

TS Ed.CET-2020

Syllabus

TS EdCET-2020

Syllabus for the subjects under **Part A and Part B** of Education

PART –A: GENERAL ENGLISH

(25 MARKS)

1. Reading Comprehension
2. Correction of Sentences, Articles, Prepositions, Tenses, Spelling, Voice
3. Vocabulary, Synonyms, Antonyms
4. Transformation of Sentences –Simple, Compound and Complex. Direct Speech and Indirect Speech

Syllabus: CBCS General English Syllabus (With effect from 2016-17)

Semester I

Prescribed Text Book for Semesters I & II: *English Made Easy* published by Orient Blackswan
Editors: Prof. E. Suresh Kumar, Prof. Sumita Roy and Prof. A. Karunaker

SHORT FICTION: “The Curb in the Sky” by James Thurber—GRAMMAR:
Noun—VOCABULARY: roots prefix and suffix—SPELLING: wrong spellings—
PUNCTUATION: capitalization—WRITING: guided writing & expansion

PROSE: “Happy People” by W.R. Inge—GRAMMAR: pronoun—
VOCABULARY: roots, prefix & suffix— SPELLING: ‘un’ and ‘dis’ for
antonyms— PUNCTUATION: capitalization—WRITING: sequencing

POETRY: “A Psalm of Life” by Henry Wadsworth Longfellow—GRAMMAR:
auxiliary verbs— VOCABULARY: homonyms, homographs, homophones—
SPELLING: words ending ‘tion’ or ‘sion’— PUNCTUATION: full stop and comma—
WRITING: paragraph, descriptive writing

DRAMA: “The Dear Departed” (an extract) by Stanley Houghton—GRAMMAR:
main verbs and tenses— VOCABULARY: collocation— SPELLING: words
ending ‘tion’ or ‘ment’— PUNCTUATION: question and exclamation marks—
WRITING: dialogue writing

Language & Soft Skills Lab: (Pronunciation, Conversation, Reading, Soft Skills and Values)

PRONUNCIATION: Consonant sounds—Vowels: monophthongs—Vowels:
diphthongs—Varied pronunciations of the same letter

CONVERSATION: Introducing oneself in formal /social contexts—Starting and
controlling a conversation—Describing your college and course of study— Leaving a
message on the answering machine, making an appointment on telephone

READING: Biography of Chindula Yelamm: a Telangana Artisan—Million
March: an Initiative for Statehood—Baturamma: Telangana’s cultural identity—
Husain Sagar Lake: a well known tourist attraction

SOFT SKILLS: Motivation and goal setting—Self confidence—Non-verbal
communication/body language—Interpersonal skills

VALUES: “Well begun is half done”—“Doubt is the beginning of wisdom” —
“Actions speak louder than words” —“Faith will move mountains”

Prescribed Text Book for Semesters I & II: *English Made Easy* published by Orient Blackswan. Editors: Prof. E. Suresh Kumar, Prof. Sumita Roy and Prof. A. Karunaker

SHORT FICTION: “A Visit of Charity” by Eudora Welty—GRAMMAR: Non-finite verbs— VOCABULARY: Simile and metaphor— SPELLING: Use of ‘ie’ and ‘ei’— PUNCTUATION: Semicolon—WRITING: Note taking and note making

PROSE: “Benaras” by Aldous Huxley—GRAMMAR: Adjective— VOCABULARY: Oxymoron and hyperbole— SPELLING: Use of ‘able’ and ‘ible’— PUNCTUATION: Colon and long dash— WRITING: Informal letter

POETRY: “The Sun is Warm” by P.B Shelley—GRAMMAR: Articles— VOCABULARY: Portmanteau words, loan words— SPELLING: Use of ‘-ic’, ‘-ive’, ‘-ity’, ‘-al’ ‘-ance’, ‘-ence’— PUNCTUATION: Hyphen and long dash— WRITING: Formal letter

DRAMA: An extract of Act II, Sc 3 from *Julius Caesar* by Shakespeare— GRAMMAR: Adverb— VOCABULARY: Palindromes— SPELLING: Changes of spelling from noun-verb-adjective-adverb— PUNCTUATION: Inverted Commas—WRITING: Business letter

Language & Soft Skills Lab: (Pronunciation, Conversation, Reading, Soft Skills and Values)

PRONUNCIATION: Plosives—Fricatives—Affricates and nasals—Lateral, frictionless continuants, semi vowels

CONVERSATION: Asking for advice/information—Making/accepting/ refusing a request— Conducting a meeting/seeking opinion of team members— Appearing for a job interview/conducting a job interview

READING: Hyderabad city: the heart of Telangana—Burrakatha—Cultural identity of Telangana—Handicrafts of Telangana

SOFT SKILLS: Time management—Leadership—Stress management— Etiquette and grooming

VALUES: “Time and tide wait for no one”— “The pen is mightier than the sword” — “Practice makes one perfect”— “Necessity is the mother of invention”

Prescribed Textbook for Semesters III & IV: *English in Use*. Eds. T Vijay Kumar, K Durga Bhavani, YL Srinivas. Published by Macmillan.

- 1) **Poem:** Charlotte Brontë “Life”
- 2) **Short Story:** Rabindranath Tagore “A Wrong Man in Workers’ Paradise”
- 3) **Vocabulary:** Synonyms, Antonyms
- 4) **Grammar:** Prepositions (including Prepositional Phrases)

- 1) **Poem:** Kamala Das “Punishment in Kindergarten”
- 2) **Essay:** RK Narayan “Toasted English”
- 3) **Vocabulary:** British /American English Common Words
- 4) **Grammar:** Voice

- 1) **Poem:** Langston Hughes “As I Grew Older”
- 2) **Speech:** BR Ambedkar “Grammar of Anarchy” (Excerpt)
- 3) **Vocabulary:** Phrasal Verbs
- 4) **Grammar:** Concord

Writing-1 (Essay Writing)

- 1) Discursive Essay
- 2) Argumentative Essay
- 3) Vocabulary: Idioms
- 4) Grammar: Connectives

Writing-II (Report Writing)

- 1) Business Reports
- 2) Media Reports
- 3) Vocabulary: Technical Vocabulary (Business Media)
- 4) Grammar: Reported Speech (Including Reporting Verbs)

Poem Tennyson ‘Flower’
Prose Ruskin Bond “The Kite maker”
Vocabulary Commonly Confused Words
Grammar Determine

Poem AK Ramanujan “Ecology”
Prose Henry Histchings “What’s the Language of the Future?” (Excerpt)
Vocabulary Indianism
Grammar Framing Questions (including tag questions)

Poem Roald Dah “Television”
Prose JK Rowlin “The Fringe Benefits of Failure, and the
Importance of Imagination” (Excerpt)
Vocabulary One -word substitutes
Grammar Relative Causes

Writing Reviews Film Review, Book Review
Vocabulary Technical Vocabulary (Film, Literature)
Grammar Conditionals

CV Writing Chronological CV, Functional CV
Vocabulary Appropriacy
Grammar Common errors

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Syllabus for the subjects under **Part A and Part B** of the Education

PART – B: GENERAL KNOWLEDGE & TEACHING APTITUDE

Marks :(GK: 15 + TA: 10) = 25

1. Questions will be designed to test the ability of the candidate's general knowledge of the environment around him and its application to society.
2. Questions will also be designed to test knowledge of current events and of such matters of every day observation and experience in their scientific outlook as is expected of an educated person.
3. The test will also include questions relating to India and its neighboring Countries especially pertaining to History, Culture, Geography, Ecology, Economic, General Policy and Scientific Research.
4. Teaching requires certain characteristics like ability to communicate, ability to deal with Children, ability to recognize individual differences etc., apart from analytical thinking and general intelligence. One who has these characteristics will be able to become a good teacher after training. Questions relating to these aspects will be included to test one's teaching aptitude.

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Part - C MATHEMATICS (SYLLABUS) (100 Marks)

DIFFERENTIAL CALCULUS:

Successive Differentiation - Expansions of Functions- Mean value theorems. Indeterminate forms - Curvature and Evolutes. Partial differentiation - Homogeneous functions - Total derivative. Maxima and Minima of functions of two variables – Lagrange’s Method of multipliers – Asymptotes - Envelopes.

DIFFERENTIAL EQUATIONS:

Differential Equations of first order and first degree: Exact differential equations – Integrating Factors – Change in variables – Total Differential Equations – Simultaneous Total Differential equations

– Equations of the form $\frac{dx}{P} = \frac{dy}{Q} = \frac{dz}{R}$. Differential Equations first order but not first degree: Equations solvable for y - Equations solvable for x - Equations that do not contain x (or y) – Clairaut’s Equation.

Higher order linear differential equations: Solution of homogeneous linear differential equations with constant coefficients - Solution of non-homogeneous differential equations $P(D)y = Q(x)$ with constant coefficients by means of polynomial operators when $Q(x) = be^{ax}, b\sin ax / b\cos ax, bx^k, Ve^{ax}$. Method of undetermined coefficients - Method of variation of parameters - Linear differential equations with non constant coefficients - The Cauchy- Euler Equation.

Partial Differential equations: Formation and solution- Equations easily integrable - Linear equations of first order - Non linear equations of first order - Charpit’s method - Homogeneous linear partial differential equations with constant coefficient - Non homogeneous linear partial differential equations - Separation of variables.

REAL ANALYSIS:

Sequences: Limits of Sequences - A Discussion about Proofs - Limit Theorems for Sequences - Monotone Sequences and Cauchy Sequences. Subsequences - Lim sup’s and Lim inf’s - Series - Alternating Series and Integral Tests. **Sequences and Series of Functions:** Power Series - Uniform Convergence - More on Uniform Convergence - Differentiation and Integration of Power Series.

Integration: The Riemann Integral - Properties of Riemann Integral - Fundamental Theorem of Calculus.

ALGEBRA:

Groups: Definition and Examples of Groups- Elementary Properties of Groups - Finite Groups; Subgroups -Terminology and Notation -Subgroup Tests - Examples of Subgroups **Cyclic Groups:** Properties of Cyclic Groups - Classification of Subgroups Cyclic Groups - **Permutation Groups:** Definition and Notation - Cycle Notation -Properties of Permutations - A Check Digit Scheme Based on D_5 . **Isomorphisms:** Motivation - Definition and Examples - Cayley’s Theorem Properties of Isomorphisms – Automorphisms - Cosets and Lagrange’s Theorem Properties of Cosets 138 - Lagrange’s Theorem and Consequences - An Application of Cosets to Permutation Groups - The Rotation Group of a Cube and a Soccer Ball - Normal Subgroups and Factor Groups ; Normal Subgroups - Factor Groups - Applications of Factor Groups - Group Homomorphisms - Definition and Examples - Properties of Homomorphisms - The First Isomorphism Theorem.

Introduction to Rings: Motivation and Definition - Examples of Rings - Properties of Rings – Subrings - **Integral Domains:** Definition and Examples –Characteristics of a Ring - Ideals and Factor Rings;

Ideals - Factor Rings - Prime Ideals and Maximal Ideals.

Ring Homomorphisms: Definition and Examples - Properties of Ring – Homomorphisms - The Field of Quotients Polynomial Rings: Notation and Terminology.

LINEAR ALGEBRA:

Vector Spaces: Vector Spaces and Subspaces - Null Spaces, Column Spaces, and Linear Transformations - Linearly Independent Sets; Bases - Coordinate Systems - The Dimension of a Vector Space.

Rank-Change of Basis - Eigen values and Eigenvectors - The Characteristic Equation.

Diagonalization - Eigenvectors and Linear Transformations - Complex Eigen values - Applications to Differential Equations - **Orthogonality and Least Squares:** Inner Product, Length, and Orthogonality - Orthogonal Sets.

NUMERICAL ANALYSIS:

Solutions of Equations in One Variable: The Bisection Method - Fixed-Point Iteration - Newton's Method and Its Extensions - Error Analysis for Iterative Methods - Accelerating Convergence - Zeros of Polynomials and Müller's Method - Survey of Methods and Software.

Interpolation and Polynomial Approximation: Interpolation and the Lagrange Polynomial - Data Approximation and Neville's Method - Divided Differences - Hermite Interpolation - Cubic Spline Interpolation.

Numerical Differentiation and Integration: Numerical Differentiation - Richardson's Extrapolation - Elements of Numerical Integration - Composite Numerical Integration – Romberg Integration - Adaptive Quadrature Methods - Gaussian Quadrature.

Texts:

- Shanti Narayan and Mittal, Differential Calculus
- Zafar Ahsan, Differential Equations and Their Applications
- Kenneth A Ross, Elementary Analysis-The Theory of Calculus
- Joseph A Gallian, Contemporary Abstract algebra (9th edition)
- David C Lay, Linear Algebra and its Applications 4e
- Richard L. Burden and J. Douglas Faires, Numerical Analysis (9e)

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PHYSICAL SCIENCES Part - C (50 Marks) Physics Syllabus

1. **Vector Analysis** : Scalar and vector fields, gradient of a scalar field and its physical significance. Divergence and curl of a vector field and related problems. Vector integration, line, surface and volume integrals. Stokes, Gauss and Greens theorems- simple applications.
2. **Mechanics of Particles** : Laws of motion, motion of variable mass system, motion of a rocket, multi-stage rocket, conservation of energy and momentum. Collisions in two and three dimensions, concept of impact parameter, scattering cross-section,
3. **Mechanics of rigid bodies**: Definition of Rigid body, rotational kinematic relations, equation of motion for a rotating body, angular momentum and inertial tensor. Euler's equation, precession of a top, Gyroscope,
4. **Central forces**: Central forces – definition and examples, conservative nature of central forces, conservative force as a negative gradient of potential energy, equation of motion under a central force, gravitational potential and gravitational field, motion under inverse square law, derivation of Kepler's laws, Coriolis force and its expressions.
5. **Special theory of relativity**: Galilean relativity, absolute frames, Michelson-Morley experiment, Postulates of special theory of relativity. Lorentz transformation, time dilation, length contraction, addition of velocities, mass-energy relation. Concept of four vector formalism.
6. **Fundamentals of vibrations**: Simple harmonic oscillator, and solution of the differential equation– Physical characteristics of SHM, torsion pendulum, - measurements of rigidity modulus , compound pendulum, measurement of 'g', combination of two mutually perpendicular simple harmonic vibrations of same frequency and different frequencies, Lissajous figures
7. **Damped and forced oscillations**: Damped harmonic oscillator, solution of the differential equation of damped oscillator. Energy considerations, comparison with undamped harmonic oscillator, logarithmic decrement, relaxation time, quality factor, differential equation of forced oscillator and its solution, amplitude resonance, velocity resonance. Coupled Oscillators.
8. **Vibrating Strings**: Transverse wave propagation along a stretched string, general solution of wave equation and its significance, modes of vibration of stretched string clamped at ends, overtones, energy transport, transverse impedance
9. **Vibrations of bars**: Longitudinal vibrations in bars- wave equation and its general solution. Special cases (i) bar fixed at both ends ii) bar fixed at the midpoint iii) bar free at both ends iv) bar fixed at one end. Transverse vibrations in a bar- wave equation and its general solution. Boundary conditions, clamped free bar, free-free bar, bar supported at both ends, Tuning fork.

