



केन्द्रीय विद्यालय संगठन

केन्द्रीय विद्यालय संगठन
18 संस्थागत क्षेत्र, शहीद जीत सिंह मार्ग
नई दिल्ली – 110016
KENDRIYA VIDYALAYA SANGATHAN (HQ)
18, INSTITUTIONAL AREA, SHAHEED JEET SINGH MARG,
NEW DELHI-110016
दूरभाष /Tel-26858570,

BY MAIL

No.11055/1//2022/KVS/RPS/LDCE/Teaching & NT/765-769

Dated: 16.11.2022

The Deputy Commissioner/Director
Kendriya Vidyalaya Sangathan
All Regional Office/ZIETs

Subject: **Amendments to the subject specific syllabus in respect of LDCE – 2022 – reg.**

Sir/Madam,

The Scheme of Examination and Syllabus for various teaching and non-teaching posts for Limited Departmental Competition Examination – 2022 was uploaded on the website of KVS on 02.11.2022. After uploading of the Scheme & Syllabus of examination suggestion were received from various quarters with regard to subject specific syllabus for the posts of PGTs and TGTs and also for the post of Principal, Vice Principal and HM.

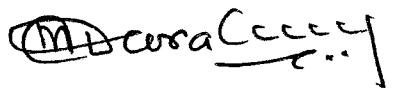
Keeping in view the suggestions, the committee constituted to frame the syllabus again examined the syllabus for the post of PGTs and TGTs and incorporated amendments to the subject specific syllabus for these posts. Similarly, few amendments have been made in the Part II & III for the post of Principal and Vice Principal and in Part-III for the post of HM.

Accordingly, the scheme & syllabus for the posts of Principal, Vice Principal, PGTs, TGTs, H.M, Section Officer and Finance Officer are hereby uploaded once again in complete form. The scheme and syllabus uploaded in KVS (Hq.) website on 02.11.2022 for LDCE-2022 may be treated as withdrawn.

All Deputy Commissioner/Director, KVS/ZIET are requested to inform the same to all the applicants through Principal of Kendriya Vidyalaya under their jurisdiction.

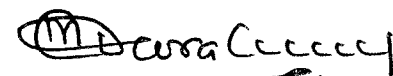
This issue with the approval of the competent authority.

Yours faithfully,


(Dr. P. DEVAKUMAR)
Joint Commissioner (Pers.)
16.11.2022.

Copy to:

1. The Deputy Commissioner (EDP), KVS, (Hqrs.) for information. He is requested to upload the Scheme & Syllabus (LDCE-2022) in the website of KVS and withdraw the Scheme & Syllabus uploaded on KVS website on 02.11.2022.
2. The Principal, Kendriya Vidyalaya, Kathmandu, Tehran & Moscow for information.
3. Sh. J.K. Yadav, Regional Director, CBSE, Delhi for information and further necessary action please.


Joint Commissioner (Pers.)
16.11.2022.

Scheme of Exam for Recruitment of Principals through LDCE:

The written test is of 180 marks (180 objective type multiple choice questions) carrying 01 mark for each question. The duration of written test will be 180 minutes.

Section name - Nature of Questions

Part I - General awareness, Reasoning & Proficiency in Languages (40 marks):

- (a) General Awareness (10 questions)
- (b) Reasoning Ability (10 questions)
- (c) General English (10 questions) -Reading comprehension, word power, Grammar & usage
- (d) General Hindi (10 questions) - पठनकौशल,शब्दसामर्थ्य,व्याकरणएवंप्रयुक्ति

Part-II: Perspectives on Education and Leadership (70 marks)

- (a) Perspectives in Education (10 questions)
- (b) Understanding the Learner-(15 questions)
- (c) Understanding Teaching Learning -(10 questions)
- (d) Creating Conducive Learning Environment - (10 questions)
- (e) School Organization and Leadership - (15 questions)
- (f) KVS Education Code(10 questions)

Part III -School Administration & Finance -(70 marks)

Note: Minimum 40% would qualify for empanelment.

Syllabus of Exam for Recruitment of Principals through LDCE:

Part I - General awareness, Reasoning & Proficiency in Languages (40 Marks)

- a) General Awareness (10 questions)
- b) Reasoning Ability (10 questions)
- c) General English (10 questions) -Reading comprehension, word power, Grammar & usage
- d) General Hindi (10 questions) - पठनकौशल,शब्दसामर्थ्य,व्याकरणएवंप्रयुक्ति

Part II - Perspectives on Education and Leadership (70 Marks)

(a) Perspectives in Education (10 questions)

- Role of school in achieving aims of education.
- NEP-2020:Early Childhood Care and Education: The Foundation of Learning ; Foundational Literacy and Numeracy; Curriculum and Pedagogy in Schools: Holistic& Integrated Learning; Equitable and Inclusive Educa4tion: Learning for All; Competency based learning and Education.
- Guiding Principles for Child Rights, Protecting and provisioning for rights of children to safe and secure school environment, Right of Children to free and Compulsory Education Act, 2009,

- Historically studying the National Policies in education with special reference to school education;
- School Curriculum Principles: Perspective, Learning and Knowledge, Curricular Areas, School Stages – Pedagogy & Assessment.

(b) Understanding the Learner (15 questions)

- Concept of growth, maturation and development, principles and debates of development.
- Development tasks and challenges with special reference to the primary and middle school children.
- Domains of Development: Physical, Cognitive, Socio-emotional, Moral etc., deviations in development and its implications.
- Role of Primary and Secondary Socialization agencies. Steps to ensure Home school continuity.
- Mental Health and well-being (MANODARPAN)

(c) Understanding Teaching Learning (10 questions)

- Theoretical perspectives on Learning -Behaviorism, Cognitivism and Constructivism with special reference to their implications for:
 - I. The role of Principal
 - II. The role of teacher
 - III. The role of learner
 - IV. Nature of teacher-student relationship
 - V. Choice of teaching methods
 - VI. Classroom environment
 - VII. Understanding of discipline, power etc.
- **Factors affecting learning and their implications for:**
 - I. Designing classroom instructions,
 - II. Planning student activities and,
 - III. Creating learning spaces in school.
- **Planning and Organization of Teaching-Learning**
 - I. Concept of Syllabus and Curriculum, Overt and Hidden Curriculum
 - II. Preparation of School Time-table
 - III. Foundational Literacy and Numeracy, Early Childhood Care and Education
 - IV. Competency based Education, Experiential learning, etc.
 - V. Instructional Plans: -Year Plan, Unit Plan, Lesson Plan
 - VI. Instructional material and resources
 - VII. Information and Communication Technology(ICT) for teaching-learning
 - VIII. Assessment of learning, for learning and as learning: Meaning, purpose and considerations in planning each.
 - IX. Enhancing Teaching Learning processes: Classroom Observation and Feedback, Reflections and Dialogues as a means of constructivist teaching

(d) Creating Conducive Learning Environment (10 questions)

- Inclusive Education: The concepts of Diversity, disability and Inclusion, implications of disability as social construct, types of disabilities-their identification and interventions
- Concept of School Mental Health, addressing the curative, preventive and promotive dimensions of mental health for all students and staff. Provisioning for guidance and counselling.
- Developing School and community as a learning resource.

(e) School Organization and Leadership (15 questions)

- Leader as reflective practitioner, team builder, initiator, coach and mentor.
- Perspectives on School Leadership: instructional, distributed and transformative
- Vision building, goal setting and creating a School development Plan
- Using School Processes and forums for strengthening teaching learning-Annual Calendar, time-tabling, parent teacher forums, school assembly, teacher development forums, using achievement data for improving teaching –learning, School Self-Assessment and Improvement
- Creating partnerships with community, industry and other neighboring schools and Higher Education Institutes – forming learning communities

(f) KVS Education Code (10 questions)

- Duties and powers of officers of the Sangathan and the Principals.
- Code of conduct for Teachers
- Code of conduct for Students
- **Discipline**
 - I. Extension of application of CCS (CCA) Rules, 1965
 - II. Article 81 (A), 81 (B), 81 (C), 81 (D),
 - III. Suspension, Penalties
- Existing Admission Guidelines
- APAR
- Service Associations/Joint Consultancy Machinery and Grievance Redressal

Part-III: School Administration & Finance (70 Marks)

- Office Management
- CCS (CCA) Rules
- CCS (Conduct) Rules
- Fundamental & Supplementary Rules
- TA Rules
- Leave Travel Concession Rules
- Medical Attendance Rules
- Income Tax & GST
- POSH & POCSO Acts
- MoE, NCPCR and NIDM guidelines for school safety and security
- Constitutional Provisions for PWD, EWS, SC/ST and other disadvantaged groups
- GFR – 2017 of Government of India.
- Pension, NPS.
- Office Accounting & PFMS

Note:

- **Qualifying marks for empanelment is 40%.**

Scheme of Exam for Recruitment of Vice Principal through LDCE:

The written test is of 180 marks (180 objective type multiple choice questions) carrying 01 mark for each question. The duration of written test will be 180 minutes.

Section Name -Nature of Questions

Part I - General awareness, Reasoning & Proficiency in Languages (40 marks):

- General Awareness (10 questions)
- Reasoning Ability (10 questions)
- General English (10 questions) -Reading comprehension, word power, Grammar & usage
- General Hindi (10 questions) - पठन कौशल, शब्द सामर्थ्य, व्याकरण एवं प्रयुक्ति

Part-II: Perspectives on Education and Leadership (90 marks)

- Understanding the Learner-(15 questions)
- Understanding Teaching Learning -(20 questions)
- Creating Conducive Learning Environment - (15 questions)
- School Organization and Leadership - (15 questions)
- Perspectives in Education (15 questions)
- KVS Education Code(10 questions)

Part III -School Administration & Finance -(50marks)

Note: Minimum 40% would qualify for empanelment.

Syllabus of Exam for Recruitment of Vice Principal through LDCE:

Part I - General awareness, Reasoning & Proficiency in Languages (40 Marks)

- General Awareness
- Reasoning Ability
- General English - Reading comprehension, word power, Grammar & usage
- General Hindi - पठन कौशल, शब्द सामर्थ्य, व्याकरण एवं प्रयुक्ति

Part II - Perspectives on Education and Leadership (90 Marks)

(a) Understanding the Learner

- Concept of growth, maturation and development, principles and debates of development,
- Development tasks and challenges with special reference to the primary and middle school children
- Domains of Development: Physical, Cognitive, Socio-emotional, Moral etc., deviations in development and its implications.
- Role of Primary and Secondary Socialization agencies. Steps to ensure Home school continuity.

(b) Understanding Teaching Learning

- Theoretical perspectives on Learning -Behaviorism, Cognitivism and Constructivism with

special reference to their implications for:

- i. The role of teacher
 - ii. The role of learner
 - iii. Nature of teacher-student relationship
 - iv. Choice of teaching methods
 - v. Classroom environment
 - vi. Understanding of discipline, power etc.
- Factors affecting learning and their implications for:
 - i. Designing classroom instructions,
 - ii. Planning student activities and,
 - iii. Creating learning spaces in school.
 - Planning and Organization of Teaching-Learning
 - i. Concept of Syllabus and Curriculum, Overt and Hidden Curriculum
 - ii. Preparation of School Time-table
 - iii. Foundational Literacy and Numeracy, Early Childhood Care and Education
 - iv. Competency based Education, Experiential learning, etc.
 - v. Instructional Plans: -Year Plan, Unit Plan, Lesson Plan
 - vi. Instructional material and resources
 - vii. Information and Communication Technology(ICT) for teaching-learning
 - viii. Assessment of learning, for learning and as learning: Meaning, purpose and considerations in planning each.
 - Enhancing Teaching Learning processes: Classroom Observation and Feedback, Reflections and Dialogues as a means of constructivist teaching

(c) Creating Conducive Learning Environment

- The concepts of Diversity, disability and Inclusion, implications of disability as social construct, types of disabilities-their identification and interventions
- Concept of School Mental Health, addressing the curative, preventive and promotive dimensions of mental health for all students and staff. Provisioning for guidance and counselling.
- Developing School and community as a learning resource.

(d) School Organization and Leadership

- Leader as reflective practitioner, team builder, initiator, coach and mentor.
- Perspectives on School Leadership: instructional, distributed and transformative
- Vision building, goal setting and creating a School development Plan
- Using School Processes and forums for strengthening teaching learning-Annual Calendar, time-tabling, parent teacher forums, school assembly, teacher development forums , using achievement data for improving teaching –learning, School Self Assessment and Improvement
- Creating partnerships with community , industry and other neighbouring schools and Higher Education Institutes – forming learning communities

(e) Perspectives in Education

- Role of school in achieving aims of education.
- NEP-2020: Early Childhood Care and Education: The Foundation of Learning ; Foundational Literacy and Numeracy; Curriculum and Pedagogy in Schools: Holistic& Integrated Learning; Equitable and

Inclusive Education: Learning for All; Competency based learning and Education.

- Guiding Principles for Child Rights, Protecting and provisioning for rights of children to safe and secure school environment, Right of Children to free and Compulsory Education Act, 2009,
- Historically studying the National Policies in education with special reference to school education;
- School Curriculum Principles: Perspective, Learning and Knowledge, Curricular Areas, School Stages – Pedagogy & Assessment.

(f) KVS Education Code

- Duties and powers of officers of the Sangathan and the Principals.
- Code of conduct for Teachers
- Code of conduct for Students
- **Discipline**
 - I. Extension of application of CCS (CCA) Rules, 1965
 - II. Article 81 (A), 81 (B), 81 (C), 81 (D),
 - III. Suspension, Penalties
- Existing Admission Guidelines
- APAR
- Service Associations/Joint Consultancy Machinery and Grievance Redressal

Part-III: School Administration & Finance (50 Marks)

- Office Management
- CCS (CCA) Rules
- CCS (Conduct) Rules
- Fundamental & Supplementary Rules
- TA Rules
- Leave Travel Concession Rules
- Medical Attendance Rules
- Income Tax & GST
- POSH & POCSO Acts
- MoE, NCPCR and NIDM guidelines for school safety and security
- Constitutional Provisions for PWD, EWS, SC/ST and other disadvantaged groups
- GFR – 2017 of Government of India.
- Pension, NPS

Note: Minimum 40% marks would qualify for empanelment.

Scheme of Exam for Recruitment of Post Graduate Teacher through LDCE:

The written test is of 180 marks (180 objective type multiple choice questions) carrying 01 mark for each question. The duration of written test will be 180 minutes.

Section Name -Nature of Questions

Part I - General awareness & Reasoning

(20 questions)

- (a) General Awareness & Current Affairs (10 questions)
- (b) Reasoning Ability (10 questions)

Part-II: Perspectives on Education and Leadership

(40 questions)

- (a) Understanding the Learner-(10 questions)
 - (b) Understanding Teaching Learning -(10 questions)
 - (c) Creating Conducive Learning Environment
 - (d) School Organization and Leadership
 - (e) Perspectives in Education
- } (20 questions)

Part III - Subject-specific Syllabus

(120 questions)

- No Interview

Note:

- Minimum 40% marks would qualify for empanelment.

Syllabus of Exam for Recruitment of Post Graduate Teacher through LDCE:

Part I - General awareness & Reasoning Ability (20 marks)

- (a) General Awareness & Current Affairs
- (b) Reasoning Ability

Part II -Perspectives on Education and Leadership (40 marks)

(a)Understanding the Learner

- Concept of growth, maturation and development, principles and debates of development, development tasks and challenges
- Domains of Development: Physical, Cognitive, Socio-emotional, Moral etc., deviations in development and its implications.
- Understanding Adolescence: Needs, challenges and implications for designing institutional support.
- Role of Primary and Secondary Socialization agencies. Ensuring Home school continuity.

