religious Developments of 6th century B.C.

7. India B.C. 200 A.D. to 300 A.D: The Mauryas, Andhra Satavahanas, The Persian and Greek Invasions, Magadha, Sangam age, Kushans

8. India from 300 A.D. to 800 A.D: The Gupta Empire, The Pushyabhuti Dynasty (Harshavardhana)

9. Deccan and South Indian Kingdoms: The Chalukyas, the Pallavas, the Cholas, the Rashtrakutas, the Yadavas and the Kakatiyas

10. The Muslim Invasions in India: The Condition of India on the Eve of Arab Invasions, Turkish Invasions, Ghaznavids Raids and its results, Effects of Muslim Invasions

11. Delhi Sultanate: The Slaves, The Khiljis, The Tughlaqs, The Sayyids and the Lodis, Downfall of Delhi Sultanate, Sufi Movement and Bhakthi Movement and Influence of Islam on Indian Culture

12. The South Indian Kingdoms: The Kakatiyas, The Vijayanagara Empire, The Bahmani Kingdom

13. Mughal Empire : Conditions of India on the eve of Babur's Invasion, Babur, Humayun, Shershah, Akbar, Jahangir, Shahjahan, Aurangajeb, The reasons for the downfall of Mughal Empire, The rise of Marathas, History of the Sikhs

14. Advent of Europeans: Portuguese, Dutch, French, English, Anglo-French Rivalry – Carnatic Wars, Establishment of British Empire in India, The first war of Indian Independence, The Governor Generals and the Viceroys, The Socio-Religious Movements of the 19th Century - Brahma Samaj, Arya Samaj, Rama Krishna Mission, Theosophical Society, Aligarh Movement, Satya Sodhak Samaj (a) Movements among Muslims for Social Reforms

15. Cultural Heritage of India and Intellectual Awakening: Growth and Development of Early Cultures and Racial synthesis, Characteristic features of Indian History, Art and Architecture, Development of Education and Philosophy, Cultural Unity and Bhakthi Movement, Development of National Consciousness, Impact of Alien Cultures in India, Conquest of India by British and Impact of British Rule, Impact of English Education, Impact of Revolt of 1857 A.D.

16. India between 1858 – 1947: Political, Economic and Social Policies in India, British Policy towards Indian Princess, British Policies towards neighbouring countries

17. Changes in Economic and Social sectors during the British period: Agriculture, Famines in India between 1858 – 1947, Rise of New Classes in Indian Society

18. Rise of Nationalism – Freedom Movement: Causes for the Rise of Nationalism, The Birth of Indian National Congress, The Age of Moderates and the Age of Extremists, Vandemataram Movement (Swadeshi Movement 1905-11), India during the First World war, Home Rule Movement, Mahatma Gandhi and Indian National Movement, Different stages of Freedom Movement, Quit India

Movement, Mountbatten Plan, Integration of Princely States, Liberation of French and Portuguese Colonial possessions in India

19. The Modern World: Beginning of Modern Age, Renaissance, Development in Science, The Reformation Movement, Rise of Nation States, Struggle against Absolute Monarchies

20. Capitalism and Industrial Revolution

21. The Revolutionary Movements: The Glorious Revolution, The American war of Independence, The French Revolution of 1789

22. 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

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

24. Contemporary World: The First World war, League of Nations, The Russian Revolution of 1905 and 1917

25. 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

26. 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

Part - VI
TEACHING METHODOLOGY (Marks: 08)

1. Social Studies –

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

2. Values, Aims and Objectives of Teaching Social Studies:

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

3. Social Studies Curriculum:

Social Studies as a Core subject, Principles of Curriculum Construction in Social Studies, Organization of subject matter – different approaches correlated, integrated, topical, concentric, unit and chronological.

4. Instructional Strategies in Social Studies:

Techniques, devices and maxims, Different methods of teaching Social Studies - Story telling, lecture, source, discussion, project, problem, inductive, deductive, observation, assignment – socialized recitation, Team teaching, Supervised study.

5. Planning for Instruction:

Developing teaching skills through Micro-teaching, Year Planning, Unit Planning, Lesson Planning.

6. Instructional Material and Resources:

Text books, work books, Supplementary material syllabus, curriculum guides, hand books, Audio visual, Social Studies laboratory, library, clubs and museum, Utilizing community resources.

7. Social Studies Teacher:

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

8. Evaluation in Social Studies:

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

GURUKULAM
Syllabus for Recruitment Test
Category of Post: PGT - Telugu

Part – I
GENERAL KNOWLEDGE AND CURRENT AFFAIRS (Marks: 08)

Part – II
CHILD DEVELOPMENT AND PEDAGOGY (Marks: 08)

1. Development of Child

Development, Growth & Maturation – Concept & Nature, Principles of development, Factors influencing Development – Biological, Psychological, Sociological, Dimensions of Development and their interrelationships – Physical & Motor, Cognitive, Emotional, Social, Moral, Language relating to Infancy, early Childhood, late Child hood, Adolescence, Understanding Development – Piaget, Kohlberg, Chomsky, Carl Rogers, Individual differences – Intra & Inter Individual differences in the areas of Attitudes, Aptitude, Interest, Habits, Intelligence and their Assessment, Development of Personality – Concept, Factors and Assessment of Personality, Adjustment, Behavioural problems, Pro-social behaviour and Mental Health, Methods and Approaches of Child Development – Observation, Interview, Case study, Experimental, Cross sectional and Longitudinal, Developmental tasks and Hazards.