10. Kinetic theory of gases: Introduction – Deduction of Maxwell’s law of distribution of molecular speeds, Transport Phenomena – Viscosity of gases – thermal conductivity – diffusion of gases.

11. Thermodynamics: Basics of thermodynamics-Kelvin’s and Clausius statements – Thermodynamic scale of temperature – Entropy, physical significance – Change in entropy in reversible and irreversible processes – Entropy and disorder – Entropy of universe – Temperature- Entropy (T-S) diagram – Change of entropy of a perfect gas-change of entropy when ice changes into steam.

12. Thermodynamic potentials and Maxwell’s equations: Thermodynamic potentials – Derivation of Maxwell’s thermodynamic relations – Clausius-Clayperon’s equation – Derivation for ratio of specific heats – Derivation for difference of two specific heats for perfect gas. Joule Kelvin effect – expression for Joule Kelvin coefficient for perfect and Vanderwaal’s gas.

13. Low temperature Physics: Joule Kelvin effect – liquefaction of gas using porous plug experiment. Joule expansion – Distinction between adiabatic and Joule Thomson expansion – Expression for Joule Thomson cooling – Liquefaction of helium, Kapitza’s method – Adiabatic demagnetization – Production of low temperatures – Principle of refrigeration, vapour compression type.

14. Quantum theory of radiation: Black body-Ferry’s black body – distribution of energy in the spectrum of Black body – Wein’s displacement law, Wein’s law, Rayleigh-Jean’s law – Quantum theory of radiation - Planck’s law – deduction of Wein’s distribution law, Rayleigh-Jeans law, Stefan’s law from Planck’s law.

Measurement of radiation using pyrometers – Disappearing filament optical pyrometer – experimental determination – Angstrom pyroheliometer - determination of solar constant, effective temperature of sun.

15. Statistical Mechanics: Introduction, postulates of statistical mechanics. Phase space, concept of ensembles and some known ensembles ,classical and quantum statistics and their differences, concept of probability, Maxwell-Boltzmann’s distribution law -Molecular energies in an ideal gas- Maxwell-Boltzmann’s velocity distribution law, Bose-Einstein Distribution law, Fermi-Dirac Distribution law, comparison of three distribution laws, Application of B-E distribution to Photons-planks radiation formula, Application of Fermi-Dirac statistics to white dwarfs and Neutron stars.

16. Interference: Principle of superposition – coherence – temporal coherence and spatial coherence – conditions for Interference of light

Interference by division of wave front: Fresnel’s biprism – determination of wave length of light. Determination of thickness of a transparent material using Biprism – change of phase on reflection – Lloyd’s mirror experiment.

Interference by division of amplitude: Oblique incidence of a plane wave on a thin film due to reflected and transmitted light (Cosine law) – Colours of thin films – Non reflecting films–interference by a plane parallel film illuminated by a point source – Interference by a film with two non-parallel reflecting surfaces (Wedge shaped film) – Determination of diameter of wire-

Newton's rings in reflected light with and without contact between lens and glass plate, Newton's rings in transmitted light (Haidinger Fringes) – Determination of wave length of monochromatic light – Michelson Interferometer – types of fringes – Determination of wavelength of monochromatic light, Difference in wavelength of sodium D_1, D_2 lines and thickness of a thin transparent plate.

- 17. Diffraction:** Introduction – Distinction between Fresnel and Fraunhofer diffraction
Fraunhofer diffraction:- Diffraction due to single slit and circular aperture – Limit of resolution – Fraunhofer diffraction due to double slit – Fraunhofer diffraction pattern with N slits (diffraction grating)

Resolving Power of grating – Determination of wave length of light in normal and oblique incidence methods using diffraction grating.

Fresnel diffraction-Fresnel's half period zones – area of the half period zones –zone plate – Comparison of zone plate with convex lens – Phase reversal zone plate – diffraction at a straight edge – difference between interference and diffraction.

- 18. Polarization:** Polarized light : Methods of Polarization, Polarization by reflection, refraction, Double refraction, selective absorption , scattering of light – Brewster's law – Malus law – Nicol prism polarizer and analyzer – Refraction of plane wave incident on negative and positive crystals (Huygen's explanation) – Quarter wave plate, Half wave plate – Babinet's compensator – Optical activity, analysis of light by Laurent's half shade polarimeter.

- 19. Aberrations and Fiber Optics: Introduction** – Monochromatic aberrations, spherical aberration, methods of minimizing spherical aberration, coma, astigmatism and curvature of field, distortion. Chromatic aberration – the achromatic doublet – Removal of chromatic aberration of a separated doublet.

Fiber Optics : Introduction – Optical fibers –Principles of fiber communication – Step and graded index fibers – Rays and modes in an optical fiber – Fiber material – Types of optical fibers and advantages of fiber communication,

- 20. Electrostatics:** Electric Field:- Concept of electric field lines and electric flux, Gauss's law (Integral and differential forms), application to linear, plane and spherical charge distributions. Conservative nature of electric field E, irrotational field. Electric Potential:- Concept of electric potential, relation between electric potential and electric field, potential energy of a system of charges. Energy density in an electric field. Calculation of potential from electric field for a spherical charge distribution.

- 21. Magnetostatics :**Concept of magnetic field B and magnetic flux, Biot-Savart's law, B due to a straight current carrying conductor. Force on a point charge in a magnetic field. Properties of B, curl and divergence of B, solenoidal field. Integral form of Ampere's law, applications of Ampere's law: field due to straight, circular and solenoidal currents. Energy stored in magnetic field. Magnetic energy in terms of current and inductance. Magnetic force between two current carrying conductors. Magnetic field intensity. Ballistic Galvanometer:- Torque on a current loop in a uniform magnetic field, working principle of B.G., current and charge sensitivity, electromagnetic damping, critical damping resistance.

- 22. Electromagnetic Induction:** Faraday's laws of induction (differential and integral form), Lenz's law, self and mutual Induction. Continuity equation, modification of Ampere's law, displacement current, Maxwell equations.
- 23. Electromagnetic waves:** Maxwell's equations in vacuum and dielectric medium, boundary conditions, plane wave equation: transverse nature of EM waves, velocity of light in vacuum and in medium, polarization, reflection and transmission. Polarization of EM waves, Brewster's angle, description of linear, circular and elliptical polarization.
- 24. Atomic Spectra and Models Inadequacy of classical physics:** Brief Review of Black body Radiation , Photoelectric effect, Compton effect, dual nature of radiation, wave nature of particles. Atomic spectra, Line spectra of hydrogen atom, Ritz Rydberg combination principle. Alpha Particle Scattering, Rutherford Scattering Formula, Rutherford Model of atom and its limitations, Bohr's model of H atom, explanation of atomic spectra, correction for finite mass of the nucleus, Bohr correspondence principle, limitations of Bohr model, discrete energy exchange by atom, Frank Hertz Expt. Sommerfeld's Modification of Bohr's Theory.

Wave Particle Duality de Broglie hypothesis, Experimental confirmation of matter wave, Davisson Germer Experiment, velocity of de Broglie wave, wave particle duality, Complementarity. Superposition of two waves, phase velocity and group velocity, wave packets ,Gaussian Wave Packet , spatial distribution of wave packet, Localization of wave packet in time. Time development of a wave Packet; Wave Particle Duality, Complementarity. Heisenberg Uncertainty Principle, Illustration of the Principle through thought Experiments of Gamma ray microscope and electron diffraction through a slit. Time independent and time dependent Schrodinger wave equation. Estimation of ground state energy of harmonic oscillator and hydrogen atom, non-existence of electron in the nucleus. Uncertainty and Complementarities.

Nuclear Physics Size and structure of atomic nucleus and its relation with atomic weight; Impossibility of an electron being in the nucleus as a consequence of the uncertainty principle. Nature of nuclear force, NZ graph, Liquid Drop model: semi-empirical mass formula and binding energy, Nuclear Shell Model and magic numbers.

Radioactivity: stability of the nucleus; Law of radioactive decay; Mean life and half-life; Alpha decay; Beta decay- energy released, spectrum and Pauli's prediction of neutrino; Gamma ray emission, energy-momentum conservation: electron-positron pair creation by gamma photons in the vicinity of a nucleus. Fission and fusion- mass deficit, relativity and generation of energy; Fission - nature of fragments and emission of neutrons. Nuclear reactor: slow neutrons interacting with Uranium 235; Fusion and thermonuclear reactions driving stellar energy (brief qualitative discussions), Classification of Elementary Particles

- 25. Basic Electronics:** Classification of solids in terms of forbidden energy gap. Intrinsic and extrinsic semiconductors, Fermi level, continuity equation – p-n junction diode, half wave and full wave rectifiers and filters, ripple factor, Characteristics of Zener diode and its application as voltage regulator. – p n p and n p n transistors, current components in transistors, CB,CE and CC configurations – concept of transistor biasing, operating point,

fixed bias and self-bias transistor as an amplifier — concept of negative feedback and Positive feedback – Barkhausen criterion.

26. Digital Principles: Binary number system, converting Binary to Decimal and vice versa. Binary addition and subtraction (1s' and 2's complement methods). Hexadecimal number system. Conversion from Binary to Hexadecimal – vice versa and Decimal to Hexadecimal vice versa. Logic gates: OR, AND, NOT gates, truth tables, NAND, NOR as universal gates, Exclusive – OR gate, De Morgan's Laws – statement and proof, Half and Full adders.

27. Quantum Mechanics: de Broglie's hypothesis — wavelength of matter waves, properties of matter waves, Properties of matter waves Phase and group velocities. Davisson and Germer experiment. Double slit experiment. Standing de Broglie waves of electron in Bohr orbits. Heisenberg's uncertainty principle for position and momentum (x and p_x), Energy and time (E and t). Gamma ray microscope. Diffraction by a single slit. Position of electron in a Bohr orbit. Particle in a box. Complementary principle of Bohr. Schrodinger time independent and time dependent wave equations. Wave function properties — Significance. Basic postulates of quantum mechanics. Operators, Eigen functions and Eigen values, expectation values. Application of Schrodinger wave equation to particle in one and three dimensional boxes, potential step and potential barrier.

28. Nuclear Physics: Basic properties of nucleus — size, charge, mass, spin, magnetic dipole moment and electric quadrupole moment. Binding energy of nucleus, deuteron binding energy, p-p and n-p scattering (concepts), nuclear forces. Nuclear models — liquid drop model, shell model. Range of alpha particles, Geiger — Nuttall law. Gammow's theory of alpha decay. Geiger — Nuttall law from Gammow's theory. Beta spectrum — neutrino hypothesis, Fermi's theory of β —decay.

29. Solid State Physics: Crystalline nature of matter. Crystal lattice, Unit Cell, Elements of symmetry. Crystal systems, Bravais lattices. Miller indices. Simple crystal structures (S.C., BCC, CsCl, FCC, NaCl diamond and Zinc Blends)

Diffraction of X —rays by crystals, Bragg's law, and Experimental techniques - Laue's method and powder method.

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Part - C
PHYSICAL SCIENCE: CHEMISTRY (50 marks)
(SYLLABUS)

1. Atomic structure and elementary quantum mechanics

Black body radiation, Planck's radiation law, photoelectric effect, heat capacity of solids, Compton effect, De Broglie's hypothesis. Heisenberg's uncertainty principle, Sinusoidal wave equation, Hamiltonian operator, Schrodinger's wave equation, and its importance. Physical interpretation of the wave function, significance of ψ and ψ^2 .

2. Chemical Bonding

Ionic solids- lattice and solvation energy, solubility of ionic solids, Fajan's rule, polarity and polarizability of ions, covalent nature of ionic bond, covalent bond – Common hybridization and shapes of molecules.

Molecular orbital theory: Shapes and sign convention of atomic orbitals. Modes of overlapping. Concept of σ and π bonds. Criteria for orbital overlap. LCAO concept. Types of molecular orbitals- bonding, antibonding and non bonding. MOED of homonuclear diatomics - H_2 , N_2 , O_2 , O_2^- , O_2^{2-} , F_2 (unhybridized diagrams only) and heteronuclear diatomics CO, CN^- , NO, NO^+ and HF. Bond order, stability and magnetic properties.

3. s-block elements:

General Characteristics of groups I and II elements, Diagonal relationship between Li and Mg, Be and Al

4. p-block elements

Group-13: Synthesis and structure of diborane and higher Boranes (B_4H_{10} and B_5H_9), Boron nitrogen compounds ($B_3N_3H_6$ and BN), Lewis acid nature of BX_3

Group – 14: Carbides-Classification – ionic, covalent, interstitial – synthesis. Structures and reactivity. Industrial application. Silicones – Preparation – a) direct silicon process b) use of Grignard reagent c) aromatic silylation. Classification – straight chain, cyclic and cross-linked.

Group – 15: Nitrides – Classification – ionic, covalent and interstitial. Reactivity –hydrolysis. Preparation and reactions of hydrazine, hydroxyl amine, phosphazenes.

Oxides: Types of oxides (a) Normal- acidic, basic amphoteric and neutral (b) Mixed(c)sub oxide d) peroxide e) superoxide. Structure of oxides of C, N, P, S and Cl - reactivity, thermal stability, hydrolysis.

Oxy acids: Structure and acidic nature of oxy acids of B, C, N, P, S and Cl. Redox properties of oxy acids of Nitrogen: HNO_2 (reaction with FeSO_4 , KMnO_4 , $\text{K}_2\text{Cr}_2\text{O}_7$), HNO_3 (reaction with H_2S , Cu), HNO_4 (reaction with KBr, Aniline), $\text{H}_2\text{N}_2\text{O}_2$ (reaction with KMnO_4). Redox properties of oxyacids of Potassium: H_3PO_2 (reaction with HgCl_2), H_3PO_3 (reaction with AgNO_3 , CuSO_4).