(b) Understanding Teaching Learning

- Theoretical perspectives on Learning -Behaviorism, Cognitivism and Constructivism with special reference to their implications for:
 - The role of teacher
 - The role of learner
 - Nature of teacher-student relationship
 - Choice of teaching methods
 - Classroom environment

- Understanding of discipline, power etc.
- Factors affecting learning and their implications for:
- Designing classroom instructions,
- Planning student activities and,
- Creating learning spaces in school.
- Planning and Organization of Teaching-Learning
- Concept of Syllabus and Curriculum, Overt and Hidden Curriculum, Principles of curriculum organization
- Competency based Education, Experiential learning, etc.
- Instructional Plans: -Year Plan, Unit Plan, Lesson Plan
- Instructional material and resources
- Information and Communication Technology(ICT) for teaching-learning
- Evaluation: Purpose, types and limitations. Continuous and Comprehensive Evaluation, Characteristics of a good tool.
- Assessment of learning, for learning and as learning: Meaning, purpose and considerations in planning each.
- Enhancing Teaching Learning processes: Classroom Observation and Feedback, Reflections and Dialogues as a means of constructivist teaching

c) Creating Conducive Learning Environment

- The concepts of Diversity, disability and Inclusion, implications of disability as social construct, types of disabilities-their identification and interventions
- Concept of School Mental Health, addressing the curative, preventive and promotive dimensions of mental health for all students and staff. Provisioning for guidance and counselling.
- Developing School and community as a learning resource.

(d) School Organization and Leadership

- Leader as reflective practitioner, team builder, initiator, coach and mentor.
- Perspectives on School Leadership: instructional, distributed and transformative
- Vision building, goal setting and creating a School development Plan
- Using School Processes and forums for strengthening teaching learning-Annual Calendar, time-tabling, parent teacher forums, school assembly, teacher development forums , using achievement data for improving teaching –learning, School Self Assessment and Improvement
- Creating partnerships with community , industry and other neighbouring schools and Higher Education Institutes – forming learning communities

(e) Perspectives in Education

- Role of school in achieving aims of education.
- NEP-2020: Curriculum and Pedagogy in Schools: Holistic & Integrated Learning; Equitable and Inclusive Education: Learning for All; Competency based learning and Education.
- Guiding Principles for Child Rights, Protecting and provisioning for rights of children to safe and secure school environment, Right of Children to free and Compulsory Education Act, 2009,
- Historically studying the National Policies in education with special reference to school education;
- School Curriculum Principles: Perspective, Learning and Knowledge, Curricular Areas, School Stages, Pedagogy and Assessment

Part III - Subject-specific Syllabus – Refer Annexure

(120 Marks)

Note: Minimum 40% marks would qualify for empanelment.

Syllabus -Mathematics (PGT - LDCE, 2022)

Sets:

Sets and their representations, Empty set, Finite and Infinite sets, Equal sets, Subsets. Subsets of a set of real numbers especially intervals (with notations). Universal set. Venn diagrams. Union and Intersection of sets. Difference of sets. Complement of a set. Properties of Complement.

Relations & Functions:

Ordered pairs. Cartesian product of sets. Number of elements in the Cartesian product of two finite sets. Cartesian product of the set of reals with itself (upto $\mathbb{R} \times \mathbb{R} \times \mathbb{R}$). Definition of relation, pictorial diagrams, domain, co-domain and range of a relation. Function as a special type of relation. Pictorial representation of a function, domain, co-domain and range of a function. Real valued functions, domain and range of these functions, constant, identity, polynomial, rational, modulus, signum, exponential, logarithmic and greatest integer functions, with their graphs. Sum, difference, product and quotients of functions.

Trigonometric Functions

Positive and negative angles. Measuring angles in radians and in degrees and conversion from one measure to another. Definition of trigonometric functions with the help of unit circle. Truth of the identity $\sin^2x + \cos^2x = 1$, for all x . Signs of trigonometric functions. Domain and range of trigonometric functions and their graphs. Expressing $\sin(x \pm y)$ and $\cos(x \pm y)$ in terms of $\sin x$, $\sin y$, $\cos x$ & $\cos y$ and their simple applications. Identities related to $\sin 2x$, $\cos 2x$, $\tan 2x$, $\sin 3x$, $\cos 3x$ and $\tan 3x$.

Complex Numbers and Quadratic Equations

Need for complex numbers, especially $\sqrt{-1}$, to be motivated by inability to solve some of the quadratic equations. Algebraic properties of complex numbers. Argand plane

Linear Inequalities

Linear inequalities. Algebraic solutions of linear inequalities in one variable and their representation on the number line.

Permutations and Combinations

Fundamental principle of counting. Factorial n . ($n!$) Permutations and combinations, derivation of Formulae for nPr and nCr and their connections, simple applications.

Binomial Theorem

Historical perspective, statement and proof of the binomial theorem for positive integral indices. Pascal's triangle, simple applications.

Sequence and Series

Sequence and Series. Arithmetic Progression (A. P.). Arithmetic Mean (A.M.) Geometric Progression (G.P.), general term of a G.P., sum of n terms of a G.P., infinite G.P. and its sum, geometric mean (G.M.), relation between A.M. and G.M.

Straight Lines

Slope of a line and angle between two lines. Various forms of equations of a line: parallel to axis, point-slope form, slope-intercept form. Distance of a point from a line.

Conic Sections

Sections of a cone: circles, ellipse, parabola, hyperbola, a point, a straight line and a pair of intersecting lines as a degenerated case of a conic section. Standard equations and simple properties of parabola, ellipse and hyperbola. Standard equation of a circle.

Introduction to Three-dimensional Geometry

Coordinate axes and coordinate planes in three dimensions. Coordinates of a point. Distance between two points.

Limits and Derivatives

Derivative introduced as rate of change both as that of distance function and geometrically. Intuitive idea of limit. Limits of polynomials and rational functions trigonometric, exponential and logarithmic functions. Definition of derivative relate it to slope of tangent of the curve, derivative of sum, difference, product and quotient of functions. Derivatives of polynomial and trigonometric functions.

Statistics

Measures of Dispersion: Range, Mean deviation, variance and standard deviation of ungrouped/grouped data.

Probability

Random experiments; outcomes, sample spaces (set representation). Events; occurrence of events, 'not', 'and' and 'or' events, exhaustive events, mutually exclusive events, Axiomatic (set theoretic) probability, connections with other theories of earlier classes. Probability of an event, probability of 'not', 'and' and 'or' events.

Relations and Functions

Types of relations: reflexive, symmetric, transitive and equivalence relations. One to one and onto functions.

Inverse Trigonometric Functions

Definition, range, domain, principal value branch. Graphs of inverse trigonometric functions.

Matrices

Concept, notation, order, equality, types of matrices, zero and identity matrix, transpose of a matrix, symmetric and skew symmetric matrices. Operation on matrices: Addition and multiplication and multiplication with a scalar. Simple properties of addition, multiplication and scalar multiplication. On commutativity of multiplication of matrices and existence of non-zero matrices whose product is the zero matrix (restrict to square matrices of order 2). Invertible matrices and proof of the uniqueness of inverse, if it exists; (Here all matrices will have real entries).

Determinants

Determinant of a square matrix (up to 3×3 matrices), minors, co-factors and applications of determinants in finding the area of a triangle. Adjoint and inverse of a square matrix. Consistency, inconsistency and number of solutions of system of linear equations by examples, solving system of linear equations in two or three variables (having unique solution) using inverse of a matrix.

Continuity and Differentiability

Continuity and differentiability, derivative of composite functions, chain rule, derivative of inverse trigonometric functions, derivative of implicit functions. Concept of exponential and logarithmic functions. Derivatives of logarithmic and exponential functions. Logarithmic differentiation, derivative of functions expressed in parametric forms. Second order derivatives.

Applications of Derivatives

Applications of derivatives: rate of change of bodies, increasing/decreasing functions, maxima and minima (first derivative test motivated geometrically and second derivative test given as a provable tool). Simple problems (that illustrate basic principles and understanding of the subject as well as real-life situations).

Integrals

Integration as inverse process of differentiation. Integration of a variety of functions by substitution, by partial fractions and by parts, Evaluation of simple integrals of the following types and problems based on them.

$$\int \frac{dx}{x^2 \pm a^2} \int \frac{dx}{\sqrt{x^2 \pm a^2}} \int \frac{dx}{\sqrt{a^2 - x^2}} \int \frac{dx}{ax^2 + bx + c} \int \frac{dx}{\sqrt{ax^2 + bx + c}}$$
$$\int \frac{px + q}{ax^2 + bx + c} dx \int \frac{px + q}{\sqrt{ax^2 + bx + c}} dx \int \sqrt{a^2 \pm x^2} dx \int \sqrt{x^2 - a^2} dx$$
$$\int \sqrt{ax^2 + bx + c} dx,$$

Fundamental Theorem of Calculus. Basic Properties of definite integrals and evaluation of definite integrals;

Applications of the Integrals

Applications in finding the area under simple curves, especially lines, circles/ parabolas/ellipses (in standard form only)

Differential Equations

Definition, order and degree, general and particular solutions of a differential equation. Solution of differential equations by method of separation of variables, solutions of homogeneous differential equations of first order and first degree. Solutions of linear differential equation of the type: $dy/dx + py = q$, where p and q are functions of x or constants. $dx/dy + px = q$, where p and q are functions of y or constants.

Vectors

Vectors and scalars, magnitude and direction of a vector. Direction cosines and direction ratios of a vector. Types of vectors (equal, unit, zero, parallel and collinear vectors), position vector of a point, negative of a vector, components of a vector, addition of vectors, multiplication of a vector by a scalar, position vector of a point dividing a line segment in a given ratio. Definition, Geometrical Interpretation, properties and application of scalar (dot) product of vectors, vector (cross) product of vectors.

Three - dimensional Geometry

Direction cosines and direction ratios of a line joining two points. Cartesian equation and vector equation of a line, skew lines, shortest distance between two lines. Angle between two lines.

Linear Programming

Introduction, related terminology such as constraints, objective function, optimization, graphical method of solution for problems in two variables, feasible and infeasible regions (bounded or unbounded), feasible and infeasible solutions, optimal feasible solutions (up to three non-trivial constraints).

Probability

Conditional probability, multiplication theorem on probability, independent events, total probability, Bayes' theorem, Random variable and its probability distribution, mean of random variable.

Units and Measurements

Need for measurement: Units of measurement; systems of units; SI units, fundamental and derived units, significant figures. Dimensions of physical quantities, dimensional analysis and its applications.

Motion in a Straight Line

Frame of reference, Motion in a straight line, Elementary concepts of differentiation and integration for describing motion, uniform and non-uniform motion, and instantaneous velocity, uniformly accelerated motion, velocity - time and position-time graphs, Relations for uniformly accelerated motion.

Motion in a Plane

Scalar and vector quantities; position and displacement vectors, general vectors and their notations; equality of vectors, multiplication of vectors by a real number; addition and subtraction of vectors, Unit vector; resolution of a vector in a plane, rectangular components, Scalar and Vector product of vectors. Motion in a plane, cases of uniform velocity and uniform acceleration, projectile motion, uniform circular motion.

Laws of Motion:

Intuitive concept of force, Inertia, Newton's first law of motion; momentum and Newton's second law of motion; impulse; Newton's third law of motion. Law of conservation of linear momentum and its applications. Equilibrium of concurrent forces, Static and kinetic friction, laws of friction, rolling friction, lubrication. Dynamics of uniform circular motion: Centripetal force, examples of circular motion- vehicle on a level circular road, vehicle on a banked road.

Work, Energy and Power:

Work done by a constant force and a variable force; kinetic energy, work-energy theorem, power, Notion of potential energy, potential energy of a spring, conservative forces: non-conservative forces, motion in a vertical circle; elastic and inelastic collisions in one and two dimensions.

Motion of System of Particles and Rigid Body & System of Particles and Rotational Motion

Centre of mass of a two-particle system, momentum conservation and Centre of mass motion, Centre of mass of a rigid body; centre of mass of a uniform rod, Moment of a force, torque, angular momentum, law of conservation of angular momentum and its applications, Equilibrium of rigid bodies, rigid body rotation and equations of rotational motion, comparison of linear and rotational motions. Moment of inertia, radius of gyration, values of moments of inertia for simple geometrical objects.

Gravitation:

Kepler's laws of planetary motion, universal law of gravitation, Acceleration due to gravity and its variation with altitude and depth. Gravitational potential energy and gravitational potential, escape velocity, orbital velocity of a satellite.

Mechanical Properties of Solids

Elasticity, Stress-strain relationship, Hooke's law, Young's modulus, bulk modulus, shear modulus of rigidity, Poisson's ratio; elastic energy.

Mechanical Properties of Fluids

Pressure due to a fluid column; Pascal's law and its applications -hydraulic lift and hydraulic brakes, effect of gravity on fluid pressure, Viscosity, Stokes' law, terminal velocity, streamline and turbulent flow, critical velocity, Bernoulli's theorem and its simple applications, Surface energy and surface tension, angle of contact, excess of pressure across a curved surface, application of surface tension ideas to drops, bubbles and capillary rise.

Thermal Properties of Matter

Heat, temperature, thermal expansion; thermal expansion of solids, liquids and gases, anomalous expansion of water; specific heat capacity; C_p , C_v - calorimetry; change of state - latent heat capacity. Heat transfer-conduction, convection and radiation, thermal conductivity, qualitative ideas of Blackbody radiation, Wein's displacement Law, Stefan's law.

Thermodynamics

Thermal equilibrium and definition of temperature, zeroth law of thermodynamics, heat, work and internal energy, First law of thermodynamics, Second law of thermodynamics: gaseous state of matter, change of condition of gaseous state -isothermal, adiabatic, reversible, irreversible, and cyclic processes.

Behavior of Perfect Gases and Kinetic Theory of Gases :

Equation of state of a perfect gas, work done in compressing a gas, Kinetic theory of gases - assumptions, concept of pressure. Kinetic interpretation of temperature; rms speed of gas molecules; degrees of freedom, law of equi-partition of energy and application to specific heat capacities of gases; concept of mean free path, Avogadro's number.

Oscillations and Waves:

Periodic motion - time period, frequency, displacement as a function of time, periodic functions and their application, Simple harmonic motion (S.H.M) and its equations of motion; phase; oscillations of a loaded spring- restoring force and force constant; energy in S.H.M. Kinetic and potential energies; simple pendulum -its time period. Transverse and longitudinal waves, speed of travelling wave, displacement relation for a progressive wave, principle of superposition of waves, reflection of waves, standing waves in strings and organ pipes, fundamental mode and harmonics, Beats.

Electric Charges and Fields:

Electric charges, Conservation of charge, Coulomb's law-force between two point charges, forces between multiple charges; superposition principle and continuous charge distribution, Electric field, electric field due to a point charge, electric field lines, electric dipole, electric field due to a dipole, torque on a dipole in uniform electric field. Electric flux, statement of Gauss's theorem and its applications to find field due to infinitely long straight wire, uniformly charged infinite plane sheet and uniformly charged thin spherical shell-field inside and outside.

Electrostatic Potential and Capacitance:

Electric potential, potential difference, electric potential due to a point charge, a dipole and system of charges; equipotential surfaces, electrical potential energy of a system of two-point charges and of electric dipole in an electrostatic field. Conductors and insulators, free charges and bound charges inside a conductor. Dielectrics and electric polarization, capacitors and capacitance, combination of capacitors in series and in parallel, capacitance of a parallel plate capacitor with and without dielectric medium between the plates, energy stored in a capacitor

Current Electricity:

Electric current, flow of electric charges in a metallic conductor, drift velocity, mobility and their relation with electric current; Ohm's law, V-I characteristics (Linear & Non-Linear), electrical energy and power, electrical resistivity and conductivity, temperature dependence of resistance, Internal resistance of a cell, potential difference and emf of a cell, combination of cells in series and in parallel, Kirchhoff's rules, Wheatstone bridge.

Magnetic Effects of Current and Magnetism:

Concept of magnetic field, Oersted's experiment, Biot - Savart law and its application to current carrying circular loop, Ampere's law and its applications to infinitely long straight wire. Straight solenoid, force on a moving charge in uniform magnetic and electric fields. Force on a current-carrying conductor in a uniform magnetic field, force between two parallel current-carrying

conductors-definition of ampere, torque experienced by a current loop in uniform magnetic field; Current loop as a magnetic dipole and its magnetic dipole moment, moving coil galvanometer - its current sensitivity and conversion to ammeter and voltmeter.

Magnetism and Matter

Bar magnet, bar magnet as an equivalent solenoid (qualitative treatment only), magnetic field intensity due to a magnetic dipole (bar magnet) along its axis and perpendicular to its axis (qualitative treatment only), torque on a magnetic dipole (bar magnet) in a uniform magnetic field (qualitative treatment only), magnetic field lines. Magnetic properties of materials- Para-, dia- and ferro - magnetic substances with examples, Magnetization of materials, effect of temperature on magnetic properties.