2. Understanding Learning

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

3. Pedagogical Concerns

Teaching and its relationship with learning and learner, Learners in Contexts: Situating learner in the socio-political and cultural context, Children from diverse contexts–Children With Special Needs (CWSN), Inclusive Education, Understanding of pedagogic methods – Enquiry based learning, Project based learning, Survey, Observation and Activity based learning, Individual and Group learning: Issues and concerns with respect to organizing learning in class room like Study habits, Self learning and Learning to learn skills, Organizing learning in heterogeneous class room groups – Socio-economic background, Abilities and Interest, Paradigms of organizing Learning-Teacher centric, Subject centric and Learner centric, Teaching as Planned activity – Elements of Planning, Phases of Teaching – Pre active, Interactive and Post active, General and Subject related skills, competencies required in teaching and attributes of good facilitator, Learning resources – Self, Home, School, Community, Technology, Class room Management: Role of student, teacher, Leadership style of teacher, Creation of non-threatening learning environment, Managing behaviour problems, Guidance & Counselling, Punishment and its legal implications, Rights of a child, Time Management, Distinction between Assessment for Learning & Assessment of Learning, School based Assessment, Continuous & Comprehensive Evaluation: Perspective & Practice Understanding teaching & learning in the context of NCF, 2005 & Right To Education Act, 2009.

Part - III
PERSPECTIVES IN EDUCATION (Marks: 08)

1. History of Education :

Pre-Vedic and Post-Vedic period, Medieval Education, Recommendations of various committees during British period with special reference to Woods Despatch (1854), Hunter Commission (1882), Hartog Committee (1929), Sargent Committee (1944), Recommendations of various committees during post independent period with special reference to Mudaliar Commission (1952-53), Kothari Commission(1964-66), Ishwarbhai Patel committee (1977), NPE-1986, POA-1992

2. Teacher Empowerment:

Meaning, 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:

Environmental Education, Meaning and scope of Environmental Education, Concept of sustainable development, Role of Teacher, School and NGOs in development and protection of environment, Democracy and Education, Equality, Equity, Quality in Education, Equality of Educational opportunities, Economics of Education, Meaning and scope, Education as Human Capital, Education and Human Resource Development, Literacy – Saakshar Bharat Mission, Population Education, Significance of Population Education, Population situation, policies and programmes in India, Approaches to Population Education and role of school and teacher, Themes of population Education, Family life Education, Sustainable development, Adolescence Education, Health Education, Gender – Equality, Equity and Empowerment of Women, Urbanization and migration, Life skills, Inclusive Education, Conceptual Clarification and Definition, Prevalence, Myths & Facts, Characteristics, Classification & Types, Importance of Early Identification and assessment, Planning Inclusive Education, Classroom Management in Inclusive Education, Evaluation, Documentation and Record Maintenance, Psycho-Social management, Awareness & Sensitization Strategies, Liberalization, Privatization and Globalization, Value Education, Sarva Siksha Abhiyan, National Programme for Education of Girls at Elementary Level (NPEGEL), Mid-day-meals, Rashtriya Madhyamika Siksha Abhiyan(RMSA), KGBVs and SUCCESS Schools.

4. Acts / Rights: Right of Children to Free and Compulsory Education Act, 2009 and Child Rights.

5. National Curriculum Framework, 2005:

Perspective, Learning and Knowledge, Curricular Areas, School Stages and Assessment, School and Classroom Environment and Systemic Reforms.

Part - IV

LANGUAGE: ENGLISH (Marks: 08)

1. Poets, Essayists, Novelists, Dramatists and their works.
2. Forms of Language – Story, Essay, Letter writing, Editorial, Précis writing, note- making, autobiography and biography.
3. Pronunciation – Sounds – Use of dictionary
4. Parts of Speech
5. Tenses
6. Types of Sentences
7. Articles and Prepositions
8. Degrees of Comparison
9. Direct and Indirect – Speech
10. Clauses
11. Active and Passive Voice
12. Use of Phrases

13. Comprehension of a Prose passage / Poems
14. Vocabulary

Part - V
CONTENT (Marks: 40)

1. **తెలుగు భాషా పరిణామ చరిత్ర**

   తెలుగు - ఇతర ద్రావిడ భాషలు.

   తెలుగుపై అన్యభాషల ప్రభావం

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

3. **ఎ) ప్రాచీన కవులు - కావ్యాలు**

   ఇతిహాసం, పురాణం, ప్రబంధం, యక్షగానాలు, సంకీర్తనలు, చాటుపద్యాలు

   గద్యకావ్యాలు, ద్విపద కావ్యాలు

   బి) ఆధునిక కవులు - కావ్యాలు

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

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

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

6. తెలుగు సాహిత్య ప్రక్రియలు (గద్యం)

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

7. **వివిధ రాజులు - సాహిత్యపోషణ - సాంస్కృతిక వికాసం**

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

8. సాహిత్య విమర్శ

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

9. **భాషాంశాలు**

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

10. **అనువాదం (ఆంగ్లం నుండి తెలుగు).**

Part - VI

TEACHING METHODOLOGY (Marks: 9)

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