Redox properties of oxyacids of Sulphur: H_2SO_3 (reaction with KMnO_4 , $\text{K}_2\text{Cr}_2\text{O}_7$), H_2SO_4 (reaction with Zn, Fe, Cu), $\text{H}_2\text{S}_2\text{O}_3$ (reaction with Cu, Au), H_2SO_5 (reaction with KI, FeSO_4), $\text{H}_2\text{S}_2\text{O}_8$ (reaction with FeSO_4 , KI)

Interhalogens- classification- general preparation- structures of AB , AB_3 , AB_5 and AB_7 type and reactivity. Poly halides- definition and structure of ICl_2^- , ICl_4^- and I_3

Zero group elements: Comparison of Pseudohalogens with halogens. General preparation, structure, bonding and reactivity of Xenon compounds – Oxides, Halides and Oxy-halides. Clathrate compounds and Anomalous behavior of He (II)

5. d-block-elements

Characteristics of d-block elements with special reference to electronic configuration variable valence, ability to form complexes, magnetic properties & catalytic properties. Stability of various oxidation states and SRP Comparative treatment of second and third transition series with their 3d analogues. Study of Ti, Cr and Cu triads. Titanium triad – electronic configuration and reactivity of +3 and +4 states – oxides and halides. Chromium triad – reactivity of +3 and +6 states. Copper triad – reactivity of +1, +2 and +3 states.

6. f-block elements

Chemistry of Lanthanides - electronic structure, position in periodic table, oxidation state, Atomic and ionic radii, Lanthanide contraction - cause and consequences, anomalous behaviour of post lanthanides, basicity, Complexation-type of donor ligands preferred, magnetic properties-paramagnetism. Colour and spectra f-f transition. Occurrence and separation-ion exchange method, solvent extraction.

Chemistry of Actinides-General features-electronic configuration, oxidation state, actinide contraction, colour and complex formation. Comparison with lanthanides.

7. Metals

Valence bond theory, Explanation of metallic properties and its limitations, Free electron theory, thermal and electrical conductivity of metals, limitations, Band theory, formation of bands, explanation of conductors, semiconductors n-type and p-type, extrinsic & intrinsic semiconductors, and insulators.

8. Co-ordination chemistry.

Nomenclature of inorganic molecules and complex compounds. Werner's theory - postulates, experimental evidences. Sidwick's theory—calculation of EAN, limitations. Metal Ligand bond in transition metal complexes - Valence bond theory - postulates, geometries of coordination number 4 – tetra hedral and square planer and 6 -octahedral. Limitations. Crystal field theory - features. Splitting of d - orbitals in octahedral, tetrahedral and square planar complexes, crystal field stabilization energy, (elementary treatment diagrams only). Magnetic properties of Transition metal complexes. Types of magnetic behavior spin only formula, calculation of magnetic moments. Electronic spectra of metal complexes d-d transitions, spectro chemical series. Determination of composition of complexes, Job's method and mole ratio method. Stability constants, factors affecting stability of complexes. Isomerism in co-ordination compounds - Structural ionization, hydrate, linkage, coordination, coordination position and polymerization isomerism. Stereoisomerisms- geometrical and optical isomerism.

Hard and soft acids and bases Classification, Pearson's concept of hardness and softness, application of HSAB principles - stability of complexes, predicting the feasibility of a reaction.

ORGANIC CHEMISTRY

9. Stereochemistry of carbon compounds

Molecular representations: Wedge, Fischer, Newman and saw-horse formulae.

Isomerism: Definition of homomers and isomers. Classification of isomers: Constitutional and Stereoisomers - definition and examples. Constitutional isomers: chain, functional and positional isomers and metamerism. Stereoisomers: enantiomers and diastereomers – definitions and examples. Conformational and configurational isomerism- definition.

10. Structural Theory in Organic Chemistry

Factors influencing the polarization of covalent bonds, electronegativity - inductive effect. Application of inductive effect, (a) Basicity of amines (b) Acidity of carboxylic acids (c) Stability of carbonim

ions. Resonance or Mesomeric effect, application to (a) acidity phenol, (b) acidity of carboxylic acids. Hyper conjugation and its application to stability of carbonium ions. Free radicals and alkenes.

Types of organic reactions: Addition electrophilic, nucleophilic and free radical Substitution - electrophilic, nucleophilic and free radical. Elimination. Examples

11. Acyclic Hydrocarbons

Alkanes– Methods of preparation: Wurtz reaction, Kolbe's electrolysis, Corey-House reaction. Chemical reactivity - inert nature, free radical substitution mechanism, Halogenation examples- reactivity, selectivity and orientation..

Alkenes- Preparation of alkenes (a) by dehydration of alcohols (b) dehydrohalogenation of alkyl halides (c) by dehalogenation of 1,2 dihalides(brief mechanism), Zaitsev's rule. Properties: Addition of Hydrogen – heat of hydrogenation and stability of alkenes. Addition of halogen and its mechanism. Addition of HX, Markonikov's rule, addition of H₂O, HOX, H₂SO₄with mechanism and addition of HBr in the presence of peroxide (anti – Markonikov's addition).

Oxidation – hydroxylation by KMnO₄, OsO₄, peracids (via epoxidation), hydroboration, ozonolysis – location of double bond. Dienes – Types of dienes, reactions of conjugated dienes – 1,2 and 1,4 addition of HBr to 1,3 – butadiene and Diels – Alder reaction.

Alkynes– Preparation by dehydrohalogenation of dihalides, dehalogenation of tetrahalides Properties: Acidity of acetylenic hydrogen (formation of metal acetylides). preparation of higher acetylenes, Metal-ammonia reductions. physical properties. Chemical reactivity – electrophilic addition of X₂, HX, H₂O (tautomerism), Oxidation (formation of enediol, 1,2 diones and carboxylic acids), reduction and polymerization reaction of acetylene.

12. Benzene and its reactivity

Concept of aromaticity - aromaticity (definition) Huckl's rule - application to Benzenoid (Benzene, Napthalene, anthracene and Phenanthrace) and Non- Benzenoid compounds (cyclopropenyl cation, cyclopentadienyl anion and tropylium cation).

Reactions General mechanism of electrophilic substitution mechanism of nitration and sulfonation. Mechanism of halogenations, Friedel craft's alkylation and acylation. Orientation of aromatic substitution - Definition ortho, para and meta directing groups. Ring activating and deactivating group with examples (Electronic Interpretation of various groups like NO₂ and Phenolic). Orientation: (i)

Amino methoxy and methyl groups, (ii) Carboxy, nitro, nitrile, carbonyl and sulfonic acid groups, (iii) Halogens (Explanation by taking minimum of one example from each type)

13. Arenes and Polynuclear Aromatic Hydrocarbons

Polynuclear hydrocarbons – Structure of naphthalene and anthracene (Molecular Orbital diagram and resonance energy) Reactivity towards electrophilic substitution. Nitration and sulphonation as examples.

14. Hydroxy compounds

Preparation: from carbonyl compounds. Aryl carbinols by hydroxyl methylation. Phenols - (a) by diazotization (b) from sulfonic acid (c) from cumene. Physical properties Hydrogen bonding (inter molecular and intramolecular) effect of hydrogen bonding on boiling point and water solubility Chemical properties (a) Formation of alkoxides (b) replacement of OH with HX/ZnCl₂. Esterification by (a) acid halides, anhydrides and acids (mechanism) (b) Esters of inorganic acids. Oxidation of alcohols by PCC, KMnO₄. Special reactions of phenols - (a) Bromination, (b) Kolbe - Schmidt reaction (c) Riemer Tiemann (d) Azo coupling.

15. Carbonyl compounds

Nomenclature of aliphatic and aromatic carbonyl compounds and isomerism. Synthesis of aldehydes & ketones from acid chloride by using 1,3-dithianes, nitriles and from carboxylic acids. Base catalysed reactions with particular emphasis on Aldol, Cannizzaro reaction, Perkin reaction, Benzoin condensation, haloform reaction, Knoevenagel condensation. Oxidation reactions –KMnO₄ oxidation and auto oxidation, reduction –catalytic hydrogenation, Clemmenson's reduction, Wolf-kishner reduction, MPV reduction, reduction with LAH, NaBH₄. Analysis – 2,4 –DNP test, Tollen's test, Fehlings test, Schiff's test, haloform test (with equations).

16. Nitrogen compounds

Nitro hydro carbons: Nomenclature and classification - nitro hydrocarbons - structure. Tautomerism of nitroalkanes leading to acid and keto form. Preparation on Nitroalkanes. Reactivity - halogenation, reaction with HONO ("Nitrous acid), Nef reaction and Mannich reaction, Michael addition and reduction. Aromatic Nitro hydrocarbons: Nomenclature, Preparation of Nitrobenzene by Nitration (mechanism), from diazonium salts. Physical properties, chemical reactivity - orientation of electrophilic substitution on nitrobenzene. Reduction reaction of Nitrobenzenes in different media. Amines (Aliphatic and Aromatic): Nomenclature, classification into 1°, 2°, 3° Amines and Quaternary ammonium compounds. preparative methods - 1. Ammonolysis of alkyl halides 2. Gabriel

synthesis 3. Hoffman's bromamide reaction (mechanism). Reduction of Amides and Schmidt reaction. Chemical Properties: (a) Alkylation (b) Acylation (c) Carbylamine reaction (d) Hinsberg separation. Reaction with Nitrous acid of 1°, 2°, 3° (Aliphatic and aromatic amines). Electrophilic substitutions of Aromatic amines - Bromination and Nitration, oxidation of aryl and 3° Amines, diazotization. 6. Diazonium salts Preparation with mechanism. Synthetic importance - (a) Replacement of diazonium group by- OH, X (Cl) Sandmeyer and Gatterman reaction, by fluorine Schiemann's reaction), by iodine, CN, NO₂, H and aryl groups. Coupling Reaction of diazonium (i) with phenols (ii) with anilines. Reduction to phenyl hydrazines.

17. Heterocyclic Compounds

Introduction and definition: Simple 5 membered ring compounds with one hetero atom Ex. Furan. Thiophene and pyrrole. Importance of ring systems –presence in important natural products like hemoglobin and chlorophyll. Numbering the ring systems as per Greek letter and Numbers. Aromatic character –6-electron system (four-electrons from two double bonds and a pair of non-bonded electrons from the hetero atom). Tendency to undergo substitution reactions.

18. Carbohydrates

Introduction: Classification and nomenclature –classification into mono, oligo and polysaccharides, into pentoses, hexoses etc., into aldoses and ketoses.

Monosaccharides: All discussion to be confined to (+) glucose as an example of aldo hexoses and (-) fructose as example of ketohexoses. Chemical properties and structural elucidation: Evidences for straight chain pentahydroxy aldehyde structure (Acetylation, reduction to n-hexane, cyanohydrin formation, reduction of Tollen's and Fehling's reagents and oxidation to gluconic and saccharic acids). Number of optically active, isomers possible for the structure, configuration of glucose based on D-glyceraldehyde as primary standard (No proof for configuration is required). Evidence for cyclic structure of glucose (some negative aldehyde tests and mutarotation).

Cyclic structure of glucose: Proposition of cyclic structure (Pyranose structure, anomeric Carbon and anomers). Proof for the ring size (methylation, hydrolysis and oxidation reactions). Different ways of writing pyranose structure (Haworth formula and chair conformational formula). Structure of fructose: Evidence of 2-ketohexose structure (formation of penta acetate, formation of cyanohydrin its hydrolysis and reduction by HI to give 2-Carboxy-n-hexane Same osazone formation from glucose and fructose, Hydrogen bonding in osazones, cyclic structure for fructose (Furanose structure, Haworth formula).

Inter Conversion of Monosaccharides: Aldopentose to aldo hexose –eg: Arabinose to D-glucose, D-mannose (kiliani –Fischer method). Epimers, Epimerisation-Lobry debruyn van Ekenstein rearrangement. Aldo hexose –Aldopentose eg: D-glucose to D-arabinose by Ruff's degradation. Aldo hexose(+) (glucose) to keto hexose (–)(Fructose) and Keto hexose (Fructose) to aldo hexose (Glucose).

19. Amino acids and proteins

Introduction: definition of amino acids, classification of amino acids alpha, beta and gamma amino acids. Natural and essential amino acids definition and examples, classification of alpha amino acids into acidic, basic and neutral amino acids with examples. Methods of synthesis: General methods of synthesis of alpha amino acids (specific examples –Glycine, Alanine, valine and Leucine) by following methods: a) From halogenated Carboxylic acid b) Malonic ester synthesis c) strecker's synthesis. Physical properties: Optical activity of naturally occurring amino acids: L –configuration, irrespective of sign of rotation. Zwitter ion structure –salt like character, solubility, melting points, amphoteric character, definition of isoelectric point. Chemical properties: General reactions due to amino and carboxyl groups –Lactams from gamma and delta amino acids by heating peptide bond (amide linkage). Structure and nomenclature of peptides and proteins, peptide synthesis.

PHYSICAL CHEMISTRY

20. Gaseous State

Deviation of real gases from ideal behavior. Vander Waals equation of state. Critical phenomenon. PV-isotherms of real gases, continuity of state. Andrew's isotherms of CO₂. The vander Waal's equation and critical state. Derivation of relationship between critical constants and van der Waal's constants. Experimental determination criteria constants. The law of corresponding states, reduced equation of states. Joule Thomson effect and inversion temperature of a gas. Liquid action of gases: i) Linde's method based on Joule Thomson effect ii) Claude's method based on adiabatic expansion of a gas.

21. Liquid State

Intermolecular forces, structure of liquids (qualitative description). Structural differences between solids, liquids and gases. Liquid crystals, the mesomorphic state: Classification of liquid crystals into Smectic and Nematic, differences between liquid crystal and solid / liquid. Application of liquid crystals as LCD devices, lubricants and in digestion/ assimilation of food.

22. Solid state

Laws of Crystallography – (i) Law of Constancy of interfacial angles (ii) Law of Symmetry, Symmetry elements in crystals (iii) Law of rationality of indices. Definition of space lattice, unit cell. Bravais Lattices and Seven Crystal systems structure of NaCl (Bragg's method and Powder method). Defects in crystals. Stoichiometric and non stoichiometric defects. Band theory of semiconductors: Extrinsic and intrinsic semi conductors, n-type and p-type and their applications in photo electro chemical cells.

23. Dilute Solutions & Colligative Properties

Dilute Solutions, Colligative Properties, ideal and non ideal solution. Raoult's law, relative lowering of vapour pressure, molecular weight determination. Osmosis - laws of osmotic pressure, its measurement, determination of molecular weight from osmotic pressure. Elevation of boiling point and depression of freezing point. Derivation of relation between molecular weight and elevation in boiling point and depression in freezing point. Experimental methods for determining various colligative properties. Abnormal molar mass, Van'thoff factor, degree of dissociation and association of solutes.

24. Colloids & surface chemistry

Definition of colloids. Classification of colloids. Solids in liquids (sols): preparations and properties – Kinetic, Optical and Electrical: stability of colloids Protective action. Hardy-Schultz law, Gold number. Liquids in liquids (emulsions): Types of emulsions, preparation and emulsifier. Liquids in solids(gels); Classification, preparations and properties, inhibition, General applications of colloids.