Electromagnetic Induction and Alternating Currents

Electromagnetic induction; Faraday's laws, induced EMF and current; Lenz's Law, Self and mutual induction, Alternating Current Alternating currents, peak and RMS value of alternating current/ voltage; reactance and impedance; LCR series circuit, resonance, power in AC circuits, power factor, wattless current, AC generator, Transformer.

Electromagnetic Waves

Basic idea of displacement current, Electromagnetic waves, their characteristics, their transverse nature (qualitative idea only). Electromagnetic spectrum (radio waves, microwaves, infrared, visible, ultraviolet, X-rays, gamma rays) including elementary facts about their uses.

Ray Optics and Optical Instruments Ray Optics:

Reflection of light, spherical mirrors, mirror formula, refraction of light, total internal reflection and optical fibers, refraction at spherical surfaces, lenses, thin lens formula, lens maker's formula, magnification, power of a lens, combination of thin lenses in contact, refraction of light through a prism. Optical instruments: Microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers.

Wave optics:

Wave front and Huygen's principle, reflection and refraction of plane wave at a plane surface using wave fronts, Proof of laws of reflection and refraction using Huygen's principle. Interference, Young's double slit experiment and expression for fringe width, coherent sources and sustained interference of light, diffraction due to a single slit, width of central maxima.

Dual Nature of Radiation and Matter:

Dual nature of radiation, Photoelectric effect, Hertz and Lenard's observations; Einstein's photoelectric equation-particle nature of light, Experimental study of photoelectric effect Matter waves-wave nature of particles, de-Broglie relation.

Atoms & Nuclei:

Alpha-particle scattering experiment; Rutherford's model of atom; Bohr model of hydrogen atom, Expression for radius of nth possible orbit, velocity and energy of electron in its orbit, hydrogen line spectra, Composition and size of nucleus, nuclear force Mass-energy relation, mass defect; binding energy per nucleon and its variation with mass number; nuclear fission, nuclear fusion.

Semiconductor Electronics:

Energy bands in conductors, semiconductors and insulators, Intrinsic and extrinsic semiconductors- p and n type, p-n junction Semiconductor diode - I-V characteristics in forward and reverse bias, application of junction diode -diode as a rectifier.

Basic Concepts of Chemistry

General Introduction: Importance and scope of Chemistry. Nature of matter, laws of chemical combination, Dalton's atomic theory: concept of elements, atoms and molecules. Atomic and molecular masses, mole concept and molar mass, percentage composition, empirical and molecular formula, chemical reactions, stoichiometry and calculations based on stoichiometry.

Structure of Atom

Discovery of Electron, Proton and Neutron, atomic number, isotopes and isobars. Thomson's model and its limitations. Rutherford's model and its limitations, Bohr's model and its limitations, concept of shells and subshells, dual nature of matter and light, de Broglie's relationship, Heisenberg uncertainty principle, concept of orbitals, quantum numbers, shapes of s, p and d orbitals, rules for filling electrons in orbitals - Aufbau principle, Pauli's exclusion principle and Hund's rule, electronic configuration of atoms, stability of half-filled and completely filled orbitals.

Classification of Elements and Periodicity in Properties

Significance of classification, brief history of the development of periodic table, modern periodic law and the present form of periodic table, periodic trends in properties of elements -atomic radii, ionic radii, inert gas radii, Ionization enthalpy, electron gain enthalpy, electronegativity, valency. Nomenclature of elements with atomic number greater than 100.

Chemical Bonding and Molecular Structure

Valence electrons, ionic bond, covalent bond, bond parameters, Lewis structure, polar character of covalent bond, covalent character of ionic bond, valence bond theory, resonance, geometry of covalent molecules, VSEPR theory, concept of hybridization, involving s, p and d orbitals and shapes of some simple molecules, molecular orbital theory of homonuclear diatomic molecules (qualitative idea only), Hydrogen bond.

Chemical Thermodynamics

Concepts of System and types of systems, surroundings, work, heat, energy, extensive and intensive properties, state functions. First law of thermodynamics -internal energy and enthalpy, heat capacity and specific heat, measurement of ΔU & ΔH , Hess's law of constant heat summation, enthalpy of bond of dissociation, combustion, formation, atomization, sublimation, phase transition, ionization, solution and dilution. Second law of Thermodynamics, Introduction of entropy as a state function, Gibb's energy change for spontaneous and nonspontaneous processes, criteria for equilibrium. Third law of thermodynamics.

Equilibrium

Equilibrium in physical and chemical processes, dynamic nature of equilibrium, law of mass action, equilibrium constant, factors affecting equilibrium - Le Chatelier's principle, ionic equilibrium-ionization of acids and bases, strong and weak electrolytes, degree of ionization, ionization of poly basic acids, acid strength, concept of pH, hydrolysis of salts (elementary idea), buffer solution, Henderson Equation, solubility product, common ion effect (with illustrative examples).

Redox Reactions

Concept of oxidation and reduction, redox reactions, oxidation number, balancing redox reactions, in terms of loss and gain of electrons and change in oxidation number, applications of redox reactions.

Organic Chemistry -Some Basic Principles and Techniques

General introduction, methods of purification, qualitative and quantitative analysis, classification and IUPAC nomenclature of organic compounds. Electronic displacements in a covalent bond: inductive effect, electromeric effect, resonance and hyper conjugation.

Homolytic and heterolytic fission of a covalent bond: free radicals, carbocations, carbanions, electrophiles and nucleophiles, types of organic reactions.

Classification of Hydrocarbons

Aliphatic Hydrocarbons:

Alkanes - Nomenclature, isomerism, conformation (ethane only), physical properties, chemical reactions including free radical mechanism of halogenation, combustion and pyrolysis. Alkenes - Nomenclature, structure of double bond (ethene), geometrical isomerism, physical properties, methods of preparation, chemical reactions: addition of hydrogen, halogen, water, hydrogen halides (Markovnikov's addition and peroxide effect), ozonolysis, oxidation, mechanism of electrophilic addition. Alkynes - Nomenclature, structure of triple bond (ethyne), physical properties, methods of preparation, chemical reactions: acidic character of alkynes, addition reaction of - hydrogen, halogens, hydrogen halides and water.

Aromatic Hydrocarbons: Introduction, IUPAC nomenclature, benzene: resonance, aromaticity, chemical properties: mechanism of electrophilic substitution. Nitration, sulphonation, halogenation, Friedel Craft's alkylation and acylation, directive influence of functional group in monosubstituted benzene. Carcinogenicity and toxicity.

Solutions

Types of solutions, expression of concentration of solutions of solids in liquids, solubility of gases in liquids, solid solutions, Raoult's law, colligative properties - relative lowering of vapour pressure, elevation of boiling point, depression of freezing point, osmotic pressure, determination of molecular masses using colligative properties, abnormal molecular mass, Van't Hoff factor.

Electrochemistry

Redox reactions, EMF of a cell, standard electrode potential, Nernst equation and its application to chemical cells, Relation between Gibbs energy change and EMF of a cell, conductance in electrolytic solutions, specific and molar conductivity, variations of conductivity with concentration, Kohlrausch's Law, electrolysis and law of electrolysis (elementary idea), dry cell-electrolytic cells and Galvanic cells, lead accumulator, fuel cells, corrosion.

Chemical Kinetics

Rate of a reaction (Average and instantaneous), factors affecting rate of reaction: concentration, temperature, catalyst; order and molecularity of a reaction, rate law and specific rate constant, integrated rate equations and half-life (only for zero and first order reactions), concept of collision theory (elementary idea, no mathematical treatment), activation energy, Arrhenius equation.

d and f Block Elements

General introduction, electronic configuration, occurrence and characteristics of transition metals, general trends in properties of the first-row transition metals - metallic character, ionization enthalpy, oxidation states, ionic radii, colour, catalytic property, magnetic properties, interstitial compounds, alloy formation, preparation and properties of $K_2Cr_2O_7$ and $KMnO_4$. **Lanthanoids** - Electronic configuration, oxidation states, chemical reactivity and lanthanoid contraction and its consequences. **Actinoids** - Electronic configuration, oxidation states and comparison with lanthanoids.

Coordination Compounds

Coordination compounds - Introduction, ligands, coordination number, colour, magnetic properties and shapes, IUPAC nomenclature of mononuclear coordination compounds. Bonding, Werner's theory, VBT, and CFT; structure and stereoisomerism, importance of coordination compounds (in qualitative analysis, extraction of metals and biological system).

Haloalkanes and Haloarenes.

Haloalkanes: Nomenclature, nature of C-X bond, physical and chemical properties, optical rotation mechanism of substitution reactions. **Haloarenes:** Nature of C-X bond, substitution reactions (Directive influence of halogen in monosubstituted compounds only). Uses and environmental effects of - dichloromethane, trichloromethane, tetrachloromethane, iodoform, freons, DDT.

Alcohols, Phenols and Ethers

Alcohols: Nomenclature, methods of preparation, physical and chemical properties (of primary alcohols only), identification of primary, secondary and tertiary alcohols, mechanism of dehydration, uses with special reference to methanol and ethanol. **Phenols:** Nomenclature, methods of preparation, physical and chemical properties, acidic nature of phenol, electrophilic substitution reactions, uses of phenols. **Ethers:** Nomenclature, methods of preparation, physical and chemical properties, uses.

Aldehydes, Ketones and Carboxylic Acids

Aldehydes and Ketones: Nomenclature, nature of carbonyl group, methods of preparation, physical and chemical properties, mechanism of nucleophilic addition, reactivity of alpha hydrogen in aldehydes, uses. **Carboxylic Acids:** Nomenclature, acidic nature, methods of preparation, physical and chemical properties; uses.

Amines

Amines: Nomenclature, classification, structure, methods of preparation, physical and chemical properties, uses, identification of primary, secondary and tertiary amines. Diazonium salts: Preparation, chemical reactions and importance in synthetic organic chemistry.

Biomolecules

Carbohydrates - Classification (aldoses and ketoses), monosaccharides (glucose and fructose), D-L configuration oligosaccharides (sucrose, lactose, maltose), polysaccharides (starch, cellulose, glycogen); Importance of carbohydrates. **Proteins** -Elementary idea of - amino acids, peptide bond, polypeptides, proteins, structure of proteins - primary, secondary, tertiary structure and quaternary structures (qualitative idea only), denaturation of proteins; enzymes. Hormones - Elementary idea excluding structure. **Vitamins** - Classification and functions. Nucleic Acids: DNA and RNA.

The Living World

Biodiversity; Need for classification; three domains of life; taxonomy and systematics; concept of species and taxonomical hierarchy; binomial nomenclature

Biological Classification

Five kingdom classification; Salient features and classification of Monera, Protista and Fungi into major groups; Lichens, Viruses and Viroids.

Plant Kingdom

Classification of plants into major groups; Salient and distinguishing features and a few examples of Algae, Bryophyta, Pteridophyta, Gymnospermae (Topics excluded - Angiosperms, Plant Life Cycle and Alternation of Generations)

Animal Kingdom

Salient features and classification of animals, non-chordates up to phyla level and chordates up to class level (salient features and at a few examples of each category).

Morphology of Flowering Plants

Morphology of different parts of flowering plants: root, stem, leaf, inflorescence, flower, fruit and seed. Description of families: Solanaceae

Anatomy of Flowering Plants

Anatomy and functions of tissue systems in dicots and monocots.

Structural Organisation in Animals

Morphology, Anatomy and functions of different systems (digestive, circulatory, respiratory, nervous and reproductive) of frog.

Cell-The Unit of Life

Cell theory and cell as the basic unit of life, structure of prokaryotic and eukaryotic cells; Plant cell and animal cell; cell envelope; cell membrane, cell wall; cell organelles - structure and function; endomembrane system- endoplasmic reticulum, ribosomes, golgi bodies, lysosomes, vacuoles; mitochondria, plastids, microbodies; cytoskeleton, cilia, flagella, centrioles (ultrastructure and function); nucleus.

Biomolecules

Chemical constituents of living cells: biomolecules, structure and function of proteins, carbohydrates, lipids, nucleic acids; Enzymes - properties, enzyme action.

Cell Cycle and Cell Division

Cell cycle, mitosis, meiosis and their significance

Photosynthesis in Higher Plants

Photosynthesis as a means of autotrophic nutrition; site of photosynthesis, pigments involved in photosynthesis (elementary idea); photochemical and biosynthetic phases of photosynthesis; cyclic and non-cyclic photophosphorylation; chemiosmotic hypothesis; photorespiration; C₃ and C₄ pathways; factors affecting photosynthesis.

Respiration in Plants

Exchange of gases; cellular respiration - glycolysis, fermentation (anaerobic), TCA cycle and electron transport system (aerobic); energy relations - number of ATP molecules generated; amphibolic pathways; respiratory quotient.

Plant - Growth and Development

Seed germination; phases of plant growth and plant growth rate; conditions for growth; differentiation, dedifferentiation and redifferentiation; sequence of developmental processes in a plant cell; growth regulators - auxin, gibberellin, cytokinin, ethylene, ABA.

Breathing and Exchange of Gases

Introduction to respiratory organs in animals; Respiratory system in humans; mechanism of breathing and its regulation in humans - exchange of gases, transport of gases and regulation of respiration, respiratory volumes; disorders related to respiration - asthma, emphysema, occupational respiratory disorders.

Body Fluids and Circulation

Composition of blood, blood groups, coagulation of blood; composition of lymph and its function; human circulatory system - Structure of human heart and blood vessels; cardiac cycle, cardiac output, ECG; double circulation; regulation of cardiac activity; disorders of circulatory system - hypertension, coronary artery disease, angina pectoris, heart failure.

Excretory Products and their Elimination

Modes of excretion - ammonotelism, ureotelism, uricotelism; human excretory system - structure and function; urine formation, osmoregulation; regulation of kidney function - renin - angiotensin, atrial natriuretic factor, ADH, diabetes insipidus; micturition; role of other organs in excretion; disorders - uremia, renal failure, renal calculi, nephritis; dialysis and artificial kidney, kidney transplant.

Locomotion and Movement

Types of movement - amoeboid, ciliary, flagellar, muscular; skeletal muscle, contractile proteins and muscle contraction; skeletal system and its functions; joints; disorders of muscular and skeletal systems - myasthenia gravis, tetany, muscular dystrophy, arthritis, osteoporosis, gout.

Neural Control and Coordination

Neuron and nerves; Nervous system in humans - central nervous system and peripheral nervous system; generation and conduction of nerve impulse; visceral nervous system.

Chemical Coordination and Integration

Endocrine glands and hormones; human endocrine system - hypothalamus, pituitary, pineal, thyroid, parathyroid, thymus, adrenal, pancreas, gonads; hormones of heart, kidney and gastrointestinal tract; mechanism of hormone action (elementary idea); role of hormones as messengers and regulators, hypo - and hyperactivity and related disorders; dwarfism, acromegaly, cretinism, goiter, exophthalmic goiter, diabetes, Addison's disease.

Sexual Reproduction in Flowering Plants

Flower structure; development of male and female gametophytes; pollination - types, agencies and examples; outbreeding devices; pollen-pistil interaction; double fertilization; post fertilization events - development of endosperm and embryo, development of seed and formation of fruit; special modes - apomixis, parthenocarpy, polyembryony; Significance of seed dispersal and fruit formation.

Human Reproduction

Male and female reproductive systems; microscopic anatomy of testis and ovary; gametogenesis - spermatogenesis and oogenesis; menstrual cycle; fertilisation, embryo development upto blastocyst formation, implantation; pregnancy and placenta formation ; parturition ; lactation .

Reproductive Health

Need for reproductive health and prevention of Sexually Transmitted Diseases (STDs); birth control - need and methods; medical termination of pregnancy (MTP); amniocentesis; infertility and assisted reproductive technologies - IVE, ZIFT, GIFT

Principles of Inheritance and Variation

Heredity and variation, Mendelian inheritance; deviations from Mendelism - incomplete dominance, co-dominance, multiple alleles and inheritance of blood groups, pleiotropy; elementary idea of polygenic inheritance; chromosome theory of inheritance; chromosomes and genes; linkage and crossing over; Sex determination - in human being, birds and honey bee; sex linked inheritance - haemophilia, colour blindness; Mendelian disorders in humans -thalassemia; chromosomal disorders in humans; Down's syndrome, Turner's and Klinefelter's syndromes.

Molecular Basis of Inheritance

Structure of DNA and RNA; DNA packaging; Search for genetic material and DNA as genetic material; DNA replication; Central Dogma; transcription, genetic code, translation; gene expression and regulation - lac operon; Human genome project; DNA fingerprinting.