25. Solutions

Liquid - liquid mixtures, ideal liquid mixtures, Raoult's and Henry's laws. Non ideal systems. Azeotropes HCl-H₂O and C₂H₅OH - H₂O systems. Fractional distillation,. Partially miscible liquids- Phenol – Water, Trimethyl amine – Water and Nicotine –Water systems. Lower upper consolute temperatures. Effect of impurity on consolute temperature. Immiscible liquids and steam distillation.

26. Chemical Kinetics

Rate of reaction, Factors influencing the rate of a reaction -concentration, temperature, pressure, solvent, light and catalyst. Concentration dependence of rates, mathematical characteristics of simple chemical reactions- Zero order, first order, second order, pseudo first order, half life and mean life. Determination of order of a reaction- differential method, method of integration, half life method and

isolation method. Radioactive decay as first order phenomenon. Arrhenius equation and concept of activation energy. Theories of chemical kinetics: effect of temperature on rate of reaction. Simple collision theory based on hard sphere model.

27. Thermodynamics

Definition of Thermodynamic terms: System, surroundings. types of systems, and intensive and extensive properties. State and path functions and their differentials. Thermodynamic process. Concept of heat and work.

First law of Thermodynamics: Statement, definition of internal energy and enthalpy. Heat capacity, heat capacities at constant volume and pressure and their relationship. Joule's law - Joule. Thomson coefficient and inversion temperature. Calculation of w, q, dU and dH for the expansion of ideal gases under isothermal and adiabatic conditions for reversible process. Temperature dependence of enthalpy - Kirchoffs equation. Second law of thermodynamic need for the law, different statements of the law. Carnot cycle and its efficiency, Carnot Theorem. Thermodynamic scale of temperature. Concept of entropy, entropy as a state function, entropy as a function of V and T , entropy is a function of P & T entropy change in physical processes. Gibbs and Helmholtz functions(G) and Helmholtz functions(A) as thermodynamic quantities. A & G as a criteria for thermodynamic equilibrium and spontaneity, their advantage over entropy change. Variation of G with P, V and T .

28. Electrochemistry & EMF

Electrical transport – conduction in metals and in electrolyte solutions, specific conductance and equivalent conductance, measurement of equivalent conductance, variation of specific and equivalent conductance with dilution. Migration of ions and Kohlrausch's law, Arrhenius theory of electrolyte dissociation and its limitations, weak and strong electrolytes, Ostwald's dilution law, its uses and limitations. Debye-Huckel-Onsager's equation for strong electrolytes (elementary treatment only). Transport number, definition and determination by Hittorf's method for attackable electrodes. Applications of conductivity measurements: Determination of degree of dissociation, determination of K_a of acids, determination of solubility product of a sparingly soluble salt, conductometric titrations.

Electrolyte and Galvanic cells – reversible and irreversible cells, conventional representation of electrochemical cells. EMF of a cell and its measurement. Computation of EMF. Types of reversible electrodes- the gas electrode, metal-metal ion, metal-insoluble salt and redox electrodes. Electrode reactions, Nernst equation, cell EMF and single electrode potential, standard Hydrogen electrode – reference electrodes (calomel electrode) – standard electrode potential, sign conventions,

electrochemical series and its significance. Applications of EMF measurements, Calculation of thermodynamic quantities of cell reactions (G, H and K). Determination of pH using hydrogen electrode, glass electrode and quinhydrone electrode, Solubility product of AgCl. Potentiometric titrations.

29. Photochemistry

Introduction to photochemical reactions, Difference between thermal and photochemical reactions, Laws of photo chemistry-Grotthus -Draper law, Stark –Einstein's Law of photo chemical equivalence. Quantum yield. Examples of photo chemical reactions with different quantum yields. Photo chemical combinations of H₂-Cl₂ and H₂-Br₂ reactions, reasons for the high and low quantum yield. Problems based on quantum efficiency, Consequences of light absorptions. Singlet and triplet states. Jablonski diagram Explanation of internal conversion, inter-system crossing, Phosphorescence, fluorescence.

GENERAL CHEMISTRY

30. Molecular spectroscopy

Introduction to electromagnetic radiation, interaction of electromagnetic radiation with molecules, various types of molecular spectra.

Rotational spectroscopy (Microwave spectroscopy)

Rotational axis, moment of inertia, classification of molecules (based on moment of inertia), rotational energies, selection rules, determination of bond length of rigid diatomic molecules eg. HCl.

Infra red spectroscopy

Energy levels of simple harmonic oscillator, molecular vibration spectrum, selection rules. Determination of force constant. Qualitative relation of force constant to bond energies. Anharmonic motion of real molecules and energy levels. Modes of vibrations in polyatomic molecules. Characteristic absorption bands of various functional groups. Finger print nature of infrared spectrum.

Electronic spectroscopy:

Bonding and antibonding molecular orbitals, electronic energy levels of molecules (σ , π , n), types of electronic transitions: σ - σ^* , n - σ^* , n - π^* , π - π^* with suitable examples. Selection rules, Terminology of chromophore, auxochrome, bathochromic and hypsochromic shifts. Absorption characteristics of chromophores: diene, enone and aromatic chromophores. Representation of UV-visible spectra.

TS EdCET-2020

BIOLOGICAL SCIENCES:

BOTANY
(Syllabus)

(Marks: 50)

A) Microbial Diversity of Lower Plants

1. General characters of Cyanobacteria Cell structure, thallus organization and their significance as biofertilizers with special reference to *Oscillatoria*, *Nostoc* and *Anabaena*
2. Lichens: Structure and reproduction; ecological and economic importance.
3. Viruses: Structure, replication and transmission; plant diseases caused by viruses and their control with reference to Tobacco Mosaic and Rice Tungro.
4. Bacteria: Structure, nutrition, reproduction and economic importance. An outline of Bacterial blight of Rice.
5. General account of Mycoplasma with reference to Little leaf of brinjal and Papaya leaf curl
6. General characters, structure, reproduction and classification of algae (Fritsch).
7. Structure and reproduction of *Volvox*, *Oedogonium*, *Chara*, *Ectocarpus*, *Polysiphonia*.
8. Economic importance of algae in Agriculture and Industry.
9. General characters and classification of fungi (Ainsworth).
10. Structure and reproduction of *Albugo*, *Mucor*, *Saccharomyces*, *Penicillium* and *Puccinia*
11. General account of mushroom cultivation.

B) Bryophytes, Pteridophytes and Gymnosperms

1. Structure, reproduction, life cycle and systematic position of *Marchantia*, *Anthoceros* and *Polytrichum*.
2. Evolution of Sporophyte in Bryophytes.
3. Structure, reproduction, life cycle and systematic position of *Rhynia*, *Lycopodium*, *Equisetum* and *Marsilea*.
4. Stelar evolution, heterospory and seed habit in Pteridophytes.
5. Distribution and economic importance of Gymnosperms.
6. Morphology of vegetative and reproductive parts, systematic position and life cycle of *Pinus* and *Gnetum*.
7. Introduction to Fossils and fossilization ; Importance of fossils.
8. Geological time scale.
9. A General account on Bennettitales:.

C) Taxonomy of Angiosperms and Medicinal Botany

1. Salient features of Bentham & Hooker's and Engler & Prantle's classification.
2. Nomenclature and Taxonomic resources: An introduction to ICBN, Vienna code - a brief account. Concept of Herbarium.
3. Systematic study and economic importance of plants belonging to the following families:
Polypetalae : Annonaceae, Capparidaceae, Rutaceae, Fabaceae (Faboideae/papilionoideae, Caesalpinioideae, Mimosoideae), Cucurbitaceae
Gamopetalae: Apiaceae, Asteraceae, Asclepiadaceae, Lamiaceae
Monochalmydeae: Amaranthaceae, Euphorbiaceae, Monocotyledons: Orchidaceae and Poaceae.

4. Distinction of Ethnomedicine from Folklore medicine.
5. Outlines of Ayurveda, Siddha, Unani and Homeopathic systems of traditional medicine. Role of AYUSH, NMPB, CIMAP and CDRI.
6. Plants in primary health care: Common medicinal plants –*Tinospora cordifolia*, *Ocimum sanctum*, *Piper longum*, *Terminalia chebula*, *Aloe vera*, *Curcuma longa*.
7. Study of selected plant examples used in traditional medicine as resource of active principles in modern medicine: Structure, usage and pharmacological action of Aswagandha (*Withania somnifera*), Sarpagandha (*Rauwolfia serpentina*), Nela usiri (*Phyllanthus amarus*), Amla (*Phyllanthus emblica*) and Brahmi (*Bacopa monnieri*).

D) Plant Anatomy & Embryology

1. Meristems: Types, histological organization of shoot and root apices and theories.
2. Tissues and Tissue Systems: Simple, complex and special tissues.
3. Leaf: Ontogeny, diversity of internal structure; stomata and epidermal outgrowths.
4. Stem and root anatomy: Vascular cambium - Formation and function.
5. Anomalous secondary growth of Stem - *Achyranthes*, *Boerhaavia*, *Dracaena*
6. Wood structure: General account. Study of local timbers – Teak (*Tectona grandis*), and Neem (*Azadirachta indica*).
7. Another structure, Microsporogenesis and development of male gametophyte.
8. Ovule structure and types; Megasporogenesis; types and development of female gametophyte.
9. Pollination - Types; Pollen - pistil interaction. Fertilization.
10. Endosperm - Development and types. Embryo - development and types

E) Cell Biology and Genetics

2. Plant cell envelopes: Ultra structure of cell wall, molecular organization of cell membranes.
3. Nucleus: Ultra structure, Nucleic acids - Structure of DNA, types and functions of RNA.
4. Chromosomes: Morphology, organization of DNA in a chromosome, Euchromatin and Heterochromatin.
5. Extra nuclear genome: Mitochondrial DNA and Plastid DNA, Plasmids.
6. Cell division: Cell and its regulation; mitosis, meiosis and their significance.
8. Linkage: A brief account and theories of Linkage. Crossing over: Mechanism and theories of crossing over.
9. Gene Organization: Structure of gene & genetic code.
10. Mechanism of transcription in Prokaryotes.

F) Plant Physiology

1. Plant-Water Relations Osmotic and pressure potentials; absorption, transport of water, Ascent of sap; Transpiration; Stomatal structure and movements
2. Mineral Nutrition: Essential macro and micro mineral nutrients and their role; symptoms of mineral deficiency.
3. Mechanism and regulation of enzyme action, factors regulating enzyme activity.
4. Photosynthetic pigments, Red drop and Emerson Enhancement effect; Mechanism of photosynthetic electron Transport, Photophosphorylation, C₃, C₄ and CAM pathways.
5. Biological nitrogen fixation.
6. Respiration: Aerobic and Anaerobic; Glycolysis & Krebs cycle.
7. Physiological effects of phytohormones–Auxins, gibberellins, cytokinins, ABA, ethylene and Brassinosteroids.
8. Physiology of flowering and Photoperiodism.
9. Stress physiology: Concept of water, salt and temperature stresses and plant responses.

TS Ed.CET-2020

BIOLOGICAL SCIENCES: Part-C
ZOOLOGY (Syllabus) Marks: 50

Discipline Specific Course:
Animal Diversity - Invertebrates

Brief history of Invertebrates: - Kingdom Animalia; Brief history of Invertebrates

Protozoa: - General characters - Classification up to classes with examples; Type study – *Elphidium*;
Life cycle of *Plasmodium*; Locomotion, Reproduction and Diseases

Porifera: - General characters- Classification of Porifera up to classes with examples; Type study –
Sycon;-Canal system in sponges and Spicules.

Cnidaria :- General characters - Classification of Cnidaria up to classes with examples; Type study –
Obelia ; Polymorphism in hydrozoa; Corals and coral reef formation

Platyhelminthes: - General characters;-Classification of Platyhelminthes up to classes with examples;
Type study- *Schistosoma*.

Nemathelminthes: - General characters; Classification of Nemathelminthes up to classes with
examples; -Type study – *Dracunculus*; - Parasitic Adaptations in Helminthes

Annelida: - General characters; Classification of Annelida up to classes with examples; Type study -
Hirudinaria granulosa.; Evolutionary significance of Coelome and Coelomoducts and
metamerism

Arthropoda:- General characters; Classification of Arthropoda up to classes with examples;Type
study – Prawn; Mouth parts of Insects; Insect metamorphosis; *Peripatus* - Structure and
affinities

Mollusca:- General characters; Classification of Mollusca up to classes with examples;Type study -
Pila ; Pearl formation ; Torsion and detorsion in gastropods

Echinodermata:- General characters; Classification of Echinodermata up to classes with examples;
Water vascular system in star fish; - Echinoderm larvae and their significance

Hemichordata:- General characters; Classification of Hemichordata up to classes with examples;
Balanoglossus - Structure and affinities

Ecology, Zoogeography and Animal Behavior

Ecology - I : - Ecosystem structure and functions; Types of Ecosystems –Aquatic and Terrestrial.; Biogeochemical cycles - Nitrogen, Carbon, Phosphorus and Water.; Energy flow in ecosystem.; Food chain, food web and ecological pyramids.; Animal Associations - Mutualism, commensalism, parasitism, competition, predation.

Ecology – II : - Concept of Species, Population dynamics and Growth curves.; Community Structure and dynamics and Ecological Succession.; Ecological Adaptations. ; Environmental Pollution – Sources, Effect and Control measures of Air, Water, Soil and Noise Pollution.; Wildlife conservation - National parks and Sanctuaries of India, Endangered species.; Biodiversity and hotspots of Biodiversity in India.

Zoogeography: - Zoogeographical regions – Palaearctic, Nearctic, Neotropical, Oriental, Australian and Ethiopian regions - their Climatic and faunal peculiarities; Wallace line, Discontinuous distribution; Continental Drift

Animal Behaviour: - Types of Behaviour- Innate and Acquired, Instinctive and Motivated behavior; Taxes, Reflexes, Tropisms; Physiology and phylogeny of learning, trial and error learning, Imprinting, habituation, Classical conditioning, Instrumental conditioning; - Social behavior, Communication, Pheromones; - Biological rhythms, Biological clocks, Circadian rhythms

Animal Diversity- Vertebrates and Developmental Biology

Urochordata, Cephalochordata, Cyclostomata: - Salient features of Urochordata; - Retrogressive metamorphosis and its significance in Urochordata; - Salient features and affinities of Cephalochordata; - General characters of Cyclostomata; - Comparison of the *Petromyzon* and *Myxine*; - General characters and classification of Chordata upto orders with examples.

Pisces: - General characters of Fishes; - Classification of fishes up to order level with examples; - *Scoliodon* – Respiratory, Circulatory and Nervous system.; - Types of Scales and types of Fins

Amphibia: - General characters of Amphibians; - Classification of Amphibians up to orders with examples.; - . *Rana tigrina* - Respiratory, Circulatory and Nervous system. ; Parental care in amphibian; neoteny and paedogenesis.

Reptilia: - General characters of Reptilia; - Classification of Reptilia up to orders with examples; *Calotes* – Respiratory system, Circulatory and Nervous system.; Temporal fosse in reptiles and its evolutionary importance; - Distinguished characters of Poisonous and Non poisonous snakes.; - Rhyngocephalia.

Aves: - General characters of Aves ; - Classification of Aves up to orders with examples.;-*Columba livia* -, Digestive system, Circulatory systems, Respiratory system and Nervous system.; Migration in Birds; Flight adaptation in Birds

Mammalia: - General characters of Mammalia; - Classification of Mammalia up to orders with examples; - Rabbit –Digestive, Respiratory, Circulatory and Nervous system. ; - Dentition in mammals.; Aquatic adaptations in Mammals.

Developmental Biology and Embryology: - Gametogenesis (Spermatogenesis and Oogenesis); - Fertilization ;
- Types of eggs; - Types of cleavages ; - Development of Frog up to formation of primary germ layers; - Formation of Foetal membrane in chick embryo and their functions; - Types and functions of Placenta in mammals - Regeneration in Turbellaria and Lizards

Cell Biology, Genetics & Evolution

Cell Biology : - Cell theory, Differences of Prokaryotic and Eukaryotic cells.; - Ultrastructure of animal cell; - Structure and functions of plasma membrane proteins.; Structure and functions of cell organelles – Endoplasmic reticulum, Golgi body, Ribosomes, Lysosomes, centrosomes, Mitochondria and Nucleus; - Chromosomes – Structure, types, giant chromosomes; - Cell Division - Mitosis, Meiosis.; - Cell cycle and its regulation.

Molecular Biology: - DNA (Deoxyribo Nucleic Acid) – Structure.; - RNA (Ribo Nucleic Acid) - Structure, types.; - DNA Replication .; - Protein Synthesis – Transcription and Translation; - Gene Expression – Genetic Code; operon concept ; Molecular Biology Techniques- Polymerase Chain Reaction, Electrophoresis

Genetics: - Mendals laws of Inheritance and Non-Medelian Inheritance; - Linkage and Crossing over.; - Sex determination and sex-linked inheritance.; - Chromosomal Mutations- Deletion, Duplication, Inversion, Translocation, Aneuploidy and Polyploidy. - Gene mutations- Induced versus Spontaneous mutations. - Inborn errors of metabolism. - One gene one enzyme, one gene one polypeptide theory.

Evolution: - Theories of evolution – Lamarckism and Neo-Lamarckism, Darwinism and Neo-Darwinism, Modern synthetic theory. - Evidences of Evolution and Hardy Weinberg Law.- Forces of Evolution – mutation, gene flow, genetic drift, and natural selection. - Isolation – Pre-mating and post mating isolating mechanisms - Speciation: Methods of speciation - Allopatric and sympatric - Causes and Role of Physiology and Biochemistry.

Physiology and Biochemistry

Physiology

Digestion: - Digestion definition and extra and intracellular digestion. - Digestion of Carbohydrates, Proteins, Lipids and Cellulose. - Absorption and Assimilation of digested food; role of Gastrointestinal hormones in digestion

Respiration: Definition of Respiration and Respiratory mechanisms – External, Internal and cellular. - Respiratory Pigments; Transport of oxygen, Oxygen dissociation curves. Bohr's effect. - Transport of CO₂ – Chloride shift; Regulation of respiration – nervous and chemical

Circulation: - Types of circulation - Open and Closed circulation. - Structure of Mammalian Heart, Types of hearts – Neurogenic and Myogenic; Heart function – Conduction and regulation of heart beat.; - Regulation of Heart rate – Tachycardia and Bradycardia; Blood Clotting mechanism

Excretion: - Classification of Animals on the basis of excretory products- Ammonotelic, Uricotelic, Ureotelic; Structure and function of Nephron. ; - Urine formation, Counter current mechanism.

Physiology

Muscle Contraction: - Types of Muscles; - Ultra structure of skeletal muscle fibre; - Sliding Filament theory, muscle contraction mechanism and energetics.

Nerve Impulse: - Structure of Neuron; - Nerve impulse - Resting potential and Action potential and Conduction of Nerve impulse ; - Synapse, types of synapses and Synaptic transmission.

Endocrine System: - Endocrine glands - Structure, secretions and functions of Pituitary, Thyroid, Parathyroid, Adrenal glands and Pancreas ; - Hormone action and concept of Secondary messengers ; - Male and Female Hormones, Hormonal control of Menstrual cycle in humans.

Physiology and Biochemistry

Homeostasis and Enzymes: - Concept of Homeostasis.; - Mechanism of Homeostasis.; - Osmoregulation - Water and ionic regulation by freshwater, brackish water and marine animals; - Enzymes: Definition, Classification, Inhibition and Regulation

Biomolecules and Metabolism: - Carbohydrates: Classification and function of Carbohydrates; - Carbohydrate metabolism - Glycolysis, Krebs cycle, , Electron transport and oxidative phosphorylation. ; Proteins: Classification of proteins based on functions and Chemical nature; - Protein Metabolism - Transamination, Deamination and Urea Cycle; - Lipids: Classification of Lipids; Lipid Metabolism - Fatty acid synthesis and Fatty acid oxidation.

Immunology and Animal Biotechnology

Immunology – Basic concepts; antigens and antibodies: - Basic concepts of immunology. - Cells of immune system; - Primary and secondary Organs of immune system; - Types of Immunity – Innate and acquired; - Basic properties of antigens; - Structure, function and types of an antibody. -B and T cell epitopes, haptens, adjuvants.- Antigen-antibody reactions, - T-Cell and B-Cell activation; onoclonal antibodies and their production

Working of an Immune system; Immune system in health and disease: - Structure and functions of major histocompatibility complex. -Basic properties and functions of Cytokines, Interferons and complement proteins. - Humoral and Cell mediated immunity.- Types of hyper sensitivity. - Concepts of autoimmunity and immunodeficiency. - Introduction to Vaccines and types of Vaccines

Animal Biotechnology and Genetically modified organisms: - Concept and Scope of Animal Biotechnology.- Cloning vectors - Plasmids, Cosmids, Lambda bacteriophage, YAC - Cloning- Cloning methods (Cell, Animal and Gene cloning) .Animal Cell culture - Equipment and materials for animal cell culture; applications of cell culture techniques; - Recombinant DNA technology and its applications; - Transgenesis – Methods of Transgenesis.- Production of Transgenic animals and Application of Transgenic animals in Biotechnology. - Stem cells –types and their applications

Aquatic Biomes

Brief introduction of the aquatic biomes

Freshwater ecosystem (lakes, wetlands, streams and rivers),

Estuaries, intertidal zones,

Oceanic pelagic zone, marine benthic zone.

Coral reefs

Fresh Water Biology and Marine Biology

Lakes: Origin and classification of lakes

Lake as an Ecosystem, Lake morphometry

Physico-chemical Characteristics of fresh water bodies: Light, Temperature, Thermal stratification, Dissolved Solids, Carbonate, Bicarbonates, Phosphates and Nitrates, Turbidity: dissolved gases (Oxygen, Carbon dioxide).

Nutrient Cycles and Lakes- Nitrogen, Sulphur and Phosphorous.

Streams: Different stages of stream development, Physico-chemical environment, adaptation of hill-stream fishes.

Salinity and density of sea water; Continental shelf; Adaptation of deep sea organisms; Sea weeds.

Management of Aquatic Resources

Aquatic pollution - Causes of pollution: Agricultural, Industrial, Sewage, Thermal and Oil spills, Eutrophication

Management and conservation

Water pollution acts Of India

Sewage treatment and water quality assessment - BOD and COD.

Public Health and Hygiene

Unit-I Nutrition, Environment and Health

- Classification of foods - Carbohydrate s, proteins, lipids, vitamins and minerals
- Balanced diet and malnutrition.
- Nutritional deficiencies and disorders- Carbohydrates, proteins, lipids, vitamins and minerals.
- Environment and health Impact assessment: concept, steps and applications.
- Occupational, Industrial, agricultural and urban Health-Exposure at work place, urban areas, industrial workers, farmers and agricultural labourers, Health workers and health disorders and diseases.
- Environmental pollution and associated Health hazards

UNIT-II Communicable and Non-Communicable diseases

- Causes, Symptoms, Diagnosis, Treatment and Prevention of Communicable diseases - Malaria, Filaria, Measles, Polio, Chicken pox, Rabies, Plague, Leprosy, Tuberculosis and AIDS.
- Causes, Symptoms, Diagnosis, Treatment and Prevention of Non-Communicable diseases - Hypertension, Coronary Heart diseases, Stroke, Diabetes, Obesity and Mental ill-health.
- Water borne diseases: Cholera, E. coli , Hepatitis and Polio; Air borne diseases: Chickenpox, Influenza, Measles and Tuberculosis

UNIT -III Health Education in India

Health care legislation in India — termination of pregnancy act, Maternity benefit act, Transplantation of human organs act, Child Labour act, Biomedical waste act, ESI act.

WHO Programmes — Government and Voluntary Organizations and their health services

First Aid and Health awareness, personal health care record maintenance.

Preventive Medicine

Man and Medicine: Towards Health for all

Dawn of Scientific Medicine

Theory of Diseases.

Definition of health; concepts of health - Biomedical, Ecological, Psychological and Holistic

Dimensions of Health — Physical, Mental, Social Spiritual, Emotional and Vocational

Determinants of health - Biological, Behavioral, Environmental, Socio-economic and Health services.

Concept of Health and Diseases

Concept of well being — Standard Of Living, Level Of Living & Quality Of Life

Ecology of health & right to health responsibility for health

Disease Control/Elimination/Eradication

Modes of Interventions: Health Promotion, Specific Protection, Early Diagnosis and Treatment, Disability Limitations and Rehabilitations.

Health Programmes in India — NVBDCP, NLEP, NTP, National AIDS Control Programme, immunization programme

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Part - C

SOCIAL STUDIES:

**GEOGRAPHY
(SYLLABUS)**

(Marks: 35)

I. Principles of Physical Geography:

Interior of the Earth.

Major relief features of the Earth; Mountains, plateaus and plains.

Wegner's theory of continental drift, theory of Isostasy, Earthquakes and Volcanoes.

Chief types of rocks and their characteristics. Weathering and Erosion.
Landforms in Fluvial, Arid, Karst, Glacial and Marine cycles.

Structure and composition of the atmosphere. Distribution of temperature-vertical and horizontal; temperature inversion.

Pressure Belts and Planetary wind systems, Monsoons & Local winds, Precipitation, types of rainfall, Cyclones and anticyclones-tropical and temperate cyclones-an outline of Koppen's classification of climates.

Submarine relief - Distribution of temperature and salinity - Movements of Ocean water: Waves, Tides and Currents - Currents of the Pacific, the Atlantic and the Indian ocean - Ocean deposits.

II. Social and Economic Geography:

Definition, scope and objectives of Economic Geography Physical Environment and Human activities, Concept of Resources, Types of resources, Conservation and management of resources - Distribution, Pattern and growth trends of population in the world; Type of settlements - Urban and Rural, Trends in Urban growth; Agriculture: Distribution of Rice, Wheat, Tea, Coffee, Cotton and Sugarcane; Distribution of major forest types, major fishing grounds of the world; Mineral and power resources : Iron, Bauxite, Coal & Petroleum -Weber's theory of industrial location; Location and distribution of Iron and Steel, Cotton Textiles.

III. Regional Geography of India:

Locational aspects, Major Physiographic regions, climate, drainage, soil types and natural vegetation - pattern and growth trends of population, urbanization - Agriculture: Rice, Wheat, Cotton, Jute, Sugarcane, Tea and Coffee - irrigation and power development in India - Minerals : Iron, coal and petroleum - Composition and Pattern of trade - Resource appraisal of Telangana, Rayalaseema and Coastal Andhra.

IV. Remote Sensing and Geographic Information Systems (GIS):

Basics of Aerial Photography and Remote sensing, components of Remote sensing – Energy source, Platforms, sensors, Electromagnetic radiation, spectral Signatures, orbital characteristics of Sun-synchronous and Geostationary satellites; Remote sensing sensors – Active and passive, sensor characteristics, Cameras, Scanners, Products, Growth and development of remote sensing in India. Geographic Information Systems (GIS) : Definition, functions, components of GIS – Hardware and software, data input and editing, data types – spatial and attribute data – raster and vector, GPS and its applications.

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HISTORY

SOCIAL STUDIES

Part – C (Syllabus)

(Marks 30)

History of India (From Earliest Times to c.700 CE)

Definitions - Nature and Scope of History - History and Its Relationship with other Social Sciences - Geographical Features of India – Sources of Indian History: Pre- History – Paleolithic, Mesolithic, Neolithic, Chalcolithic and Megalithic Cultures.

Indus Valley Civilization - Its Features & Decline; Early Vedic and Later Vedic Civilizations – Vedic Literature – Society – Economy - Polity – Religion.

Rise of New Religious Movements – Charvakas, Lokayathas, Jainism and Buddhism; Mahajanapadas - Rise of Magadha; Alexander’s Invasion and Its Impact.

Foundation of the Mauryan Dynasty; Ashoka and His Dharma – Polity – Administration - Society – Economy – Religion – Literature - Art and Architecture; Disintegration of the Mauryan Empire; Post-Mauryan Kingdoms – Indo-Greeks - Kushanas and Kanishka - Society – Economy – Literature – Art and Architecture; The Satavahanas; Sangam Age – Literary Development.

Gupta Empire: A Brief Political Survey - Polity and Administration, Social and Economic Conditions, Agriculture and Land Grants - Feudalism, Caste System, Position of Women, Education, Literature, Science and Technology, Art and Architecture - Harshavardana and His Achievements.

History of India (c.700-1526 CE)

Rise of Regional States: Pallavas, Chalukyas of Badami, Rashtrakutas, Cholas; Local Self Government under Cholas; Society, Economy, Literature, Art and Architecture; Bhakti Movement in South India: Shaiva Nayanars and Vaishnava Alwars.

Arab Conquest of Sind, Ghaznavids and Ghoris; Foundation of Delhi Sultanate: Iqbal, Khaljis, Tughlaqs, Sayyids and Lodis – Polity, Administration, Society and Economy - Art and Architecture - Growth of Education and Literature – Religious Conditions.