Evolution

Origin of life; biological evolution and evidences for biological evolution (paleontology, comparative anatomy, embryology and molecular evidences); adaptive radiation; Darwin's theory of evolution; mechanism of evolution - variation (mutation and recombination) and natural selection with examples, types of natural selection; Gene flow and genetic drift; Hardy - Weinberg's principle; human evolution

Human Health and Diseases

Pathogens; parasites causing human diseases (malaria, dengue, chikungunya, filariasis, ascariasis, typhoid, pneumonia, common cold, amoebiasis, ring worm) and their control; Basic concepts of immunology - vaccines; cancer, HIV and AIDS; Adolescence - drug and alcohol abuse.

Biotechnology - Principles and Processes

Genetic Engineering (Recombinant DNA Technology).

Biotechnology and its Application

Application of biotechnology in health and agriculture: genetically modified organisms - Bt crops; Human insulin, gene therapy; molecular diagnosis; transgenic animals; biosafety issues, biopiracy and patents.

Organisms and Populations

Population interactions - mutualism, competition, predation, parasitism, commensalism; population attributes - growth, birth rate and death rate, age distribution.

Ecosystem

Ecosystem, productivity and decomposition; energy flow; pyramids of number, biomass, energy.

Biodiversity and Conservation

Biodiversity - Concept, levels, patterns, importance; loss of biodiversity; biodiversity conservation; hotspots, endangered organisms, extinction, Red Data Book, Sacred Groves, biosphere reserves, national parks, wildlife, sanctuaries and Ramsar sites.

Introduction

Meaning, scope, functions and importance of statistics in Economics

Collection, Organisation and Presentation of data

- Collection of data - sources of data - primary and secondary; how basic data is collected with concepts of Sampling; methods of collecting data; some important sources of secondary data: Census of India and National Sample Survey Organisation.
- Organisation of Data: Meaning and types of variables; Frequency Distribution.
- Presentation of Data: Tabular Presentation and Diagrammatic Presentation of Data: (i) Geometric forms (bar diagrams and pie diagrams), (ii) Frequency diagrams (histogram, polygon and Ogive) and (iii) Arithmetic line graphs (time series graph).

Statistical Tools and Interpretation

- Measures of Central Tendency- Arithmetic mean, median and mode
- Correlation - meaning and properties, scatter diagram; Measures of correlation - Karl Pearson's method (two variables ungrouped data) Spearman's rank correlation.
- Introduction to Index Numbers - meaning, types - wholesale price index, consumer price index and index of industrial production, uses of index numbers; Inflation and index numbers.

Introduction to Microeconomics

- Meaning of microeconomics and macroeconomics; positive and normative economics
- What is an economy? Central problems of an economy: what, how and for whom to produce; concepts of production possibility frontier and opportunity cost.

Consumer's Equilibrium and Demand

- Consumer's equilibrium - meaning of utility, marginal utility, law of diminishing marginal utility, conditions of consumer's equilibrium using marginal utility analysis.
- Indifference curve analysis of consumer's equilibrium-the consumer's budget (budget set and budget line), preferences of the consumer (indifference curve, indifference map) and conditions of consumer's equilibrium.
- Demand, market demand, determinants of demand, demand schedule, demand curve and its slope, movement along and shifts in the demand curve; price elasticity of demand - factors affecting price elasticity of demand; measurement of price elasticity of demand - percentage-change method and total expenditure method.

Producer Behaviour and Supply

- Meaning of Production Function - Short-Run and Long-Run
- Total Product, Average Product and Marginal Product.
- Returns to a Factor
- Cost: Short run costs - total cost, total fixed cost, total variable cost; Average cost; Average fixed cost, average variable cost and marginal cost-meaning and their relationships.
- Revenue - total, average and marginal revenue - meaning and their relationship.
- Producer's equilibrium-meaning and its conditions in terms of marginal revenue marginal cost. Supply, market supply, determinants of supply, supply schedule, supply curve and its slope, movements along and shifts in supply curve, price elasticity of supply; measurement of price elasticity of supply - percentage-change method.

Forms of Market and Price Determination under Perfect Competition with simple applications.

- Perfect competition - Features; Determination of market equilibrium and effects of shifts in demand and supply.
- Simple Applications of Demand and Supply: Price ceiling, price floor.

National Income and Related Aggregates

- • Basic concepts in macroeconomics: consumption goods, capital goods, final goods, intermediate goods; stocks and flows; gross investment and depreciation.
- Circular flow of income (two sector model); Methods of calculating National Income - Value Added or Product method, Expenditure method, Income method.
- Aggregates related to National Income: Gross National Product (GNP), Net National Product (NNP), Gross Domestic Product (GDP) and Net Domestic Product (NDP) - at market price, at factor cost; Real and Nominal GDP.
- GDP and Welfare

Money and Banking

- Money - meaning and functions, supply of money - Currency held by the public and net demand deposits held by commercial banks.
- Money creation by the commercial banking system.
- Central bank and its functions (example of the Reserve Bank of India): Bank of issue, Govt. Bank, Banker's Bank, Control of Credit through Bank Rate, CRR, SLR, Repo Rate and Reverse Repo Rate, Open Market Operations, Margin requirement.

Determination of Income and Employment

- Aggregate demand and its components.
- Propensity to consume and propensity to save (average and marginal).
- Short-run equilibrium output; investment multiplier and its mechanism.
- Meaning of full employment and involuntary unemployment.
- Problems of excess demand and deficient demand; measures to correct them - changes in government spending, taxes and money supply.

Government Budget and the Economy

- Government budget - meaning, objectives and components.
- Classification of receipts - revenue receipts and capital receipts;
- Classification of expenditure - revenue expenditure and capital expenditure.
- Balanced, Surplus and Deficit Budget - measures of government deficit.

Balance of Payments

- Balance of payments account - meaning and components;
- Balance of payments - Surplus and Deficit
- Foreign exchange rate - meaning of fixed and flexible rates and managed floating.
- Determination of exchange rate in a free market, Merits and demerits of flexible and fixed exchange rate. Managed Floating exchange rate system

Development Experience (1947-90) and Economic Reforms since 1991:

- A brief introduction of the state of Indian economy on the eve of independence. Indian economic system and common goals of Five Year Plans.
- Main features, problems and policies of agriculture (institutional aspects and new agricultural strategy), industry (IPR 1956; SSI - role & importance) and foreign trade.
- Economic Reforms since 1991:

Features and appraisals of liberalisation, globalisation and privatisation (LPG policy);
Concepts of demonetization and GST

Current challenges facing Indian Economy

- Human Capital Formation: How people become resource; Role of human capital in economic development; Growth of Education Sector in India
- Rural development: Key issues - credit and marketing - role of cooperatives; agricultural diversification; alternative farming - organic farming
- Employment: Growth and changes in work force participation rate in formal and informal sectors; problems and policies
- Sustainable Economic Development: Meaning, Effects of Economic Development on Resources and Environment, including global warming

Development Experience of India:

- A comparison with neighbours
- India and Pakistan
- India and China
- Issues: economic growth, population, sectoral development and other Human Development Indicators

Geography as a Discipline

- Geography as an integrating discipline, as a science of spatial attributes
- Branches of Geography: Physical Geography and Human Geography

The Earth

- Origin and evolution of the earth
- Interior of the earth Earthquakes and volcanoes: causes, types and effects
- Distribution of oceans and continents : Wegener's continental drift theory and plate tectonics

Landforms

- Geomorphic processes: weathering; mass wasting; erosion and deposition; soil-formation
- Landforms and their evolution- Brief erosional and depositional features

Climate

- Atmosphere- composition and structure; elements of weather and climate
- Solar Radiation-Insolation-angle of incidence and distribution; heat budget of the earth-heating and cooling of atmosphere (conduction, convection, terrestrial radiation and advection); temperature- factors controlling temperature; distribution of temperature-horizontal and vertical; inversion of temperature
- Atmospheric circulation and weather systems - Pressure-pressure belts; winds-planetary, seasonal and local; air masses and fronts; tropical and extra tropical cyclones
- Water in the atmosphere-Precipitation- evaporation; condensation-dew, frost, fog, mist and cloud; rainfall-types and world distribution
- World Climate and Global Concerns

Water (Oceans)

- Basics of Oceanography
- Oceans - distribution of temperature and salinity
- Movements of ocean water-waves, tides and currents; submarine reliefs

Life on the Earth

- Biosphere - importance of plants and other organisms; biodiversity and conservation

India-Physical Environment

- India : Location, space relations, India's place in the world

Physiography

- Structure and Relief; Physiographic Divisions
- Drainage systems: Concept of river basins, watershed; the Himalayan and the Peninsular rivers

Climate, Vegetation and Soil

- Weather and climate - spatial and temporal distribution of temperature, Indian monsoon: mechanism, onset and withdrawal
- Natural vegetation-forest types and distribution; wild life; conservation; biosphere reserves

Hazards and Disasters: Causes, Consequences and Management

- Floods, Cloudbursts
- Droughts: types and impact
- Earthquakes and Tsunami Cyclones: features and impact
- Landslides

Fundamentals of Maps

- Geo spatial data, Concept of Geographical data matrix; Point, line, area data
- Maps - types; scales-types; construction of simple linear scale, measuring distance; finding direction and use of symbols
- Map projection- Latitude, longitude and time, typology, construction and properties of projection: Conical with one standard parallel and Mercator's projection.

Topographic and Weather Maps

- Study of topographic maps (1 : 50,000 or 1 : 25,000 Survey of India maps); contour cross section and identification of landforms-slopes, hills, valleys, waterfall, cliffs; distribution of settlements
- Satellite imageries, stages in remote sensing data- acquisition, platform and sensors and data products, (photographic and digital)

People

- The World Population- distribution, density and growth
- Population change - Components of population change, Demographic Transition
- Human development-concept; selected indicators, international comparisons
- Population: distribution, density and growth; composition of population - linguistic, religious; sex, rural-urban and occupational-regional variations in growth of population

Human Activities

- Primary activities - concept and changing trends; gathering, pastoral, mining, subsistence agriculture, modern agriculture; people engaged in agricultural and allied activities - some examples from selected countries
- Secondary activities- concept; manufacturing: types - household, small scale, large scale; agro based and mineral based industries;
- Tertiary activities - concept; trade, transport and tourism; services; people engaged in tertiary activities
- Quaternary activities- concept; people engaged in quaternary activities - case study from selected countries

Human Settlements

- Rural settlements - types and distribution
- Urban settlements - types, distribution and functional classification

Transport, Communication and Trade

- Land transport - roads, railways; trans- continental railways Water transport- inland waterways; major ocean routes
- Air transport- Intercontinental air routes Oil and gas pipelines
- Satellite communication and cyber space- importance and usage for geographical information; use of GPS
- International trade- bases and changing patterns; ports as gateways of international trade; role of WTO in international trade

Resources and Development

- Land resources- general land use; agricultural land use; geographical conditions and distribution of major crops (Wheat, Rice, Tea, Coffee, Cotton, Jute, Sugarcane and Rubber); agricultural development and problems
- Water resources-availability and utilization- irrigation, domestic, industrial and other uses; scarcity of water and conservation methods-rain water harvesting and watershed management
- Mineral and energy resources- distribution of metallic (Iron ore, Copper, Bauxite, Manganese); non-metallic (Mica, Salt) minerals; conventional (Coal, Petroleum, Natural gas and Hydroelectricity) and non-conventional energy sources (solar, wind, biogas) and conservation
- Planning in India- target group area planning(case study); idea of sustainable development (case study)

Transport, Communication and International Trade

- Transport and communication-roads, railways, waterways and airways: oil and gas pipelines; Geographical information and communication net works
- International trade- changing pattern of India's foreign trade; sea ports and their hinterland and airports

Geographical Perspective on selected issues and problems

- Environmental pollution; urban-waste disposal
- Urbanization, rural-urban migration; problems of slums
- Land degradation

Writing and City Life

Iraq, 3rd millennium BCE

- Growth of towns
- Nature of early urban societies
- Historians' Debate on uses of writing

An Empire across Three Continents

Roman Empire, 27 BCE to 600 CE

- Political evolution
- Economic Expansion
- Religion-culture foundation
- Late Antiquity
- Historians' view on the Institution of Slavery

NOMADIC EMPIRES

The Mongol, 13th to 14th century

- The nature of nomadism
- Formation of empires
- Conquests and relations with other states
- Historians' views on nomadic societies and state formation

The Three Orders.

Western Europe 13th - 16th century

- Feudal society and economy
- Formation of state
- Church and society
- Historians' views on decline of feudalism

Changing Cultural Traditions

Europe 14th -17th century

- New ideas and new trends in literature and arts
- Relationship with earlier ideas
- The contribution of West Asia
- Historians' viewpoint on the validity of the notion 'European Renaissance'

Displacing Indigenous People

North America and Australia, 18th to 20th century

- European colonists in North America and Australia
- Formation of White Settler societies
- Displacement and repression of local people
- Historians' viewpoint on the impact of European settlement on indigenous population

Paths to Modernization

East Asia, late 19th to 20th century

- Militarization and economic growth in Japan
- China and the communist alternative
- Historians' Debate on the meaning of modernization

BRICKS, BEADS AND BONES

The Harappan Civilization

- Broad overview: Early urban centers
- Story of discovery: Harappan civilization
- Excerpt: Archaeological report on a major site

KINGS, FARMERS AND TOWNS:

- Early States and Economies (c. 600 BCE-600 CE)
- Broad overview: Political and economic History from the Mauryan to the Gupta period
- Story of discovery: Inscriptions and the Decipherment of the script. Shifts in the Understanding of political and economic history.
- Excerpt: Ashokan inscription and Gupta period land grant

KINSHIP, CASTE AND CLASS

Early Society Societies (C. 600 BCE-600 CE)

- Broad overview: Social Histories: Using the Mahabharata
- Issues in social history, including caste, class, kinship and gender
- Story of discovery: Transmission and publications of the Mahabharat
- Excerpt: from the Mahabharata, illustrating how it has been used by historians.

THINKERS, BELIEFS AND BUILDINGS

Cultural Developments (c. 600 BCE - 600 CE)

- Broad overview: A History of Buddhism: Sanchi Stupa a) A brief review of religious histories of Vedic religion, Jainism, Vaishnavism, Shaivism (Puranic Hinduism) b) Focus on Buddhism.
- Story of discovery: Sanchi stupa. Excerpt: Reproduction of sculptures from Sanchi.

THROUGH THE EYES OF TRAVELLERS

Perceptions of Society (tenth to seventeenth century)

- Broad Overview: outlines of social and cultural life as they appear in traveller's account.
- Story of their writings: A discussion of where they travelled, what they wrote and for whom they wrote.
- Excerpts: from Al Biruni, Ibn Battuta, Francois Bernier.

BHAKTI -SUFİ TRADITIONS:

Changes in Religious Beliefs and Devotional Texts (eighth to eighteenth centuries)

- Broad overview: a. Outline of religious developments during this period saints. b. Ideas and practices of the Bhakti-Sufi
- Story of Transmission: How Bhakti-Sufi compositions have been preserved.
- Excerpt: Extracts from selected Bhakti-Sufi works

AN IMPERIAL CAPITAL: VIJAYANAGARA(fourteenth to sixteenth centuries)

- Broad Over View: New Architecture: Hampi a. Outline of new buildings during Vijayanagar period-temples, forts, irrigation facilities. b. Relationship between architecture and the political system
- Story of Discovery: Account of how Hampi was found.
- Excerpt: Visuals of buildings at Hampi

PEASANTS, ZAMINDARS AND THE STATE:

Agrarian Society and the Mughal Empire (c. sixteenth-seventeenth centuries)

- Broad overview: The Aini-Akbari a. Structure of agrarian relations in the 16th and 17th centuries. b. Patterns of change over the period.
- Story of Discovery: Account of the compilation and translation of Ain I Akbari
- Excerpt: from the Ain-i-Akbari.

COLONIALISM AND THE COUNTRYSIDE: Exploring Official Archives

- Broad overview: Colonialism and Rural Society: Evidence from Official Reports a) Life of zamindars, peasants and artisans in the late 18th century b). Permanent Settlement, Santhals and Paharias
- Story of official records: An account of why official investigations in to rural societies were undertaken and the types of records and reports produced.
- Excerpts: From Fifth Report

REBELS AND THE RAJ: 1857 Revolt and its Representations

- Broad overview: a. The events of 1857-58. b. Vision of Unity c. How these events were recorded and narrated. Focus: Lucknow
- Excerpts: Pictures of 1857.
- Extracts from contemporary accounts.