Bhakti and Sufi Movements and their Impact on Society and Culture – Emergence of Composite Culture.

Kakatiyas – Polity – Administration - Society and Economy - Literature and Religion – Art and Architecture – Yadavas – Hoysalas and Pandyas – Brief History.

Vijayanagara – Polity – Administration - Society and Economy – Religion – Art and Architecture – Language and Literature – Bahamanis and their Contribution to the Deccan Culture.

History of India (1526-1857 CE)

Establishment of Mughal Dynasty - Sources – Shershah Sur and His Reforms - Brief Survey of Political History of Mughals – Akbar, Shah Jahan and Aurangzeb - Polity – Administration – Society – Economy – Technological Developments - Religion Hindu- Muslim Relations – Emergence of Composite Culture – Education – Language and Literature – Art and Architecture - Disintegration of Mughal Empire.

Rise of Regional Powers - Marathas – Shivaji and His Administration – Peshwas Sikhs.

Advent of European Powers - Portuguese, Dutch, English and French, Anglo- French Rivalry - Expansion and Consolidation of British Power – Wellesley’s Subsidiary Alliance – Dalhousie’s Doctrine of Lapse.

Three Stages of Colonialism – Mercantilism - Free Trade Policies – Finance Capital Land Revenue Settlements – Cornwallis and Permanent Revenue Settlement; Thomas Munroe and Ryotwari; Mahalwari System – Changes in the Agrarian Economy and Condition of Peasantry – Famines.

Decline of Rural Cottage Industries and Urban Handicrafts - Growth of Railways, Roads, Communication – Modern Industries – Coal Mines, Textiles, Iron and Steel, etc. - Anti-Colonial Upsurge - 1857 Revolt – Nature, Causes and Results.

History of India (1858-1964 CE)

Queen’s Proclamation – Beginning of Colonial Rule – Introduction of Western Education – Role of Christian Missionaries – Press, Communication and Emergence of Middle Classes - Lytton and Rippon: Impact of their Policies.

Socio-Religions Reform Movements – Brahma Samaj - Arya Samaj – Theosophical Society - Ramakrishna Mission - Aligarh Movement; Anti-Caste Movements Jyotibha Phule - Narayana Guru - Periyar Ramaswamy Naicker and Dr. B.R. Ambedkar.

Factors for the Rise of Nationalism – Formation of Indian National Congress – Three Phases of Freedom Struggle: Moderate Phase, Extremist Phase and Gandhian Era Non-Cooperation, Civil Disobedience and Quit Indian Movement; Indian National Army and Subhash Chandra Bose.

Revolutionary Movement: Gadhar Party – Bhagath Singh – Chandra Sekhar Azad and Others; Left-Wing Movement – Rise of Socialist and Communist Parties -Peasant and Workers Movements.

Emergence of Communal Politics and Mohd. Ali Jinnah – Prelude to Partition of India - Sardar Vallabhai Patel and Integration of Princely States into Indian Union Republic of India – Jawaharlal Nehru and His Policies.

World History (1453-1815 CE)

Fall of Constantinople (1453 C.E.) – Beginning of Modern Age in Europe Geographical Discoveries and Scientific Inventions and their impact on Society – Rise of New Ideas – Spirit of Humanism – Renaissance – Meaning-Causes and Results – Impact of Renaissance on Europe.

Reformation Movement – Causes – Martin Luther, John Calvin and Zwingli; Counter Reformation Movement and Ignatius Loyola – Results of Reformation and Counter Reformation.

Emergence of Nation States – Causes – Spain – Charles V; England – Henry VIII - Glorious Revolution (1688); France under Bourbons – Louis XIV; Era of Enlightened Despotism – Peter the Great and his Policies – Frederick the Great and his Achievements.

End of Feudalism – Industrial Revolution – Causes for Industrialization in England and Europe – Textile Industry – Working Class Movement – American War of Independence (1776) – French Revolution (1789) – Causes, Course, Results and its Impact. Factors for the Rise of Napoleon – Domestic and Foreign Policies – Fall of Napoleon.

World History (1815-1950 CE)

Congress of Vienna (1815) – Principles and Impact; Metternich and his System – 1830 and 1848 French Revolutions: Unification of Italy – Role of Joseph Mazzini, Count Cavour and Garibaldi; Unification of Germany – Role of Bismarck; Significance of the Unification Movements.

Factors responsible for the outbreak of First World War (1914-18) – Results – Treaty of Versailles – Its Provisions and Consequences; Russian Revolution (1917) – Causes – The role of Lenin – Results; League of Nations (1920) – Its Achievements and Failures.

Europe between World Wars: Turkey under Mustafa Kamal Pasha - The Great Economic Depression and its Impact - Mussolini and the Rise of Fascism in Italy - Hitler and Nazism in Germany - Militarism in Japan.

Second World War – Causes and Results; Establishment of United Nations Organization (1945) – Its Aims and Achievements; Cold War and Its Impact; Colonization of Asia - India and China under Colonial Rule, Role of Gandhi in Indian National Movement (1920-1947); Sun-Yat-Sen and His Ideas; Role of Mao-Tse-Tung in Chinese Revolution – 1949.

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SOCIAL STUDIES: Part – C : CIVICS (Syllabus)

Marks : 15

I Political Science - Concepts and Theories:

1. Introduction, definition, scope and importance of political science.
2. Approaches to study of political science - Traditional and Modern.
3. Relation with other social sciences: History, Economics and Sociology.
4. State – theories of origin of the state Divine, Social contract and Historical evolutionary.
5. Nationalism – nation – state and right of self – determination.
6. Sovereignty – Nature, evolution, theories, and classifications.
7. Law
8. Liberty
9. Equality
10. Justice
11. Rights and Duties and Human Rights.
12. Democracy and forms of democracy
13. Government – Parliamentary, presidential, unitary and federal.
14. Constitution – written and unwritten; flexible and rigid.
15. Separation of powers –legislature executive and judiciary.
16. Electoral representation and methods of voting.
17. Political parties and types of party system.
18. Public opinion – Public opinion and democracy; public opinion and mass media.

II Indian Government and Politics:

1. Constitutional Development of Indian Council Acts of 1909; government of India Act of 1919 and 1935; Cabinet mission Plan, Mountbatten plan and Indian independence Act.
2. Constituent Assembly and making of the Indian Constitution; Salient features of Indian Constitution.
3. Fundamental Rights; Directive Principles of state policy and Fundamental Duties.
4. Indian Federal System and Centre –State Relations.
5. Parliament of India – Functions and powers; President, Prime Minister and council of Ministers.
6. Judiciary- Supreme Court of India: powers and functions; High Court in India; powers and functions.
7. Party system in India- National and regional political parties
8. Government at the state level – Governor ; State Legislature ; Chief Minister
9. National integration and challenges to national integration; Language; religion and communalism; Regionalism; Secessionism and Terrorism.
10. Social Movements – Peasant; Tribal and Women’s Movements.

International Relations:

1. International Relations- Meaning ; nature and scope ;origin and growth ; modern state system; State and Non-State Actors.
2. Developments in international relations ; Cold War; End of Cold War; Bipolarity; Third World countries; Non-Aligned Movement.
3. International Organizations and regional Organizations.; The UNO-evolution, structure, functions and its specialized agencies ; world bank and international monetary fund; SAARC
4. Arms control and Disarmament.
5. India's Foreign Policy- determinants and salient principles.

Public Administration

I. Public Administration - Concepts and Theories

1. Meaning and scope of Public Administration
2. Importance of Public Administration in the context of Globalization, Privatization & Liberalization.
3. Evolution of Public Administration.
4. Relation with other Social Sciences (with special reference to political Science; Sociology & Economics).
5. Politics & Public Administration - Dichotomy - Woodrow Wilson,
6. Classical Theory:
 - a. Structures & Principles of Organization - Gulick & Urwick
 - b. Scientific management - Taylor.
 - c. Bureaucracy - Weber.
7. Human relations Approach: Elton Mayo
8. Behavioural Approach: Simon (Decision Making), Barnard (Authority & Informal Organizations) and Mc Gregor (Theory X and Theory Y).
9. Comparative Public Administration – Weidner Rigg's
10. Development Administration - Weidner
11. New public administration
12. New Public Management Perspective.
13. Concepts in Administration: Planning, Leadership, Supervision, Communication, Public Relations, Motivation.

Public Administration in India;

1. Evolution of Indian administration -• Ancient Medieval Mughal and British Periods - Continuity and Change in Indian Administration after Independence
2. Context of Indian Administration - Social, Economic and Political.
3. Union Government and Administration - President, Prime Minister, Council of Ministers, Central Secretariat, Cabinet Secretariat, Cabinet Committees and Prime Minister's Office.
4. Union and State Relations and Agencies - Administrative Relations -Inter State Council, Finance Commission, All India Service, National Development Council.
5. Public Enterprises in India:
 - a. Forms of Public Enterprises - (i) Department (ii) Corporation and Company.
6. State Government and Administration: Governor, Chief Minister, Council of Ministers, State Secretariat/Directorates, Regional Administration/ General Administration and Chief Secretary.
7. District Administration: Changing Role of District Collector – Special Agencies - DRDA, ITDA.
8. Local Governments - Rural and Urban - Structure and functions - 73rd and 74th Constitutional amendment.
9. Control over Administration.
 - a) Legislative Control
 - b) Judicial Control
 - c) Citizen's Control - Lok Pal / Lokayukta
 - d) Consumer Protection Forum.
 - e) CVC (Central Vigilance Commission)
- 10 Administration of Welfare Programmes for Weaker Sections - S.C.s, S.T.s, Women, Minorities.
11. Administrative Reforms, Recommendations of important Commissions and Committees.
12. Good Government and e-Governance.

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SOCIAL STUDIES:

**Part - C
ECONOMICS
(SYLLABUS)**

(Marks: 20)

1. Definitions of economics, micro and macro economics, normative and positive economics, static, dynamic, inductive and deductive approaches, partial and general equilibrium.
 2. Cardinal and ordinal utility approaches
 3. Law of variable proportions
 4. Cost concepts; cost-output relationship; economies of scale
 5. Markets: Perfect competition, monopoly and oligopoly (Kinky demand)
 6. Factor pricing: Marginal productivity theory, Ricardo's rent theory and loanable funds theory of interest rate.
 7. Concepts of national income, Methods of National Income and business cycles.
 8. Economic growth and development; measures of economic development: PQLI, HDI and GDI
 9. Concepts of balanced and unbalanced growth
 10. Sources of public revenue: Tax and non-tax revenue; Direct and indirect taxes; Concept of GST; 14th Finance Commission
 11. Budget and concept of budget deficits, FRBM Act
 12. Canons of good taxation; Effects of public expenditure
 13. Classification and Functions of money; Functions of commercial banks
 14. Functions and credit control methods of RBI; concept of demonetization
 15. Agriculture, Industry, Service sector.
 16. Population growth- causes and problems of overpopulation; Poverty, unemployment
 17. LPG Policy; NITI Aayog.
 18. Concepts of Balance of trade, balance of payments, Devaluation.
 19. WTO, IBRD and IMF
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TS EdCET-2020
Part - C
ENGLISH METHODOLOGY
(Syllabus)

(100 Marks)

CBCS—BA Optional English Syllabus

History of the English Language

- a) Origin and descent of the English Language
- b) Features of Old English
- c) Features of Middle English
- d) Features of Modern English

The Structure of English Language

- a) Word Formation
- b) Change of Meaning
- c) Sentence Structure I : Simple sentence and its constituents
- d) Sentence Structure II : Complex sentence and its constituents

Figures of Speech

- a) Euphemism
- b) Hyperbole
- c) Irony
- d) Metaphor
- e) Metonymy
- f) Oxymoron
- g) Paradox
- h) Personification
- i) Simile
- j) Synecdoche

Literary movements

- a) Renaissance
- b) Reformation
- c) Neo Classicism
- d) Romanticism
- e) Modernism

Elements of literature

- a) Atmosphere
- b) Character
- c) Imagery
- d) Narrative technique
- e) Plot
- f) Point of view
- g) Setting
- h) Story
- i) Symbolism
- j) Tone

English Poetry

Forms of Poetry:

- a) Ballad
- b) Elegy
- c) Epic
- d) Lyric
- e) Ode
- f) Sonnet

16th -17th Century Poetry

Edmund Spenser

“One day I wrote her name upon the strand”

(Sonnet 75)

John Milton

Lycidas

John Donne

“The Anniversary”

17th - 18th Century Poetry

Alexander Pope

“Ode on Solitude”

Thomas Gray

“Hymn to Adversity”

William Blake

“London”

18th – 19th Century Poetry

William Wordsworth

“Three Years She Grew”

John Keats

“Ode to a Nightingale”

Robert Browning

“My Last Duchess”

19th - 20th Century Poetry

WB Yeats

“The Second Coming”

TS Eliot

“Love song of Alfred J Prufrock”

Philip Larkin

“Toads”

English Drama

Types of Drama

- a) Tragedy
- b) Comedy
- c) Tragicomedy
- d) Melodrama
- e) Farce
- g) History plays

William Shakespeare: *Macbeth*

Oliver Goldsmith: *She Stoops to Conquer*

George Bernard Shaw: *Pygmalion*

One-Act Plays: AA Milne "The Boy Comes Home"
Harold Pinter "The Room"

English Fiction

Types of Fiction

- a) Allegorical
- b) Epistolary
- c) Gothic
- d) Historical
- e) Picaresque
- f) Psychological

Daniel Defoe: *Robinson Crusoe*

Jane Austen: *Pride and Prejudice*

George Orwell: *Animal Farm*

Short Stories: Rudyard Kipling "The Man Who Would Be King"
Arthur Conan Doyle "The Adventure of the Speckled Band"

Modern Indian Literature

Background: English Education in India; Role of English in India's Freedom Struggle; Decolonization; Dalit literature

Poetry: Toru Dutt "Tree of Life"
A K Ramanujan "Obituary"
Agha Shahid Ali "Postcard from Kashmir"

Short Fiction: Premchand "Idgah" (Trans, Khushwant Singh)
Shashi Deshpande "Independence Day"

Drama : Rabindranath Tagore -The Post Office

American Literature

Background: Civil War, Transcendentalism, American Dream, Racism

Poetry: Robert Frost "The Road Not Taken"
Wallace Stevens "The Snowman"
Maya Angelou "To a Husband"

Short Fiction: Edgar Allan Poe "The Purloined Letter"
Alice Walker "Everyday Use"

Drama: Neil Simon "*The Odd Couple*"



ORIENTAL LANGUAGES

Marathi methodology

TS EdCET-2020

Part -C

MARATHI METHODOLOGY

(SYLLABUS)

BA Optional Marathi Syllabus

1) LOKSAITYA ANI CHARITRA

A) LOKSANSKRUTICHE UPASAK - By R.C.Dhere

B) EK HOTA KARVAR - By Veene Gawankar

2) SHORT STORY & NOVEL

A) MARATHI VINODI KATHA - Edited By DR. D.T.Bhosle

B) SHITU - G.N. Dandekar

3) POETRY (Ancient)

A) DNYANESHWARI (ADHYAYA PAHILA) - Vinus Prakashan Pune

B) TUKARAMANCHE NIVADAK 100 ABHANG - Ed. By DR. S. M. Pingle

4) HISTORY OF MARATHI LITERATURE

Period : From beginning to 1800 A.D.(Including Shahiri Vangmay)

5) POETICS AND LITERARY CRITICISM

POETICS

A) Kavya Lakshan

B) Kavya Prayojan

C) Kavya Karan

D) Shabda Shakti

E) Kavyache Prakar

Kavyashastra Pradeep - By S. R. Gadgil

LITERARY CRITICISM

A) Samiksha - Vyakhyas, Vyapti, Maryada, Swaroop ani Vikas

B) Samikshechi Kahi Rupe - Aswadak, Aitihāsik, Tulnatmak

6) FORM OF LITERATURE NOVELS

A) SWAMI - By Ranjeet Desai

B) GOTAWALA - By Anand Yadav

C) AAI SAMJUN GHETANA - By Uttam Kamble

7) LINGUISTIC STUDY OF MARATHI & GRAMMER

LINGUISTIC STUDY OF MARATHI

A) Bhashechi Upapatti

B) Marathi Bhashechi Utpatti

C) Marathiche Kalik Bhed va Pranatik Bhed

GRAMMER

A) Vibhakti Vichar

B) Prayog Vichar

C) Samas

D) Sandhi

8) HISTORY OF MARATHI LITERATURE

Period : From 1818 to 1950

A) Nibandh

B) Katha

C) Kadambari

D) Kavita

E) Natak

F) Charitra & Atmcharitra etc.