MAHATMA GANDHI AND THE NATIONALIST MOVEMENT:

- Civil Disobedience and Beyond Broad overview: a. The Nationalist Movement 1918 - 48. b. The nature of Gandhian politics and leadership.
- Focus: Mahatma Gandhi and the three movements and his last days as "finest hours"
- Excerpts: Reports from English and Indian language newspapers and other contemporary writings.

FRAMING THE CONSTITUTION:

- The Beginning of a New Era Broad overview: The Making of the Constitution an overview: a. Independence and then new nation state. b. The making of the Constitution
- Focus: The Constituent Assembly Debates
- Excerpts: from the debates

Concepts & Contents as per NCERT curriculum including the specific syllabus (as given below) contained in the NCERT text books for classes XI & XII

- Reading: Unseen passage (Factual, descriptive or literary) to assess comprehension, interpretation inference and vocabulary, Unseen case-based passage with verbal/visual inputs like statistical data, charts etc., Note Making and Summarization based on a passage.
- **Creative Writing Skills:** Notice, Formal/Informal Invitation and Reply, Letters based on verbal/visual input, Article/ Report Writing, descriptive and analytical in nature, based on verbal inputs. Classified Advertisements, Poster, Writing a Speech in 120-150 words based on verbal/ visual clues related to some contemporary / age-appropriate topic, Debate on contemporary topical issues based on visual/verbal inputs
- **Grammar:** Questions on Gap filling (Tenses, Clauses), Questions on re-ordering/transformation of sentences.
- The Portrait of a Lady , A Photograph , "We're Not Afraid to Die... if we can be together, Discovering Tut: the Saga Continues,, The Laburnum Top , The Voice of the Rain , Childhood , The Adventure; Silk Road , Father to Son
- The Summer of the Beautiful White Horse , The Address , Mother's Day , Birth , The Tale of Melon City
- The Last Lesson , Lost Spring , Deep Water, The Rattrap , Índigo , Poets and Pancakes , The Interview , Going Places , My Mother at Sixty-Six , Keeping Quiet , A Thing of Beauty , A Roadside Stand , Aunt Jennifer's Tigers, The Third Level ; The Tiger King, Journey to the end of the Earth , The Enemy , On the Face of It , Memories of Childhood, The Cutting of My Long Hair , We Too are Human Beings

एन सी आर टी पाठ्यचर्या में निहित अवधारणा और विषयवस्तुओं के अनुरूप एवं एन सी आर टी पाठ्यपुस्तकों में निहित पाठ्यक्रम पर आधारित

<p>पाठ्यपुस्तक - आरोह-भाग 1, एनसीईआरटी, नईदिल्लीद्वाराप्रकाशित</p> <p>गद्यखंड:</p> <ol style="list-style-type: none"> 1. प्रेमचंद: नमक का दरोगा 2. कृष्णा सोबती: मियाँ नसीरुद्दीन 3. सत्यजित राय: अपू के साथ ढाई साल 4. बाल मुकुंद गुप्त: विदाई-संभाषण 5. शेखर जोशी: गलता लोहा 6. मन्नु भंडारी: रजनी 7. कृश्न चंदर:जामुन का पेड़ 8. जवाहर लाल नेहरू: भारत माता <p>काव्यखंड:</p> <ol style="list-style-type: none"> 1.कबीर : हम तौ एक एक करि जानां। 2.मीरा: 1.मेरे तो गिरधर गोपाल, दूसरो न कोई 2.भवानी प्रसाद मिश्र: घर की याद 3.त्रिलोचन: चम्पा काले-काले अच्छर नहीं चीन्हती 4.दुष्यंत कुमार: गज़ल 5.अक्कमहादेवी: <ul style="list-style-type: none"> • हे भूख! मत मचल • हे मेरेजूही के फूल जैसे ईश्वर; 6.अवतार सिंह पाश: सबसे खतरनाक; 7.निर्मला पुतुल: आओ, मिल कर बचाएँ। 8.सहायक पाठ्यपुस्तक - वितान-भाग 1, एनसीईआरटी, नई दिल्ली द्वारा प्रकाशित 1.कुमार गंधर्व: भारतीय गायिकाओं में बेजोड़: लतामंगेशकर 2.अनुपम मिश्र: राजस्थान की रजत बूँदें 3.बेबीहलदार: आलो-आँधारि 	<p>पाठ्यपुस्तक - आरोह-भाग2, एनसीईआरटी, नई दिल्ली द्वारा प्रकाशित</p> <p>काव्यखंड:</p> <p>हरिवंश राय बच्चन: 1. आत्मपरिचय</p> <ol style="list-style-type: none"> 2. एकगीत <p>आलोक धन्वा: पतंग</p> <p>कुँवर नारायण: 1. कविता के बहाने</p> <ol style="list-style-type: none"> 2. बात सीधी थीपर <p>रघुवीर सहाय : कैमरे में बंद अपाहिज</p> <p>शमशेर बहादुर सिंह: उषा</p> <p>सूर्यकांत त्रिपाठी निराला : बादल राग</p> <p>तुलसीदास:</p> <ol style="list-style-type: none"> 1.कवितावली (उत्तरकांड से) 2.लक्ष्मण-मूर्च्छा और राम का विलाप <p>फिराक़ गोरखपुरी:</p> <ol style="list-style-type: none"> 1. रुबाइयाँ <p>उमाशंकर जोशी :</p> <ol style="list-style-type: none"> 1. छोटा मेरा खेत 2.बगुलों के पंख <p>गद्यखंड:</p> <p>महादेवी वर्मा :</p> <p>भक्तिन</p> <p>जैनेंद्र कुमार :बाज़ार दर्शन</p> <p>धर्मवीर भारती : काले मेघा पानी दे</p> <p>फणीश्वर नाथ रेणु: पहलवान की ढोलक</p> <p>हज़ारी प्रसाद द्विवेदी :शिरीष के फूल</p> <p>बाबा साहेब भीमराव आम्बेडकर:</p>
---	--

	<p>1. श्रम विभाजन और जाति-प्रथा</p> <p>2. मेरी कल्पना का आदर्श समाज</p> <p>2. सहायक पाठ्य पुस्तक- वितान-भाग 2, एनसीईआरटी, नई दिल्ली द्वारा प्रकाशित</p> <p>1. मनोहर श्याम जोशी: सिल्वर वैडिंग ;</p> <p>2. आनंद यादव: जूझ</p> <p>3. ओम थानवी: अतीत में दबे पाँव</p>
<p>बिम्ब, अलंकार, छंद तथा काव्य-रूप</p> <p>कोड-मिक्सिंग तथा कोड-स्विचिंग,</p> <p>पद तथा पदक्रम- संज्ञा एवं संज्ञा-भेद, लिंग, वचन, कारक; सर्वनाम एवं सर्वनाम-भेद; विशेषण एवं विशेषण-भेद, प्रविशेषण; क्रिया एवं क्रिया-भेद, वाच्य; अव्यय एवं अव्यय-भेद; निपात,</p> <p>शब्द-भंडार और शब्द निर्माण-शब्दों का वर्गीकरण</p> <p>स्रोत, उत्पत्ति या इतिहास के आधार पर – तत्सम, तद्भव, देशज, आगत, विदेशज, (संकर रचना के आधार पर – मूल्यारूढ़ शब्द, व्युत्पन्न शब्द - यौगिक, योगरूढ़ अर्थ के आधार पर – पर्यायवाची, विलोमार्थी, एकार्थी, अनेकार्थी, श्रुति समभिन्नार्थक शब्द</p> <p>शब्दनिर्माण - उपसर्ग, प्रत्यय, समास, युग्मशब्द, पुनरुक्तशब्द</p> <p>3. अभिव्यक्ति और माध्यम, एनसीईआरटी, नई दिल्ली द्वारा प्रकाशित</p> <p>जनसंचार माध्यम</p> <p>पत्रकारिता के विविध आयाम</p> <p>विभिन्न माध्यमों के लिए लेखन</p> <p>पत्रकारीय लेखन के विभिन्न रूप और लेखन प्रक्रिया</p> <p>विशेष लेखन-स्वरूप और प्रकार</p> <p>कैसे बनती है कविता</p> <p>नाटक लिखने का व्याकरण</p> <p>डायरी लिखने की कला</p> <p>कथा-पटकथा</p> <p>कैसे करें कहानी का नाट्य रूपांतरण</p> <p>कैसे बनता है रेडियो नाटक</p> <p>नए और अप्रत्याशित विषयों पर लेखन</p>	

कार्यालयी लेखन और प्रक्रिया

स्ववृत्त लेखन और रोजगार संबंधी आवेदन पत्र

शब्दकोश: संदर्भ ग्रंथों की उपयोगी विधि और परिचय

Scheme of Exam for Recruitment of TGTs through LDCE:

The written test is of 180 marks (180 objective type multiple choice questions) carrying 01 mark for each question. The duration of written test will be 180 minutes.

Section Name -Nature of Questions

Part I - General awareness & Reasoning (20 marks):

- (a) General Awareness & Current Affairs (10 questions)
- (b) Reasoning Ability (10 questions)

Part-II: Perspectives on Education and Leadership (40 marks)

- (a) Understanding the Learner-(10 questions)
 - (b) Understanding Teaching Learning -(15 questions)
 - (c) Creating Conducive Learning Environment
 - (d) School Organization and Leadership
 - (e) Perspectives in Education
- } (15 questions)

Part III - Subject-specific Syllabus (120 marks)

- No Interview

Note: Minimum 40% marks would qualify for empanelment.

Syllabus of Exam for Recruitment of Trained Graduate Teacher through LDE:

Part I - General awareness & Reasoning

(20 marks):

- a) General Awareness & Current Affairs (10 questions)
- (c) Reasoning Ability (10 questions)

Part-II Perspectives on Education and Leadership (40 marks):

(a) Understanding the Learner(10 questions)

- Concept of growth, maturation and development, principles and debates of development, development tasks and challenges
- Domains of Development: Physical, Cognitive, Socio-emotional, Moral etc., deviations in development and its implications.
- Understanding Adolescence: Needs, challenges and implications for designing institutional support.
- Role of Primary and Secondary Socialization agencies. Ensuring Home school continuity.

(b) Understanding Teaching Learning (15 questions)

- Theoretical perspectives on Learning -Behaviorism, Cognitivism and Constructivism with special reference to their implications for:
 - i. The role of teacher
 - ii. The role of learner
 - iii. Nature of teacher-student relationship
 - iv. Choice of teaching methods
 - v. Classroom environment
 - vi. Understanding of discipline, power etc.

- Factors affecting learning and their implications for:
 - i. Designing classroom instructions,
 - ii. Planning student activities and,
 - iii. Creating learning spaces in school.
- Planning and Organization of Teaching-Learning
 - i. Concept of Syllabus and Curriculum, Overt and Hidden Curriculum, Principles of curriculum organization
 - ii. Competency based Education, Experiential learning, etc.
 - iii. Instructional Plans: -Year Plan, Unit Plan, Lesson Plan
 - iv. Instructional material and resources
 - v. Information and Communication Technology(ICT) for teaching-learning
 - vi. Evaluation: Purpose, types and limitations. Continuous and Comprehensive Evaluation, Characteristics of a good tool.
 - vii. Assessment of learning, for learning and as learning: Meaning, purpose and considerations in planning each.
- Enhancing Teaching Learning processes: Classroom Observation and Feedback, Reflections and Dialogues as a means of constructivist teaching

c) Creating Conducive Learning Environment (06 questions)

- The concepts of Diversity, disability and Inclusion, implications of disability as social construct, types of disabilities-their identification and interventions
- Concept of School Mental Health, addressing the curative, preventive and promotive dimensions of mental health for all students and staff. Provisioning for guidance and counselling.
- Developing School and community as a learning resource.

(d) School Organization and Leadership (06 questions)

- Leader as reflective practitioner, team builder, initiator, coach and mentor.
- Perspectives on School Leadership: instructional, distributed and transformative
- Vision building, goal setting and creating a School development Plan
- Using School Processes and forums for strengthening teaching learning-Annual Calendar, time-tabling, parent teacher forums, school assembly, teacher development forums , using achievement data for improving teaching –learning, School Self Assessment and Improvement
- Creating partnerships with community , industry and other neighbouring schools and Higher Education Institutes – forming learning communities

(e) Perspectives in Education (03 questions)

- Role of school in achieving aims of education.
- NEP-2020: Curriculum and Pedagogy in Schools: Holistic & Integrated Learning; Equitable and Inclusive Education: Learning for All; Competency based learning and Education.
- Guiding Principles for Child Rights, Protecting and provisioning for rights of children to safe and secure school environment, Right of Children to free and Compulsory Education Act, 2009,
- Historically studying the National Policies in education with special reference to school education;
- School Curriculum Principles: Perspective, Learning and Knowledge, Curricular Areas, School Stages, Pedagogy and Assessment

Part III - Subject-specific Syllabus (120 marks): Refer Annexure

Note: Minimum 40% marks would qualify for empanelment.

REAL NUMBERS

- Review of representation of natural numbers, integers, and rational numbers on the number line. Rational numbers as recurring/ terminating decimals. Operations on real numbers.
- Examples of non-recurring/non-terminating decimals. Existence of non-rational numbers (irrational numbers) such as $\sqrt{2}$, $\sqrt{3}$, and their representation on the number line. Explaining that every real number is represented by a unique point on the number line and conversely, viz. every point on the number line represents a unique real number.
- Definition of nth root of a real number.
- Rationalization of real numbers of the type $\frac{1}{a-b\sqrt{c}}$ and $\frac{1}{\sqrt{a}-\sqrt{b}}$ their combinations where x and y are natural number and a and b are integers.
- Laws of exponents with integral powers. Rational exponents with positive real bases
- Fundamental Theorem of Arithmetic statements after reviewing work done earlier and after illustrating and motivating through examples, Proofs of irrationality of $\sqrt{2}, \sqrt{3}, \sqrt{5}$

POLYNOMIALS

- Definition of a polynomial in one variable, with examples and counter examples.
- Coefficients of a polynomial, terms of a polynomial and zero polynomial.
- Degree of a polynomial. Constant, linear, quadratic and cubic polynomials. Monomials, binomials, trinomials. Factors and multiples.
- Zeros of a polynomial. Relationship between zeros and coefficients of quadratic polynomials.
- Remainder Theorem with examples, Factor Theorem.
- Factorization of $ax^2 + bx + c$, $a \neq 0$ where a, b and c are real numbers, and of cubic polynomials using the Factor Theorem.
- The algebraic expressions and identities. Verification of identities:

$$(x + y + z)^2 = x^2 + y^2 + z^2 + 2xy + 2yz + 2zx$$

$$(x \pm y)^3 = x^3 \pm y^3 \pm 3xy(x \pm y)$$

$$x^3 \pm y^3 = (x \pm y)(x^2 \mp xy + y^2)$$

$$x^3 + y^3 + z^3 - 3xyz = (x + y + z)(x^2 + y^2 + z^2 - xy - yz - zx)$$
 and their use in factorization of polynomials.

LINEAR EQUATIONS IN TWO VARIABLES

Linear equations in one variable. Introduction to the equation in two variables. Focus on linear equations of the type $ax + by + c = 0$. Explain that a linear equation in two variables has infinitely many solutions and justify their being written as ordered pairs of real numbers, plotting them and showing that they lie on a line.

PAIR OF LINEAR EQUATIONS IN TWO VARIABLES

Pair of linear equations in two variables and graphical method of their solution, consistency/inconsistency. Algebraic conditions for number of solutions. Solution of a pair of linear equations in two variables algebraically - by substitution, by elimination. Simple situational problems.

QUADRATIC EQUATIONS

Standard form of a quadratic equation $ax^2 + bx + c = 0$, ($a \neq 0$). Solutions of quadratic equations (only real roots) by factorization, and by using quadratic formula. Relationship between discriminant and nature of roots.

ARITHMETIC PROGRESSIONS

Arithmetic Progression, n th term and sum of the first n terms of A.P. and their application in solving daily life problems.

COORDINATE GEOMETRY

The Cartesian plane, coordinates of a point, names and terms associated with the coordinate plane, notations. Graphs of linear equations. Distance formula. Section formula (internal division)

INTRODUCTION TO EUCLID'S GEOMETRY

History - Geometry in India and Euclid's geometry. Euclid's method of formalizing observed phenomenon into rigorous Mathematics with definitions, common/obvious notions, axioms/postulates and theorems. The five postulates of Euclid. Showing the relationship between axiom and theorem, for example: (Axiom) 1. Given two distinct points, there exists one and only one line through them. (Theorem) 2. (Prove) Two distinct lines cannot have more than one point in common.

LINES AND ANGLES

- If a ray stands on a line, then the sum of the two adjacent angles so formed is 180 degrees and the converse.
- If two lines intersect, vertically opposite angles are equal.
- Lines which are parallel to a given line are parallel.

TRIANGLES

- Two triangles are congruent if any two sides and the included angle of one triangle is equal to any two sides and the included angle of the other triangle (SAS Congruence).
- Two triangles are congruent if any two angles and the included side of one triangle is equal to any two angles and the included side of the other triangle (ASA Congruence).
- Two triangles are congruent if the three sides of one triangle are equal to three sides of the other triangle (SSS Congruence).
- Two right triangles are congruent if the hypotenuse and a side of one triangle are equal (respectively) to the hypotenuse and a side of the other triangle. (RHS Congruence)
- The angles opposite to equal sides of a triangle are equal.

- The sides opposite to equal angles of a triangle are equal.
- If a line is drawn parallel to one side of a triangle to intersect the other two sides in distinct points, the other two sides are divided in the same ratio.
- If a line divides two sides of a triangle in the same ratio, the line is parallel to the third side.
- If in two triangles, the corresponding angles are equal, their corresponding sides are proportional and the triangles are similar.
- If the corresponding sides of two triangles are proportional, their corresponding angles are equal and the two triangles are similar.
- If one angle of a triangle is equal to one angle of another triangle and the sides including these angles are proportional, the two triangles are similar.

QUADRILATERALS

- The diagonal divides a parallelogram into two congruent triangles.
- In a parallelogram opposite sides are equal, and conversely.
- In a parallelogram opposite angles are equal, and conversely.
- A quadrilateral is a parallelogram if a pair of its opposite sides is parallel and equal.
- In a parallelogram, the diagonals bisect each other and conversely.
- In a triangle, the line segment joining the mid points of any two sides is parallel to the third side and in half of it and (motivate) its converse.

CIRCLES

- Equal chords of a circle subtend equal angles at the center and (motivate) its converse.
- The perpendicular from the center of a circle to a chord bisects the chord and conversely, the line drawn through the center of a circle to bisect a chord is perpendicular to the chord.
- Equal chords of a circle (or of congruent circles) are equidistant from the center (or their respective centers) and conversely.
- The angle subtended by an arc at the center is double the angle subtended by it at any point on the remaining part of the circle.
- Angles in the same segment of a circle are equal.
- If a line segment joining two points subtends equal angle at two other points lying on the same side of the line containing the segment, the four points lie on a circle.
- The sum of either of the pair of the opposite angles of a cyclic quadrilateral is 180° and its converse.
- Tangent to a circle at, point of contact
- The tangent at any point of a circle is perpendicular to the radius through the point of contact.
- The lengths of tangents drawn from an external point to a circle are equal.

AREAS

Area of a triangle using Heron's formula, Area of sectors and segments of a circle. Problems based on areas and perimeter / circumference of the above said plane figures. (In calculating area of segment of a circle, problems should be restricted to central angle of 60° , 90° and 120° .)

SURFACE AREAS AND VOLUMES

Surface areas and volumes of spheres (including hemispheres) and right circular cones. Surface areas and volumes of combinations of any two of the following: cubes, cuboids, spheres, hemispheres and right circular cylinders/cones

STATISTICS

Bar graphs, histograms (with varying base lengths), and frequency polygons. Mean, median and mode of grouped data

PROBABILITY

Classical definition of probability. Simple problems on finding the probability of an event.

TRIGONOMETRY

Trigonometric ratios of an acute angle of a right-angled triangle. Proof of their existence (well defined); motivate the ratios whichever are defined at 0° and 90° . Values of the trigonometric ratios of 30° , 45° and 60° . Relationships between the ratios.

TRIGONOMETRIC IDENTITIES

Proof and applications of the identity $\sin^2 A + \cos^2 A = 1$. Only simple identities to be given.

HEIGHTS AND DISTANCES:

Angle of elevation, Angle of Depression. Simple problems on heights and distances. Problems should not involve more than two right triangles. Angles of elevation / depression should be only 30° , 45° , and 60°

Matter-Nature and Behaviour

Definition of matter; solid, liquid and gas; characteristics - shape, volume, density; change of state melting (absorption of heat), freezing, evaporation (cooling by evaporation), condensation, sublimation.

Nature of matter:

Elements, compounds and mixtures. Heterogeneous and homogenous mixtures, colloids and suspensions. Physical and chemical changes (excluding separating the components of a mixture).

Particle nature and their basic units:

Atoms and molecules, Law of Chemical Combination, Chemical formula of common compounds, Atomic and molecular masses.

Structure of atoms:

Electrons, protons and neutrons, Valency, Atomic Number and Mass Number, Isotopes and Isobars.

Chemical reactions:

Chemical equation, Balanced chemical equation, implications of a balanced chemical equation, types of chemical reactions: combination, decomposition, displacement, double displacement, precipitation, endothermic exothermic reactions, oxidation and reduction.

Acids, bases and salts:

Their definitions in terms of furnishing of H^+ and OH^- ions, General properties, examples and uses, neutralization, concept of pH scale (Definition relating to logarithm not required), importance of pH in everyday life; preparation and uses of Sodium Hydroxide, Bleaching powder, Baking soda, Washing soda and Plaster of Paris.

Metals and nonmetals:

Properties of metals and non-metals; Reactivity series; Formation and properties of ionic compounds; Basic metallurgical processes; Corrosion and its prevention.

Carbon compounds:

Covalent bonding in carbon compounds. Versatile nature of carbon. Homologous series. Nomenclature of carbon compounds containing functional groups (halogens, alcohol, ketones, aldehydes, alkanes and alkynes), difference between saturated hydro carbons and unsaturated hydrocarbons. Chemical properties of carbon compounds (combustion, oxidation, addition and substitution reaction). Ethanol and Ethanoic acid (only properties and uses), soaps and detergents.

Cell - Basic Unit of life :

Cell as a basic unit of life; prokaryotic and eukaryotic cells, multi cellular organisms; cell membrane and cell wall, cell organelles and cell inclusions; chloroplast, mitochondria, vacuoles, endoplasmic reticulum, Golgi apparatus; nucleus, chromosomes - basic structure, number.

Tissues, Organs, Organ System, Organism:

Structure and functions of animal and plant tissues (only four types of tissues in animals; Meristematic and Permanent tissues in plants).

Life processes:

'Living Being'. Basic concept of nutrition, respiration, transport and excretion in plants and animals.

Control and co-ordination in animals and plants:

Tropic movements in plants; Introduction of plant hormones; Control and co-ordination in animals: Nervous system; Voluntary, involuntary and reflex action; Chemical co-ordination: animal hormones.

Reproduction:

Reproduction in animals and plants (asexual and sexual) reproductive health - need and methods of family planning. Safe sex vs HIV/AIDS. Child bearing and women's health.

Heredity and Evolution:

Heredity; Mendel's contribution-Laws for inheritance of traits: Sex determination: brief introduction evolution.

Heredity and Evolution:

Heredity; Mendel's contribution- Laws for inheritance of traits: Sex determination

Motion:

Distance and displacement, velocity; uniform and non-uniform motion along a straight line; acceleration, distance-time and velocity-time graphs for uniform motion and uniformly accelerated motion, elementary idea of uniform circular motion.

Force and Newton's laws :

Force and Motion, Newton's Laws of Motion, Action and Reaction forces, Inertia of a body, Inertia and mass, Momentum, Force and Acceleration.

Gravitation:

Gravitation; Universal Law of Gravitation, Force of Gravitation of the earth (gravity), Acceleration due to Gravity; Mass and Weight; Freefall.

Floatation:

Thrust and Pressure. Archimedes' Principle; Buoyancy.

Work, Energy and Power:

Work done by a Force, Energy, power; Kinetic and Potential energy; Law of conservation of energy).

Sound:

Nature of sound and its propagation in various media, speed of sound, range of hearing in humans; ultra sound; reflection of sound; echo.

Effects of Current

Electric current, potential difference and electric current. Ohm's law; Resistance, Resistivity, Factors on which the resistance of a conductor depends. Series combination of resistors, parallel combination of resistors and its applications in daily life. Heating effect of electric current and its applications in daily life. Electric power, Interrelation between P , V , I and R .

Magnetic effects of current

Magnetic field, field lines, field due to a current carrying conductor, field due to current carrying coil or solenoid; Force on current carrying conductor, Fleming's Left Hand Rule, Electric Motor, Electromagnetic induction. Induced potential difference, Induced current. Fleming's Right Hand Rule, Electric Generator, Direct current. Alternating current: frequency of AC. Advantage of AC over DC. Domestic electric circuits.

Food Production

Plant and animal breeding and selection for quality improvement and management; Use of fertilizers and manures; Protection from pests and diseases; Organic farming.

Natural Phenomena

Reflection of light by curved surfaces; Images formed by spherical mirrors, centre of curvature, principal axis, principal focus, focal length, mirror formula (Derivation not required), magnification. Refraction; Laws of refraction, refractive index. Refraction of light by spherical lens; Image formed by spherical lenses; Lens formula (Derivation not required); Magnification. Power of a lens. Functioning of a lens in human eye, defects of vision and their corrections, applications of spherical mirrors and lenses. Refraction of light through a prism, dispersion of light, scattering of light, applications in daily life

Our environment:

Eco-system, Environmental problems, Ozone depletion, waste production and their solutions. Biodegradable and non-biodegradable substances.

Events and Processes:

I. The French Revolution:

- French Society During the Late Eighteenth Century
- The Outbreak of the Revolution
- France Abolishes Monarchy and Becomes a Republic
- Did Women have a Revolution?
- The Abolition of Slavery
- The Revolution and Everyday Life

II. Socialism in Europe and the Russian Revolution:

- The Age of Social Change
- The Russian Revolution
- The February Revolution in Petrograd
- What Changed after October?
- The Global Influence of the Russian Revolution and the USSR

III. Nazism and the Rise of Hitler:

- Birth of the Weimar Republic
- Hitler's Rise to Power
- The Nazi World view
- Youth in Nazi Germany
- Ordinary People and the Crimes Against Humanity

Livelihoods, Economies and Societies:

IV. Forest Society and Colonialism:

- Why Deforestation?
- The Rise of Commercial Forestry
- Rebellion in the Forest
- Forest Transformations in Java

V. Pastoralists in the Modern World:

- Pastoral Nomads and their Movements
- Colonial Rule and Pastoral Life
- Pastoralism in Africa

Contemporary India - I

1. India

- Location
- Size
- India and the World
- India's Neighbours

2. Physical Features of India:

- Major Physiographic Divisions-Himalayan Mountains, Northern Plains, Peninsular Plateau, Indian Desert, Coastal Plains, Islands

3. Drainage:

- Concept
- Drainage Systems in India
- The Himalayan Rivers-Ganga and Brahmaputra River System
- The Peninsular Rivers- Narmada Basin, Tapti Basin, Godavari Basin, Mahanadi Basin, Krishna Basin, Kaveri Basin
- Lakes
- Role of Rivers in the Economy
- River Pollution

4. Climate:

- Concept
- Climatic Controls
- Factors influencing India's climate -Latitude, Altitude, Pressure and Winds(excluding Jet Streams and Western Cyclonic Disturbances and related figures)
- The Seasons - Cold Weather Season, Hot Weather Season, Advancing Monsoon, Retreating/Post Monsoons
- Distribution of Rainfall
- Monsoon as a unifying bond

5. Natural Vegetation and Wild Life:

- Types of Vegetation-Tropical Evergreen Forests, Tropical Deciduous Forests, Thorn Forests and Shrubs, Montane Forests, Mangrove Forests
- Wild Life

6. Population:

- Population Size and Distribution-India's Population Size and Distribution by Numbers, India's Population Distribution by Density
- Population Growth and Processes of Population Change-Population Growth, Processes of Population Change/Growth

Democratic Politics - I

1. What is Democracy? Why Democracy?

- What is Democracy?
- Features of Democracy
- Why Democracy?
- Broader Meanings of Democracy

2. Constitutional Design:

- Democratic Constitution in South Africa
- Why do we need a Constitution?
- Making of the Indian Constitution
- Guiding Values of the Indian Constitution

3. Electoral Politics:

- Why Elections?
- What is our System of Elections?
- What makes elections in India democratic?

4. Working of Institutions:

- How is the major policy decision taken?
- Parliament
- Political Executive
- The Judiciary

5. Democratic Rights:

- Life without Rights
- Rights in a Democracy
- Rights in the Indian Constitution
- Expanding scope of rights

Economics

1. The Story of Village Palampur:

- Overview
- Organization of Production
- Farming in Palampur
- Non-farm activities in Palampur

2. People as Resource:

- Overview
- Economic Activities by Men and Women
- Quality of Population
- Unemployment

3. Poverty as a Challenge:

- Overview
- Two typical cases of Poverty
- Poverty as seen by Social Scientists
- Poverty Estimates
- Vulnerable Groups
- Interstate Disparities
- Global Poverty Scenario
- Causes of Poverty
- Anti-Poverty measures
- The Challenges Ahead

4. Food Security in India:

- Overview
- What is Food Security?
- Why Food Security?
- Who are food insecure?
- Food Security in India
- What is Buffer Stock?

- What is the Public Distribution System?
- Current Status of Public Distribution System
- Role of Cooperatives in food security

India and the Contemporary World - II

Events and Processes:

1. The Rise of Nationalism in Europe:

- The French Revolution and the Idea of the Nation
- The Making of Nationalism in Europe
- The Age of Revolutions: 1830-1848
- The Making of Germany and Italy
- Visualizing the Nation
- Nationalism and Imperialism

2. Nationalism in India:

- The First World War, Khilafat and Non - Cooperation
- Differing Strands within the Movement
- Towards Civil Disobedience
- The Sense of Collective Belonging

Livelihoods, Economies and Societies:

3. The Making of a Global World:

- The Pre-modern world
- The Nineteenth Century (1815-1914)
- The Inter war Economy
- Rebuilding a World Economy: The Post-War Era

4. The Age of Industrialization:

- Before the Industrial Revolution
- Hand Labour and Steam Power
- Industrialization in the Colonies
- Factories Come Up
- The Peculiarities of Industrial Growth
- Market for Goods

Everyday Life, Culture and Politics:

5. Print Culture and the Modern World:

- The First Printed Books
- Print Comes to Europe
- The Print Revolution and its Impact
- The Reading Mania
- The Nineteenth Century
- India and the World of Print
- Religious Reform and Public Debates
- New Forms of Publication
- Print and Censorship

Contemporary India - II

1. Resources and Development:

- Concept
- Development of Resources
- Resource Planning - Resource Planning in India, Conservation of Resources
- Land Resources
- Land Utilization
- Land Use Pattern in India
- Land Degradation and Conservation Measures
- Soil as a Resource - Classification of Soils, Soil Erosion and Soil Conservation

2. Forest and Wildlife

- Conservation of forest and wildlife in India
- Types and distribution of forests and wildlife resources
- Community and Conservation

3. Water Resources:

- Water Scarcity and The Need for Water Conservation and Management
- Multi-Purpose River Projects and Integrated Water Resources Management
- Rainwater Harvesting

4. Agriculture:

- Types of Farming - Primitive Subsistence, Intensive Subsistence,
- Commercial
- Cropping Pattern - Major Crops, Food Crops other than Grains, Non Food Crops, Technological and Institutional Reforms
- Food Security (excluding impact of globalization on agriculture)

5. Minerals and Energy Resources

- What is a mineral?
- Mode of occurrence of Minerals - Where are these minerals found?, Ferrous Minerals, Non-Ferrous Minerals, Non-Metallic Minerals, Rock Minerals
- Conservation of Minerals
- Energy Resources - Conventional Sources of Energy, Non-Conventional Sources of Energy
- Conservation of Energy Resources

6. Manufacturing Industries:

- Importance of Manufacturing - Industrial Location (excluding Industry Market Linkage), Agro based Industry (excluding Cotton Textiles, Jute Textiles, Sugar Industry), Mineral based Industries (excluding Iron Steel Industry, Cement Industry), Industrial Pollution and Environmental Degradation, Control of Environmental Degradation

7. Life Lines of National Economy:

- Roadways
- Railways
- Pipelines
- Waterways
- Major Seaports

- Airways
- Communication
- International Trade
- Tourism as a Trade

Democratic Politics – II

1. Power Sharing:

- Belgium and Sri Lanka
- Majoritarianism in Sri Lanka
- Accommodation in Belgium
- Why power sharing is desirable?
- Forms of Power Sharing

2. Federalism:

- What is Federalism?
- What make India a Federal Country?
- How is Federalism practiced?
- Decentralization in India

3. Gender, Religion and Caste:

- Gender and Politics - Public/Private division, Women's political representation
- Religion, Communalism and Politics -Communalism, Secular State
- Caste and Politics - Caste inequalities, Caste in politics, Politics in caste

4. Political Parties:

- Why do we need Political Parties? -
- Meaning, Functions, Necessity
- How many parties should we have?
- National Parties
- State Parties
- Challenges to Political Parties
- How can Parties be reformed?