9) ANCIENT PROSE

A) CHAKADHAROKTA DRUSHTANTPATH - Ed. By S.G.Tulpule

B) SABHASAD BAKHAR - Ed. by Y.M. Pathan

10) MODERN MARATHI POETRY

A) VISHAKHA - By Kusumagraj

TS EdCET - 2020
Part - C

CBCS - BA (Oriental) Telugu

బి.ఏ (లిటరేచర్) ప్రథమ సంవత్సరం

పేపర్-1 చరిత్ర - భారతదేశ చరిత్ర (ఆది నుండి క్రీ.ప. 1526 వరకు)

సెమిస్టర్-I

- 1) ప్రాచీన భారతీయ సాంస్కృతిక వికాసం
చరిత్రపై భౌగోళికాంశాల ప్రభావం - ఆధారాల సమీక్ష - ప్రాత్యరిత్రిక యుగం - ప్రాచీన యుగం - ప్రాచీన యుగం - సాంకేతిక పాత్ర - సింధులోయ నాగరికత - దాని ప్రధాన మౌలిక లక్షణాలు - వైదిక సంస్కృతి - తాలి, మలి వైదిక సంస్కృతి - వైదిక యుగసంతర కాలం - వర్ణ, కులవ్యవస్థల ఆవిష్కరణ - సూతన మతోద్ధమాలు మొగ్గ తాడుగుట - క్రీస్తు పూర్వం 6వ శతాబ్దంలో జైన, బౌద్ధ మతాలు - సమాజంపై, సంస్కృతిపై ప్రభావం
- 2) మౌర్య యుగం
ప్రాచీన భారతదేశంలో రాజకీయ పరిస్థితుల సంక్షిప్త సమీక్ష - మగధ - అలెగ్జాండర్ దండయాత్ర - మౌర్యులు ఆశోకుని ధర్మం - దాని స్వభావం - ప్రచారం - మౌర్యుల పరిపాలన - ఆర్థిక వ్యవస్థ - కళలు - వస్తు శిల్పం
- 3) మౌర్యానంతర యుగం
కుషాణులు - గుప్తులు - రాజ్యవ్యవస్థ - పరిపాలన - సామాజిక పరిస్థితులు - కళలు - వస్తుశిల్పం - విద్య - సాహిత్యం - తత్వదర్శనం - విజ్ఞాన సాంకేతిక రంగాలు.
- 4) గుప్తానంతర యుగం
పుష్యభూపతి - రాజపుత్రులు - సామాజిక పరిమాణం - స్త్రీల పరిస్థితి - భారతదేశంలో పూర్వ వ్యవస్థ.
- 5) సంగం - శాతవాహన యుగం
సంగం యుగం - శాతవాహనులు - రాజ్యవ్యవస్థ - పరిపాలన - సామాజిక - ఆర్థిక వ్యవస్థలు - కళలు - వస్తుశిల్పం

సెమిస్టర్-II

- 1) చోళులు - చాళుక్య యుగం - పల్లవులు
పల్లవులు - చోళులు - చాళుక్యులు - రాష్ట్రకూటులు - రాజ్యవ్యవస్థ - పరిపాలన - సామాజిక - ఆర్థిక వ్యవస్థలు - కళ - వస్తుశిల్పం
- 2) కాకతీయ - విజయనగర సామ్రాజ్యాలు
కాకతీయులు - విజయనగర రాజ్యం - రాజ్యవ్యవస్థ - పరిపాలన - సామాజిక, రాజకీయ వ్యవస్థ - కళ - వస్తుశిల్పం
- 3) భారతదేశంలో మహమ్మదీయ సామ్రాజ్యం - ఢిల్లీ సుల్తానులు - అరబ్ దండయాత్రలు - గజనీ, ఘోరీల దాడులు - ఢిల్లీ సుల్తానుల చరిత్ర - సమాజం - గ్రామీణ సమాజ నిర్మితి - ధనిక వర్గం - స్త్రీల హోదా - ఆర్థిక, సాంకేతిక ప్రగతి - నగరీకరణ - కళ - వస్తుశిల్పం - లలిత కళలు - విద్య - సాహిత్యం
- 4) భారతీయ సమాజ సంస్కృతులపై ఇస్లాం ప్రభావం
భక్తి - సూఫీ ఉద్యమాలు - మిశ్రమ సంస్కృతుల ఆవిష్కరణ

సంప్రదింపు గ్రంథాలు - తెలుగు అకాడమీ ప్రచురణలు

పేపర్-2 ప్రాచీనాధునిక పద్యభాగాలు (క్లాసికల్ & మాడ్రన్ పాయిట్రీ)

సెమిస్టర్-I

- 1) మాతృదాస్య విముక్తి - కవి: నన్నయ
కావ్యం: ఆంధ్రమహాభారతం - అదిపర్వం - (ద్వితీయాశ్వాసం 91-122 పద్యాలు)
- 2) బెజ్జ మహాదేవి కథ - కవి: పాల్కురికి సోమనాథుడు
కావ్యం: బసవ పురాణం - కృతీయాశ్వాసం (560 - 730 పద్యాలు)
- 3) హనుమత్సందేశము - కవయిత్ర: మొల్ల
కావ్యం: రామాయణం
- 4) కపోత సందేశం (కవిత్వం) - కవి: దాశరథి కృష్ణమాచార్యులు
- 5) బతుకమ్మ బతుకు (గేయం) - కవి: కాళోజీ నారాయణరావు

సెమిస్టర్-II

- 1) సత్యభామా స్వాంతనము - కవి: తిమ్మన
కావ్యం: పారిజాతాపహరణం - (ప్రథమాశ్వాసం 38-138 పద్యాలు)
- 2) నీతిశతకము (సుభాషితాలు) - కవి : వీనుగు లక్ష్మణ కవి
(సుజన - వరోపకార ధైర్య పద్యములు - 10 పద్యాలు)
- 3) రాజు - కవి : గుణ్ణం జాషువా
- 4) తెలుగు గజకృ - డా. సి. నారాయణ రెడ్డి
- 5) పల్లె కన్నీరు పాట - గోరటి వెంకన్న

పేపర్-3 బాల వ్యాకరణం మరియు ఛందస్సు

సెమిస్టర్-I

- 1) బాల వ్యాకరణం - సంజ్ఞా పరిచ్ఛేదం
- 2) బాల వ్యాకరణం - సంధి పరిచ్ఛేదం
- 3) పారిభాషిక పదాలు - ఉపధ, బహుళము, ఆసత్రి, వర్గలు, ఉపయోయము (పై పాఠ్యభాగాల నుండి)
- 4) ఛందస్సు - మత్తేభం, శార్దూలం, సీసం, ద్విపద
- 5) యతిప్రాసలు - స్వర, వర్గ, అఖండ, ప్రాధి, బిందు, సుకర, దుష్కర, ద్వి.

సెమిస్టర్-II

- 1) బాల వ్యాకరణం - తత్వము పరిచ్ఛేదం
- 2) బాల వ్యాకరణం - ఆచ్ఛిక పరిచ్ఛేదం
- 3) పారిభాషిక పదాలు - ఉపధ, బహుళము, ఆసత్తి, వర్ణలు, ఉపయేయము (పై పాఠ్యభాగాల నుండి)
- 4) ఛందస్సు - చంపకమాల, ఉత్పలమాల, కందము
- 5) యతిప్రాసలు - ఘ్రత, సంయుక్తాక్షర, ఎక్కటి, పోలిక, సరస యతులు. త్రి, అను, అంత్య ప్రాసలు

సంప్రదింపు గ్రంథాలు:

1. బాలవ్యాకరణం - చిన్నయసూరి మరియు స్వార్జితీ
2. బాలవ్యాకరణం - ఘంటాపథం : వంశారం రామకృష్ణారావు
3. కవిజనాశ్రయం - మల్లియారేచన
4. చంద్రాలోకం - అడిదం సూరకవి

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బి.ఏ (ఓటరేచర్) ద్వితీయ సంవత్సరం

పేపర్-4 భారతదేశ చరిత్ర (క్రీ.శ. 1526 నుండి 1964 వరకు)

సెమిస్టర్-III

- 1) చరిత్ర - ఆధారాలు
- 2) మొగల్ సామ్రాజ్య స్థాపన - సూర్ వంశం
భారతదేశంలో మొగలు ఆధికార స్థాపన - సూర్ వంశం
- 3) మొగల్ రాజకీయ చరిత్ర (క్రీ.శ. 1526-1707)
- 4) మొగలుల రాజనీతి - పరిపాలనా వ్యవస్థ
- 5) మొగలుల కాలం నాటి సమాజం - ఆర్థిక, మత పరిస్థితులు
- 6) మొగలుల మత విధానం
మొగలుల మత విధానం - సంకీర్ణ సంస్కృతి
- 7) మొగలు కాలం నాటి సాహిత్యం, విద్యావిధానం, వాస్తు, శిల్పకళలు, సంకీర్ణ సంస్కృతి
- 8) మొగలు సామ్రాజ్య క్షీణత, పతనం, ప్రాంతీయ రాజ్యాల అవతరణ - మరాఠాలు, శిక్కులు
- 9) భారతదేశంలో ఐరోపా వర్తక సంఘాల ప్రవేశం, వారి కార్యకలాపాలు
- పోర్చుగీసు, డచ్, ఇంగ్లీష్, ఫ్రెంచి వర్తక సంఘాలు - వారి కార్యకలాపాలు

సెమిస్టర్-IV

- 1) భారతదేశంలో ఇంగ్లీష్ ఈస్టిండియా కంపెనీ - రాజకీయ విస్తరణ - పద్ధతులు - యుద్ధాలు - దౌత్యనీతి - సైన్య సమకాల సంధి - రాజ్యసంక్రమణ సిద్ధాంతం - కంపెనీ ఆధికార విస్తరణ - స్థిరత్వం
- 2) భారతదేశంలో ఈస్ట్ ఇండియా కంపెనీ ఆర్థిక విధానాలు - పరిణామాలు
వాణిజ్య వాదం - స్వేచ్ఛా వ్యాపారం - భూమిరిస్తు విధానాలు - రైతాంగం - స్థితిగతులు - నీటిపారుదల సౌకర్యాలు - కరువు కౌటకాలు - భారతీయ కుటీర పరిశ్రమల క్షీణత
- 3) భారతదేశంలో ఈస్ట్ ఇండియా కంపెనీకి వ్యతిరేకంగా కొనసాగిన రైతాంగ, గిరిజన తిరుగుబాట్లు
- 4) 1857 తిరుగుబాటు - కారణాలు - ఫలితాలు
- 5) 19వ శతాబ్ది సాంఘిక, మత సంస్కరణోద్యమాలు -
పాశ్చాత్య విద్య - క్రైస్తవ మిషనరీల పాత్ర - పత్రికారంగ వ్యవస్థ - మధ్యతరగతి బ్రాహ్మణమాజం - ఆర్యసమాజం - దివ్యజ్యోతిషన సమాజం - రామకృష్ణ మిషన్ - అలీఘర్ ఉద్యమం - జ్యోతిబాపూలే - నారాయణగారు - పెరియార్ - శ్రీ ఆర్. రామస్వామి నాయకర్ - డా॥ బి.ఆర్. అంబేద్కర్

- 6) భారత జాతీయోద్యమం
భారత జాతీయోద్యమం - కారణాలు - భారత జాతీయ కౌంగ్రెస్ ఆవిర్భావం - మితవాద దశ - అతివాద దశ - గాంధీ శకం - భారత జాతీయోద్యమంలో విప్లవ ఘట్టాలు - వామపక్ష రైతాంగ, కార్మిక ఉద్యమాలు
- 7) భారతదేశం మతతత్వ ఆవిర్భావం
భారతదేశంలో మతతత్వ వాద ఆవిర్భావం - వ్యాప్తి - పరిణామాలు - దేశ విభజనకు దారితీసిన పరిణామాలు - స్వతంత్ర భారత్ అవతరణ
- 8) భారతదేశంలో స్వదేశీ సంస్థానాల విలీనం
భారతదేశంలో స్వదేశీ సంస్థానాల విలీనం - సర్దార్ వల్లభాయ్ పటేల్ పాత్ర - భారత రాజ్యాంగం

సంప్రదింపు గ్రంథాలు - తెలుగు అకాడమీ ప్రచురణలు

పేపర్-5 తెలుగు సాహిత్య చరిత్ర (హిస్టరీ ఆఫ్ తెలుగు లిటరేచర్)