5. Outcomes of Democracy:

- How do we assess democracy's outcomes?
- Accountable, responsive and legitimate government
- Economic growth and development
- Reduction of inequality and poverty
- Accommodation of social diversity
- Dignity and freedom of the citizens

Understanding Economic Development

1. Development:

- What Development Promises - Different People, Different Goals
- Income and Other Goals
- National Development
- How to compare different countries or states?
- Income and other criteria
- Public Facilities
- Sustainability of Development

2. Sectors of the Indian Economy:

- Sectors of Economic Activities
- Comparing the three sectors
- Primary, Secondary and Tertiary Sectors in India
- Division of sectors as organized and unorganized
- Sectors in terms of ownership: Public and Private Sectors

3. Money and Credit:

- Money as a medium of exchange
- Modern forms of Money
- Loan activities of Banks
- Two different Credit situations
- Terms of Credit
- Formal Sector Credit in India
- Self Help Groups for the Poor

4. Globalization and the Indian Economy:

- Production across countries
- Inter linking production across countries
- Foreign Trade and integration of markets
- What is Globalization?
- Factors that have enabled Globalization
- World Trade Organization
- Impact of Globalization in India
- The Struggle for a fair Globalization

5. Consumer Right

- Concepts & contents as per NCERT curriculum including the specific syllabus (as given below) contained in the NCERT text books for classes VI – X
- Who Did Patrick's Homework?, How the Dog Found Himself a New Master?, Taro's Reward, An Indian-American Woman in Space: Kalpana Chawla , A Different Kind of School , Who I Am (Part-1) Fair Play ,The Banyan Tree , A House, A Home, The Kite, The Quarrel, Beauty, Where Do All The Teachers Go ?,The Wonderful Words, Vocation.
- A pact with the Sun (Supplementary Reader) : A tale of two birds,The Friendly Mongoose,The Shepherd's Treasure, Tansen, The Monkey and the Crocodile,The wonder called sleep,A pact with the Sun.
- Three Questions, The Squirrel, A Gift of Chappals, The Rebel, The Shed, Gopal and the Hilsa Fish, The Ashes that Made the Trees Bloom, Chivvy, Quality, Trees, Experts Detectives, Mystery of the talking fan,Invention of Vita Work,Dad and the Cat and the Tree,Meadow Surprises,Garden Shake.
- An Alien Hand (Supplementary Reader) : The Tiny Teacher, Bringing up Kari, Golu Grows a nose , Chandni, The Bear story, A Tiger in the House, An Alien Hand
- The Best Christmas Present in the World, The Tsumani, Glimpses of the Past, Bepin Babu, The Summit Within, The Ant and the Cricket, Geography Lesson, The Last Bargain, The School Boy, This is Jody's Fawn, The Duck and the Kangaroo, A visit to Cambridge, A short Monsoon Diary, On the grasshopper and the Cricket.
- How the Camel Got his Hump, Children at Work, The Selfish Giant, The Treasure Within, Princess September, The Fight, Jalebis.
- The Fun They Had, The Sound of Music, The Little Girl, A Truly Beautiful Mind, The Snake and the Mirror, My Childhood, Reach For The Top, Kathmandu, If I were You , The Road Not Taken, Wind, Rain on The Roof, The Lake Isle of Innisfree,A Legend of The Northland, No Men Are Foreign, On Killing a Tree, A Slumber Did My Spirit Seal,The Lost Child, The Adventures of Toto, Iswaran the Storyteller, In the Kingdom of Fools, The Happy Prince, The Last Leaf, A House is not a Home, The Beggar .
- Topics : A Letter to God, Nelson Mandela - Long Walk to Freedom, Two Stories About Flying, .From the Diary of Anne Frank, Glimpses of India, Mijbil the Otter, Madam Rides the Bus, The Sermon at Benares, The Proposal , Dust of Snow , Fire and Ice , A Tiger in the Zoo, .How to Tell Wild Animals,The Ball Poem, Amanda! ,The Trees,.Fog, The Tale of Custard the Dragon, For Anne Gregory, A Triumph of Surgery, The Thief's Story, The Midnight Visitor, A Question of Trust ,Footprints Without Feet ,The Making of a Scientist, The Necklace ,Bholi, The Book That Saved the Earth
- Grammar : Determiners, linking words, adverbs (place and types), tense forms, clauses, passivation, adjectives (comparative and superlative forms), modal auxiliaries, word order in sentence types, reported speech, Sequence of tenses, non-finites (infinitives, gerunds, participles, complex and compound sentences, phrasal verbs and prepositional phrases, cohesive devices, punctuation(semicolon, colon, dash, hyphen, parenthesis or use of brackets and exclamation mark).

एन सी आर टी पाठ्यचर्या में निहित अवधारणा और विषयवस्तुओं के अनुरूप एवं एन सी आर टी पाठ्यपुस्तकों में निहित पाठ्यक्रम पर आधारित

खण्ड - क

1. हिन्दी भाषा और व्याकरण
2. वर्णव्यवस्था -वर्ण, मात्रा, अक्षर
3. वर्तनी तथा वर्तनी व्यवस्था - वर्ण स्तर पर, शब्द स्तर पर, वाक्य स्तर पर; वर्तनी की सामान्य अशुद्धियाँ
4. सन्धि भेद-स्वर सन्धि, व्यंजन सन्धि, विसर्ग सन्धि, हिन्दी की अपनी संधियाँ।
5. शब्द-भंडार और शब्द निर्माण-शब्दों का वर्गीकरण
स्रोत, उत्पत्ति या इतिहास के आधार पर - तत्सम, तद्भव, देशज, आगत (विदेशज), संकर
रचना के आधार पर - मूल या रूढ़ शब्द, व्युत्पन्न शब्द- यौगिक, योगरूढ़
अर्थ के आधार पर - पर्यायवाची, विलोमार्थी, एकार्थी, अनेकार्थी, श्रुति सम्भिन्नार्थक शब्द
शब्द निर्माण - उपसर्ग, प्रत्यय, समास, युग्म शब्द, पुनरुक्त शब्द
6. पद व्यवस्था - शब्द और पद
पद के भेद -संज्ञा एवं संज्ञा-भेद, लिंग, वचन, कारक; सर्वनाम एवं सर्वनाम-भेद; विशेषण एवं विशेषण-भेद, प्रविशेषण; क्रिया एवं क्रिया-भेद, वाच्य; अव्यय एवं अव्यय-भेद
7. पद- परिचय - संज्ञा, सर्वनाम, विशेषण, क्रिया, अव्यय
8. वाक्य-व्यवस्था -
वाक्य के अंग- उद्देश्य, विधेय;
वाक्य रचना- वाक्य के अनिवार्य तथा ऐच्छिक घटक; पदबंध और उपवाक्य;
वाक्य के प्रकार-रचना के आधार पर; अर्थ के आधार पर; वाक्य रचना की अशुद्धियाँ, वाक्य रूपांतरण
10. मुहावरे और लोकोक्तियाँ
11. अलंकार- अनुप्रास, पुनरुक्ति, यमक, उपमा, उत्प्रेक्षा, रूपक, अतिशयोक्ति, मानवीकरण

खण्ड -ख

अवबोधन तथा रचनात्मक अभिव्यक्ति

-12पाठ-बोधन - अपठित पद्य एवं गद्य

13. लिखित रचना -

- अ -पत्र लेखन-प्रार्थना पत्र, आवेदन पत्र, बधाई पत्र, शुभकामना पत्र, निमंत्रण पत्र, संवेदना पत्र, शिकायती पत्र, समस्या-सम्बन्धी (प्रकाशनार्थ)पत्र
आ-अनुच्छेद लेखन, स्ववृत्त लेखन, संवाद लेखन, विज्ञापन लेखन, सूचना लेखन

प्रशिक्षित-स्नातक शिक्षक हिन्दी (हेतु) पाठ्यक्रम

एन सी आर टी पाठ्यचर्या में निहित अवधारणा और विषयवस्तुओं के अनुरूप एवं एन सी आर टी पाठ्यपुस्तकों में निहित पाठ्यक्रम पर आधारित

पाठ्यपुस्तक- वसंत, भाग-1

1. वहचिड़ियाजो
2. बचपन
3. नादान दोस्त
4. चाँद से थोड़ी सी गप्पें
5. अक्षरों का महत्व
6. पार नज़र के
7. साथी हाथ बढ़ाना
8. ऐसे - ऐसे
9. टिकट अलबम
10. झांसी की रानी
11. जो देखकर भी नहीं देखते
12. संसार पुस्तक है
13. मैं सबसे छोटी हूँ
14. लोकगीत
15. नौकर
16. वन के मार्ग में
17. साँस-साँस में बांस

पूरक पाठ्य पुस्तक - बाल राम कथा

1. अवध पुरी में राम
2. जंगल और जनकपुर
3. दो वरदान
4. राम का वनगमन
5. चित्रकूट में भरत
6. दंडक वन में दस वर्ष
7. सोने का हिरन
8. सीता की खोज
9. राम और सुग्रीव
10. लंका में हनुमान
11. लंका विजय
12. राम का राज्याभिषेक

पाठ्य पुस्तक- वसंत, भाग-2

1. हम पंछी उन्मुक्त गगन के
2. दादीमाँ
3. हिमालय की बेटियाँ
4. कठपुतली
5. मिठाई वाला
6. रक्त और हमारा शरीर
7. पापा खो गए
8. शाम एक किशान
9. चिड़िया की बच्ची
10. अपूर्व अनुभव
11. रहीम के दोहे
12. कंचा
13. एक तिनका
14. खान पान की बदलती तस्वीर
15. नीलकण्ठ
16. भोर और बरखा
17. वीर कुँवर सिंह
18. संघर्ष के कारण मैं तुनक मिजाज हो गया
19. आश्रम का अनुमानित व्यय
20. विप्लव गायन

पूरक पाठ्य पुस्तक - बाल महाभारत कथा

पाठ्यपुस्तक- वसंत, भाग-3:

1. ध्वनि
2. लाख की चूड़ियाँ
3. बस की यात्रा
4. दीवानों की हस्ती
5. चिट्ठियों की अनूठी दुनिया
6. भगवान के डाकिए
7. क्या निराश हुआ जाए
9. यह सब से कठिन समय नहीं
10. कबीर की साखियाँ
11. कामचोर
12. जब सिनेमा ने बोलना सीखा
13. सुदामा चरित
14. जहाँ पहिया है
15. अकबरी लोटा
16. सूर के पद
17. पानी की कहानी
18. बाज़ और साँप
19. टोपी

पूरकपाठ्यपुस्तक - भारतकीखोज

1. अहमद नगर का किला
2. तलाश
3. सिंधु घाटी सभ्यता
4. युगों का दौर
5. नयी समस्याएँ
6. अंतिम दौर: एक
7. अंतिम दौर: दो
8. तनाव
9. दो पृष्ठ भूमियाँ-भारतीय और अँग्रेजी

पाठ्यपुस्तक- क्षितिजभाग1-

- 1.दो बैलों की कथा
- 2.ल्हासा की ओर
- 3.उपभोक्ता वाद की संस्कृति
- 4.साँवले सपनों की याद
- 5.नाना साहब की पुत्री देवी मैना को भस्म कर दिया गया
- 6.प्रेम चंद्र के फटे जूते
- 7.मेरे बचपन के दिन
- 8.एक कुत्ता और एक मैना
- 9.सांखियाँ एवं सबद
- 10.वाख
- 11.सवैये
- 12.कैदी और कोकोला
- 13.ग्रामश्री
- 14.चंद्र गहना से लौटती बेर
- 15.मेघ आए
- 16.यमराज की दिशा
- 17.बच्चे काम पर जा रहे हैं

पूरक पाठ्य पुस्तक-कृतिका भाग - 1

1. इस जल प्रलय में
2. मेरे संग की औरतें
3. रीढ़ की हड्डी
4. माटी वाली
5. किस तरह आखिरकार मैं हिन्दी में आया

पाठ्य पुस्तक- क्षितिज भाग -2

1. पद- ऊधौं तुम हो अति बड़भागी, मन की मन ही माँझ रही, हमारे हरि हारिल की लकरी, हरि है राजनीति पढ़ि आए
2. राम-लक्ष्मण परशुराम संवाद
3. सवैया - पाँयनिनूपुर, कवित्त - डारद्रुमपलना, कवित्त - फटकिसिलानि ...
4. आत्मकथ्य
5. उत्साह, अटनहीं रही है
6. यह दंतुरित मुसकान , फसल
7. छाया मत छूना
8. कन्या दान
9. संगतकार
10. नेता जी का चश्मा
11. बाल गोबिन भगत
12. लखनवी अंदाज़
13. मानवीयकरुणा की दिव्य चमक
14. एक कहानी यह भी
15. स्त्री-शिक्षा के विरोधी कुतर्कों का खंडन
16. नौबतखाने में इबादत
17. संस्कृति

पूरक पाठ्यपुस्तक-कृतिका भाग -2

1. माता का अँचल;
2. जॉर्ज पंचम की नाक;
3. साना साना हाथ जोड़ि
4. एही ठैया झुलनी हेरानी हो रामा;
5. मैं क्यों लिखता हूँ।

एन सी आर टी पाठ्यचर्या में निहित अवधारणा और विषयवस्तुओं के अनुरूप एवं एन सी आर टी पाठ्यपुस्तकों में निहित पाठ्यक्रम पर आधारित

रुचिरा, प्रथमोभागः, एन सी ई आर टी, नई दिल्ली द्वारा प्रकाशित

शब्दपरिचयः-I; शब्दपरिचयः-II; शब्दपरिचयः-III; विद्यालयः ; वृक्षाः ; समुद्रतटः ; बकस्यप्रतीकारः ; सूक्तिस्तबकः ; क्रीडास्पर्धा ; कृषिकाःकर्मवीराः ; दशमः त्वम् असि ; विमानयानं रचयाम ; अहह आः च ; कारक-विभक्ति-परिचयः, शब्दरूपाणि(अकारान्त-उकारान्त पुल्लिङ्गशब्दरूपाणि), धातुरूपाणि(लटलकारे प्रथमपुरुषः, सर्वनामपदपरिचयः, संख्याज्ञानम् ।

रुचिरा, द्वितीयोभागः, एनसीईआरटी, नईदिल्ली द्वारा प्रकाशित

सुभाषितानि ; दुर्बुद्धिः विनश्यति ; स्वावलम्बनम् ; पण्डिता रमाबाई ; सदाचारः ; सङ्कल्पः सिद्धिदायकः ; त्रिवर्णःध्वजः ; अहमपि विद्यालयं गमिष्यामि; विश्वबन्धुत्वम्; समवायो हि दुर्जयः ; विद्याधनम् ; अमृतं संस्कृतम् ; लालनगीतम् ; परिशिष्टवर्णविचारः, कारकम्, शब्दरूपाणि, धातुरूपाणि च

रुचिरा, तृतीयोभागः, एनसीईआरटी, नईदिल्ली द्वारा प्रकाशित

सुभाषितानि ; बिलस्य वाणी न कदापि मे श्रुता ; डिजीभारतम् ; सदैव पुरतो निधेहि चरणम् ; कण्टकेनैव कण्टकम् ; गृहं शून्यं सुतां विना ; भारतजनताहम् ; संसारसागरस्य नायकाः ; सप्तभगिन्यः ; नीतिनवनीतम् ; सावित्रीबाईफुले ; कः रक्षति कः रक्षितः ; क्षितौ राजते भारतस्वर्णभूमिः ; आर्यभटः ; परिशिष्टमसन्धिः, कारकम्, शब्दरूपाणि(मातृ-अस्मद्-युष्मद्-स्वसृ-राजन् च) ; धातुरूपाणि(पठ्-खाद्-इच्छ् च धातवः) ; प्रत्ययः(तुमुन्-क्त्वा-ल्यप् च) I

शेमुषी, प्रथमोभागः, एनसीईआरटी, नईदिल्ली द्वारा प्रकाशित

भारतीयसन्तगीतिः ; स्वर्णकाकः ; गोदोहनम् ; सूक्तिमौक्तिकम् ; भ्रान्तोबालः ; सिकतासेतुः ; जटायोः शौर्यम् ; पर्यावरणम् ; वाङ्मनः प्राणस्वरूपम् व्याकरणवीथिः, सन्धिः(स्वरः-दीर्घः, गुणः, वृद्धिः, यण, अयादि ; व्यंजन-जश्त्वसंधिः, 'म्' स्थाने अनुस्वारः, ; विसर्गसंधिः-विसर्गस्य उत्त्वम्-रत्वम्) ; शब्दरूपाणि (बालक-कवि-साधु-पितृ-लता-नदी-मातृ-राजन-भवत्-विद्वस्-अस्मद्-युष्मद्-तत्-इदम्-किम्)

धातुरूपाणि (पठ्-गम्-वद्-भू-क्रीड्-नी-दृश्-शक्-ज्ञा-अस्-कृ-दा-क्री-श्रु-पा-सेव्-लभ्) ; कारकविभक्तयः ; प्रत्ययाः (क्त्वा-तुमुन्-ल्यप्-क्तवत्-शतृ-शानच्-क्त) ; संख्याज्ञानम् ; उपसर्गाः (द्वाविंशतिः ; अव्ययानि (स्थानबोधकानिः-अत्र-तत्र-अन्यत्र-सर्वत्र-यत्र-एकत्र-उभयत्र ; कालबोधकानिः-यदा-तदा-सर्वदा-एकदा-पुरा-अधुना-अद्य-श्वः-ह्यः ; प्रश्नबोधकानिः-किम्-कुत्र-कति-कदा-कुतः-कथम्-किमर्थम् ; अन्यानिः-च-अपि-यदि-तर्हि-यथा-तथा-सम्यक्-एव) ; रचनाप्रयोग, ; पत्रलेखनं

शेमुषी, द्वितीयोभागः, एनसीईआरटी, नईदिल्ली द्वारा प्रकाशित

शुचिपर्यावरणम् ; बुद्धिर्बलवती सदा ; शिशुलालनम् ; जननीतुल्यवत्सला ; सुभाषितानि ; सौहार्दप्रकृतेः
शोभा ; विचित्रःसाक्षी ; सूक्तयः अन्योक्तयः
व्याकरणवीथिः,

सन्धिः(व्यंजन-वर्गीयप्रथमवर्णस्य तृतीयवर्णं परिवर्तनं, प्रथमवर्णस्य पञ्चमवर्णं परिवर्तनम् ; विसर्गसंधिः-
विसर्गस्य उत्त्वम्-रत्वम्, विसर्गलोपः, विसर्गस्य स्थाने स्-श्-ष्) ; अव्ययः(उच्चैः-च-श्वः-ह्यः-अद्य-अत्र-तत्र-
यत्र-कुत्र-इदानीम्-अधुना-सम्प्रति-साम्प्रतं-यदा-तदा-कदा-सहसा-वृथा-शनैः-अपि-कुतः-इतस्ततः-यदि-तर्हि-यावत्-
तावत्),

प्रत्ययः (तद्धिताः-मत्-उप्-ठक्-त्व-तल् ; स्त्रीप्रत्ययौ-टाप्-डीप्), समासः (तत्पुरुषः-विभक्तिः, बहुब्रीहिः,
अव्ययीभावः-अनु,उप,सह,निर्,प्रति,यथा, द्वंद्वः-केवलम् इतरेतरः), वाच्यपरिवर्तनम् (केवलं लट्लकारे-
कर्तृ,कर्म,क्रिया), रचनाप्रयोग, समयः , अशुद्धिः संशोधनं ; पत्रलेखनं

Scheme of Examination for Recruitment of Finance Officer through LDCE

The written test is of 150 marks (150 objective type multiple choice questions) carrying 01 mark for each question. The duration of written test will be 150 minutes. The question papers are divided in three sections

Section name (Nature of Questions)	No. of items
Part-I: Administration & Accounts – 100 Marks <ol style="list-style-type: none"> 1. Maintenance of Cash Book – 05 marks 2. Preparation of Bank Reconciliation Statement -05 marks 3. Posting of Ledger Accounts – 05 marks 4. Preparation of Trial Balance and Final Accounts -05 marks 5. Principles of Auditing – 10 marks 6. General Financial Rules 2017 related to Purchase of general stores/ services and award to contract etc. & PFMS – 25 marks 7. Fundamental Rules and Supplementary Rules - 10 marks 8. CCS (Pension) Rules, New Pension Scheme -10 marks 9. T.A. Rules – 05 marks 10. Medical Attendance Rules – 05 marks 11. Provident Fund Rules -05 marks 12. Delegation of Financial Powers & Norms to various Authorities under Vidyalaya Vikas Nidhi and School Fund – 10 marks 	100 questions
Part-II: General Knowledge – 10 marks <ul style="list-style-type: none"> • Current Affairs/ events of national and international importance. • History of India and Indian National Movements. • Indian and World geography – Physical, Social, Economic geography of India and the World etc. • Indian Polity and Governance – Constitution, Political System, Panchayati Raj, Public Issues, Articles, Rights etc. • Economic and Social Development – Sustainable development, Poverty, Inclusion, Demographics, Social Sector initiatives etc. • General issues on Environment, Ecology, Bio-diversity, Climate change, General Science and General Computer & Computer Literacy. 	10 questions
Reasoning Aptitude -15 marks <ul style="list-style-type: none"> • General Mental/ Analytical Ability. • Verbal/ Logical reasoning, Relations & Hierarchies. • Analogies, Assertion, Truth Statements. • Coding & Decoding, Situational Reasoning. • Series and Patterns involving worlds & alphabets. 	15 questions
Quantitative Aptitude – 15 Marks <ul style="list-style-type: none"> • Two and Three dimensional/ Venn diagrams based questions. • Number patterns, Series, Sequences, Basic numeracy (numbers & their relations, orders of magnitude etc.). • Arithmetic aptitude, Data interpretation (Charts, Graphs or Tables, Data sufficiency etc.). • Direction sense, Analysis and interpretation in various contexts. 	15 questions
General Hindi & General English-10 Marks Proficiency related to Communication and Comprehension	10 questions

Note: Minimum 40% marks would qualify for empanelment.

Scheme of Examination for Recruitment of Section Officer through LDCE

The written test is of 150 marks (150 objective type multiple choice questions) carrying 01 mark for each question. The duration of written test will be 150 minutes. The question papers are divided in three sections

Section name (Nature of Questions)	No. of questions
<p>Part-I: Office Procedure, Office Management & Reservation policy- 40 Marks</p> <p>(Additionally, it will also include miscellaneous general matters relevant to functioning of various sections of KVS where Rules of KVS/ Govt. of India are taken care of while discharging the duties).</p>	40 questions
<p>Part-II: General Aptitude – 10 Marks</p> <p>1. General Knowledge:</p> <ul style="list-style-type: none"> • Current Affairs/events of national and international importance. • History of India and Indian National Movements. • Indian and World Geography- Physical, Social, Economic geography of India and the World etc. • Indian Polity and Governance- Constitution, Political System, Panchayati Raj, Public Issues, Articles, Right etc. • Economic and Social-Development, Sustainable Development, Poverty, Inclusion, Demographics, Social Sector Initiatives etc. • General Issues on Environment, Ecology, Bio-diversity, • Climate change, General Science and General Computer & Computer Literacy 	10 questions
<p>2. Reasoning Aptitude- 15 Marks</p> <ul style="list-style-type: none"> • General Mental/Analytical Ability • Verbal/Logical reasoning, Relations & Hierarchies • Analogies, Assertion, Truth Statements • Coding & Decoding, Situational Reasoning • Series and Patterns involving words & Alphabets 	15 questions
<p>3. Quantitative Aptitude - 15 Marks</p> <ul style="list-style-type: none"> • Two and Three dimensional/ Venn Diagrams based questions • Number patterns, Series, Sequences, Basic numeracy (Number & their relations, orders or magnitude etc.) • Arithmetic aptitude, Data interpretation (Charts, Graphs or Tables, Data sufficiency etc.) • Direction sense, Analysis and interpretation in Various contexts 	15 questions
<p>4. General Hindi & General English – 10 Marks</p> <p>Proficiency related to Communication and Comprehension</p>	10 questions

Continued...

Part-III: Administration & Finance – 60 marks	60 questions
1. General Financial Rules – 05 marks	
2. Travelling Allowance Rules -05 marks	
3. Leave Travel Concession -05 marks	
4. Medical Attendance Rules -05 marks	
5. Pay-Fixation(FR&SR) -05 marks	
6. Leave rules & Joining Time – 05 marks	
7. CCS(CCA)Rules – 10 marks	
8. CCS(Conduct Rules) – 10 marks	
9. CCS (Pension) Rules, NPS & N Provident Fund Rules -10 marks	

Note: Minimum 40% marks would qualify for empanelment.

Scheme of Exam for Recruitment of Head Masters through LDCE:

The written test is of 180 marks (180 objective type multiple choice questions) carrying 01 mark for each question. The duration of written test will be 180 minutes.

Section name -Nature of Questions

Part I - General awareness, Reasoning (40 marks):

- (a) General English (10 questions)
- (b) General Hindi (10 questions)
- (c) General Awareness & Current Affairs (10 question)
- (d) Reasoning Ability (10 questions)

Part-II: Perspectives on Education and Leadership (80 questions)

- (a) Understanding the Learner-(15 questions)
- (b) Understanding Teaching Learning -(20 questions)
- (c) Creating Conducive Learning Environment - (10 questions)
- (d) School Organization and Leadership - (10 questions)
- (e) Perspectives in Education (15 questions)
- (f) KVS Education Code (10 questions)

Part III - Subject-specific Syllabus (60 marks)

Note:

- Minimum 40% would qualify for empanelment.

Syllabus of Exam for Recruitment of Head Masters through LDCE:

Part I - General awareness, Reasoning

- a) Proficiency in English
- b) Proficiency in Hindi
- c) General Awareness & Current Affairs
- d) Reasoning Ability

Part II -Perspectives on Education and Leadership

(a) Understanding the Learner

- Concept of growth, maturation and development, principles and debates of development,
- Development tasks and challenges with special reference to the primary and middle school children
- Domains of Development: Physical, Cognitive, Socio-emotional, Moral etc., deviations in development and its implications.
- Role of Primary and Secondary Socialization agencies. Steps to ensure Home school continuity.

(b) Understanding Teaching Learning

- Theoretical perspectives on Learning -Behaviorism, Cognitivism and Constructivism with

special reference to their implications for:

- i. The role of teacher
 - ii. The role of learner
 - iii. Nature of teacher-student relationship
 - iv. Choice of teaching methods
 - v. Classroom environment
 - vi. Understanding of discipline, power etc.
- Factors affecting learning and their implications for:
 - i. Designing classroom instructions,
 - ii. Planning student activities and,
 - iii. Creating learning spaces in school.
 - Planning and Organization of Teaching-Learning
 - i. Concept of Syllabus and Curriculum, Overt and Hidden Curriculum
 - ii. Preparation of School Time-table
 - iii. Foundational Literacy and Numeracy, Early Childhood Care and Education
 - iv. Competency based Education, Experiential learning, etc.
 - v. Instructional Plans: -Year Plan, Unit Plan, Lesson Plan
 - vi. Instructional material and resources
 - vii. Information and Communication Technology(ICT) for teaching-learning
 - viii. Assessment of learning, for learning and as learning: Meaning, purpose and considerations in planning each.
 - Enhancing Teaching Learning processes: Classroom Observation and Feedback, Reflections and Dialogues as a means of constructivist teaching

(c) Creating Conducive Learning Environment

- The concepts of Diversity, disability and Inclusion, implications of disability as social construct, types of disabilities-their identification and interventions
- Concept of School Mental Health, addressing the curative, preventive and promotive dimensions of mental health for all students and staff. Provisioning for guidance and counselling.
- Developing School and community as a learning resource.

(d) School Organization and Leadership

- Leader as reflective practitioner, team builder, initiator, coach and mentor.
- Perspectives on School Leadership: instructional, distributed and transformative
- Vision building, goal setting and creating a School development Plan
- Using School Processes and forums for strengthening teaching learning-Annual Calendar, time-tabling, parent teacher forums, school assembly, teacher development forums , using achievement data for improving teaching –learning, School Self Assessment and Improvement
- Creating partnerships with community , industry and other neighbouring schools and Higher Education Institutes – forming learning communities

(e) Perspectives in Education

- Role of school in achieving aims of education.
- NEP-2020: Early Childhood Care and Education: The Foundation of Learning ; Foundational Literacy and Numeracy; Curriculum and Pedagogy in Schools: Holistic & Integrated Learning; Equitable and Inclusive Education: Learning for All; Competency based learning and Education.
- Guiding Principles for Child Rights, Protecting and provisioning for rights of children to safe and secure school environment, Right of Children to free and Compulsory Education Act, 2009,

- Historically studying the National Policies in education with special reference to school education;
- School Curriculum Principles: Perspective, Learning and Knowledge, Curricular Areas, School Stages – Pedagogy & Assessment.

(f) KVS Education Code

- Duties and powers of officers of the Sangathan and the Principals.
- Code of conduct for Teachers
- Code of conduct for Students
- **Discipline**
 - I. Extension of application of CCS (CCA) Rules, 1965
 - II. Article 81 (A), 81 (B), 81 (C), 81 (D),
 - III. Suspension, Penalties
- Existing Admission Guidelines
- APAR
- Service Associations/Joint Consultancy Machinery and Grievance Redressal

Part III - Subject-specific Syllabus – Refer Annexure

▪

Note:

- Minimum 40% would qualify for empanelment.

SUBJECT SPECIFIC SYLLABUS FOR THE POST OF HM (LDCE -2022)

Concepts and contents as per NCERT curriculum including the specific syllabus contained in the NCERT text books for classes I to V

English:

Prescribed Books by NCERT for classes 1 to 5

Grammar: Nouns, pronouns, adjectives, adverbs, is, am, are, has, have, tense forms (Simple present and present continuous, simple past and past continuous), expressing future (will and be going to), articles, this, that, these, those (as determiners and empty subjects), question words, an, or, but, punctuation marks (full stop, comma, question mark and inverted commas), possessive adjectives, prepositions

हिन्दी

एन सी ई आर टी द्वारा निर्धारित पुस्तकें कक्षा १ से ५ तक

व्याकरण: संज्ञा, विशेषण और वचन की पहचान और व्यावहारिक प्रयोग, गणित के पाठ्यक्रम के अनुरूप हिन्दी में संख्याएँ, सनयुक्ताक्षरों की पहचान, पर्याय और विलोम (स्तरानुकूल), सर्वनाम और लिंग की पहचान, विशेषण का संज्ञा के साथ सुसंगत प्रयोग, वचन का प्रयोग, क्रिया, काल और कारक चिन्हों की पहचान, शब्दों के संदर्भ में लिंग का प्रयोग

Math:

Prescribed Books by NCERT for classes 1 to 5

Geometry: SHAPES & SPATIAL UNDERSTANDING, SOLIDS AROUND us,
Numbers: DEVELOPING A SENSE OF NUMBERNESS, COUNTING AND OPERATIONS OF NUMBERS, ADDITION AND SUBTRACTION, MULTIPLICATION, DIVISION, MENTAL ARITHMETIC, FRACTIONAL NUMBERS, Money, Measurement, Length, weight, Capacity (Volume), Time, Data Handling, Patterns.

EVS:

Prescribed Books by NCERT for classes 1 to 5

FAMILY AND FRIENDS, FOOD, SHELTER, WATER, TRAVEL, THINGS WE MAKE AND DO