సెమిస్టర్-III

- 1) సాహిత్య చరిత్ర అధ్యయనం మరియు పురాణ ఇతివృత్తాలు
1) సాహిత్య అధ్యయన పద్ధతి - ప్రయోజనం; 2) యుగవిభజన; 3) ప్రాబుస్థితి యుగం; 4) రామాయణం; 5) మహాభారతం
- 2) నన్నయ యుగం
నన్నయ - తిక్కన - ఎర్రన - నాచన సోమన - రామాయణ కవులు వారి రచనలు - కవితా విశేషాలు
- 3) శివకవి యుగం - కవులు వారి రచనా విశేషాలు
- 4) కావ్య యుగం - శ్రీనాథుడు - బోకన - పిల్లలమర్రి పినవీరభద్రుడు - అనంతామాత్యుడు కవులు వారి రచనలు - కవితా విశేషాలు
- 5) ప్రబంధ యుగం - శ్రీకృష్ణదేవరాయలు - అల్లసాని పెద్దన - నంది తిమ్మన - పింగళి సూరన - రామనాజుభూషణుడు - తెనాలి రామకృష్ణుడు - మొల్ల కవులు వారి రచనలు - కవితా విశేషాలు

సెమిస్టర్-IV

- 1) దక్షిణాంధ్ర యుగం
రఘునాథురాయలు - చేమకూర వెంకటకవి - ముద్దుపతిని - పసుపులేటి రంగాజమ్మ - కూచిపూడి తిమ్మకవి వారి రచనలు - కవితా విశేషాలు
- 2) ఆధునిక యుగం
గురజాడ - రాయప్రోలు సుబ్బారావు - దేవులపల్లి కృష్ణశాస్త్రి - శ్రీశ్రీ - విశ్వనాథ సత్యనారాయణ - గుణ్ణం జాషువా - సి. నారాయణరెడ్డి వారి రచనలు - కవితా విశేషాలు
- 3) సాహిత్య ప్రక్రియలు
ద్విపద - ఉదాహరణ - గద్యకావ్యాలు - శతకాలు - యక్షగానాలు - అచ్చతెలుగు కావ్యాలు - పదకవితం పాట - నవల - నాటకం - కథా - కథానికలు

- 4) సాహిత్యోద్యమాలు
కాల్మాసికోద్యమం - అభ్యుదయోద్యమం - విప్లవోద్యమం
- 5) ధోరణులు
దిగంబర - అనుభూతి వాదం - స్త్రీ వాదం - దళితవాదం - మైనారిటీ వాదం

సంప్రదింపు గ్రంథాలు:

1. తెలుగు సాహిత్య సమీక్షలు 1 & 2 - ఆచార్య జి. నాగయ్య
2. తెలుగు సాహిత్య చరిత్ర - డా. ద్వానా శాస్త్రి
3. తెలంగాణ సాహిత్య చరిత్ర - డా. ముదిగంటి సుజాతా రెడ్డి
4. ఆధునికాంధ్ర కవిత్వము - సంప్రదాయములు, ప్రయోగములు - డా. సి. నారాయణరెడ్డి
5. తెలంగాణ, ఉద్యమాలు పాట - డా. సి. జాతీం
6. తెలుగులో ప్రక్రియలు - ధోరణులు - సం॥ ఆచార్య ఎస్.వి. సత్యనారాయణ, తెలుగు అకాడమి

పేపర్-6 బాల వ్యాకరణం - కారక, సమాస, తద్దిత, కృదంత, క్రియా పరిచ్ఛేదాలు

సెమిస్టర్-III

- 1) బాలవ్యాకరణం - కారక పరిచ్ఛేదం
- 2) బాలవ్యాకరణం - సమాస పరిచ్ఛేదం
- 3) పారిభాషికపదాలు - పై పాఠ్యభాగాలకు సంబంధించినది
- 4) బాలవ్యాకరణం - తద్దితపరిచ్ఛేదం
- 5) పారిభాషికపదాలు - పై పాఠ్యభాగానికి సంబంధించినది

సెమిస్టర్-IV

- 1) బాలవ్యాకరణం - కృదంత పరిచ్ఛేదం
- 2) పారిభాషికపదాలు - పై పాఠ్యభాగానికి సంబంధించినది
- 3) బాలవ్యాకరణం - క్రియా పరిచ్ఛేదం
- 4) పారిభాషికపదాలు - పై పాఠ్యభాగానికి సంబంధించినది
- 5) బాలవ్యాకరణం - సూత్రాల విశ్లేషణ

సంప్రదింపు గ్రంథాలు:

1. బాలవ్యాకరణం - చిన్నయసూరి
2. బాలవ్యాకరణం - ఘంటాపథం : వంతారం రామకృష్ణారావు
3. బాలవ్యాకరణం - స్ఫూర్తి

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బి.ఏ (ఓరియంటల్) తృతీయ సంవత్సరం

పేపర్-7 ప్రత్యేక సాహితీచేత్ర (స్పెషల్ ఆథర్) - పాల్కురికి సోమనాథుడు (ఐదు రచనలు - ఐదు అశ్వాసాలు)

సెమిస్టర్-V

- 1) పాల్కురికి సోమన కాలం - రచనలు - గురువులు - రచనల పూర్వోపరాలు, ద్విపద ప్రాశస్త్యం
- 2) అనుభవసారం 3) వృషాధిప శతకం 4) బసవ పురాణం (తెజ్జముహదేవి కథ)
- 5) పండితారాధ్య చరిత్ర (పర్వత ప్రకరణం)

సెమిస్టర్-VI

- 1) బసవ పురాణం 2) పండితారాధ్య చరిత్ర (గురు మహాత్మ్యం)
- 3) చతుర్వేదసారం 4) చెన్నమల్లు సీసాలు
- 5) లఘుకృతులు

పేపర్-8 కావ్యాలంకార సంగ్రహం : భట్టుమూర్తి

సెమిస్టర్-V

- 1) రససూత్ర వివరణ - రస సిద్ధాంతం 2) రస సంఖ్య - రస సమీకరణ వాదాలు
- 3) ధ్వని వాదం-అభిద-లక్షణ-వ్యంజన 4) అర్థవృత్తులు - వస్త్రలంకారం - రసధ్వనులు

సెమిస్టర్-VI

- 1) గుణ ప్రకరణం 2) దోష ప్రకరణం
- 3) శబ్దలంకారాలు 4) అర్థాలంకారాలు
- 5) అలంకారికులు - భరతుడు - అనందవర్ధనడు - జగన్నాథుడు

పేపర్-9 ప్రపంచ చరిత్ర (ఆధునిక ఐరోపా చరిత్ర)

సెమిస్టర్-V

- 1) ఐరోపాలో ఆధునిక యుగారంభం - కాన్స్టాంటిన్ నోవుల్ పతనం - భౌగోళిక, శాస్త్రీయ ఆవిష్కరణలు - సమాజంపై వాటి ప్రభావం
- 2) ఆధునిక భావాల ఆభివృద్ధి - మానవీయవాదం - సాంస్కృతిక పునరుజ్జీవనం - కారణాలు, ఫలితాలు
- 3) మత సంస్కరణోద్యమం - మార్టిన్ లూథర్ కింగ్ - ఫలితాలు
- 4) ప్రాజ్జ నిరంకుశవాదం - పీటర్ ది గ్రేట్ - ఫ్రెడరిక్ ది గ్రేట్
- 5) పారిశ్రామిక విప్లవం - కారణాలు - ఫలితాలు - శ్రామిక వర్గ ఉద్యమాలు
- 6) అమెరికా స్వాతంత్ర్య పోరాటం
- 7) ఫ్రెంచి విప్లవం - కారణాలు - గమనం - ఫలితాలు - ప్రభావం
- 8) నెపోలియన్ బోనాపార్ట్ - విజయాలు - అంతర్గత సంస్కరణలు - విదేశీ విధానం - పతనం

సెమిస్టర్-VI

- 1) నెపోలియన్ అనంతరకాలం - వియన్నా కాంగ్రెస్ - మెటర్నిక్ పరిపాలనా విధానాలు - 1830 మరియు 1848 విప్లవాలు
- 2) జాతీయ రాజ్యాల ఏకీకరణ - ఇటలీ ఏకీకరణ - జర్మనీ ఏకీకరణ
- 3) మొదటి ప్రపంచ యుద్ధం - కారణాలు - ఫలితాలు - వచ్చే సంధి ముఖ్యాంశాలు - రష్యన్ విప్లవం - నానాజాతి సమితి
- 4) రెండు ప్రపంచ యుద్ధాల మధ్య ఐరోపా - ప్రపంచ ఆర్థిక మాంద్యం - ఫాసిజం - ముస్సోలిని - నాజీయిజం - హిట్లర్
- 5) రెండవ ప్రపంచ యుద్ధం - కారణాలు - ఫలితాలు - ప్రపంచ రాజ్యాలపై ప్రభావం
- 6) ఐక్యరాజ్య సమితి - లక్ష్యాలు - ముఖ్య విభాగాలు - విజయాలు
- 7) ప్రచ్ఛన్న యుద్ధం - లక్షణాలు - ముఖ్య ఘట్టాలు - ప్రభావం

సంప్రదింపు గ్రంథాలు - తెలుగు ఆకాడమీ ప్రచురణలు

పేపర్-10 తెలంగాణ చరిత్ర - సంస్కృతి

సెమిస్టర్-V

- 1) తెలంగాణ రాష్ట్ర భౌగోళిక పరిస్థితులు- సిరిసంపదలు+ పండుగలు-జాతరలు, సంస్కృతి ముఖ్య లక్షణాలు
- 2) తెలంగాణ చరిత్ర- సంస్కృతి- తెలంగాణ ప్రాంతాన్ని పాలించిన రాజులు- శాతవాహనులకు ముందు- శాతవాహనులు- జైన, బౌద్ధ మతాల వ్యాప్తి- సమాజం- సాంస్కృతిక వికాసం- శాతవాహనుల అనంతరయుగం- సామాజిక, సాంస్కృతిక లక్షణాలు
- 3) కాకతీయ సామ్రాజ్యం- పరిపాలన- సమాజం- ఆర్థికాభివృద్ధి- సాంస్కృతిక వికాసం, కాకతీయుల అనంతర యుగం- సామాజిక, సాంస్కృతిక సమ్మేళనం
- 4) కుతుబ్షాహీల యుగం- పరిపాలన- సమాజం- సంస్కృతి- ఆర్థిక వ్యవస్థ- ఆసఫ్ జాహిల యుగం- పరిపాలన- బ్రిటిష్ వారితో నిజాం సంబంధాలు- సామాజిక, ఆర్థిక పరిస్థితులు- సాంస్కృతికాభివృద్ధి.
- 5) హైదరాబాద్ రాష్ట్రంలో బ్రిటిష్ వారి పాత్ర- నిజాం వ్యతిరేక ఉద్యమాలు- తెలంగాణ రైతుల సాయుధపోరాటం- సామాజిక, సాంస్కృతిక, రాజకీయ చైతన్యం, భారతయునైట్‌లో హైదరాబాద్ రాష్ట్ర విలీనం

సెమిస్టర్-VI

- 6) స్వతంత్ర భారతదేశంలో హైదరాబాద్ రాష్ట్రం- ఆంధ్రప్రదేశ్ ఆవిర్భావానికి దారితీసిన పరిస్థితులు- ముల్కీ ఆందోళన- తెలంగాణ రాష్ట్ర ఏర్పాటుకు తొలి ఆందోళనలు- రాష్ట్రాల పునఃవ్యవస్థీకరణ కమిషన్ సిఫారసులు- రాష్ట్ర ఆవిర్భావం- పెద్దమనుషుల ఒప్పందం- ఉద్యమానికి దారితీసిన పరిస్థితులు- తెలంగాణ ప్రాంతీయ కమిటీ- తెలంగాణ ప్రాంత ఆర్థిక పరిస్థితుల స్వరూపం- మార్పులు- జై తెలంగాణ ఉద్యమం.
- 8) తొలి, మలి తెలంగాణ ఉద్యమాల నడుమ తెలంగాణ ప్రాంతంలో రాజకీయ, సామాజిక, ఆర్థిక మార్పులు- జై ఆంధ్ర ఉద్యమం- ఆరు నూత్రాల పథకం, రాజ్యాంగ నిబంధన 371డి- రాష్ట్రపతి ఉత్తర్వులు-జీవో నెం 610-నక్కలైట్ ఉద్యమం- ప్రాంతీయ పార్టీల ఆవిర్భావం-ప్రపంచీకరణ, ప్రైవేటీకరణ నేపథ్యంలో హైదరాబాద్ ఆర్థిక వ్యవస్థలో మార్పులు- ప్రాంతీయ అసమానతలు- ప్రత్యేక తెలంగాణ ఆకాంక్ష తొలిప్రయత్నాలు. భువనగిరి సభ, వరంగల్, తెలంగాణ జనసభ.
- 9) తెలంగాణ రాష్ట్రసమితి ఆవిర్భావం- రాజకీయ పునరేకీకరణ- ఉద్యోగుల రాజకీయ ఐక్య కార్యచరణ సమితి ఆవిర్భావం- ఇతర ఐకాసలు- నిరసనలు- శ్రీకృష్ణకమిటీ సిఫారసులు- పార్లమెంటులో ప్రక్రియ- తెలంగాణ రాష్ట్ర ఆవిర్భావం- తెలంగాణలో తొలి ప్రభుత్వం ఏర్పాటు.
- 10) తెలంగాణ ఉద్యమంలో సాంస్కృతిక పునరుజ్జీవనం- కవులు, కళాకారులపాత్ర- సంఘటిత, అసంఘటిత రంగాలు, ఇతర సాంఘిక బృందాల పాత్ర- వివిధ నిరసన పద్ధతులు, రూపాలు.

సంప్రదింపు గ్రంథాలు - తెలుగు అకాడమీ ప్రచురణలు, వీక్షణం మాస పత్రిక, నంధిని సిఠారెడ్డి రచనలు

పేపర్-11 తెలుగు భాషా చరిత్ర

సెమిస్టర్-V

- 1) ఆంధ్రం - తెనుగు - తెలుగు పదాల వ్యాప్తి చరిత్ర
- 2) తెలుగులో మాండలికాలు
- 3) తెలుగులో అన్యదేశ్యాలు
- 4) తెలుగు - ఇతర ద్రావిడ భాషలు
- 5) శబ్ద పరిణామం

సెమిస్టర్-VI

- 1) అర్థ పరిణామం
- 2) గ్రాంథిక, వ్యవహారిక వాదాలు
- 3) తెలుగులో వాక్య నిర్మాణం - రకాలు
- 4) తెలుగులో బహువచన రూపాలు
- 5) ఆధునిక భాషలో స్వర వ్యంజనాలు

సంప్రదింపు గ్రంథాలు:

1. తెలుగు భాషా చరిత్ర - భద్రినాథుని కృష్ణమూర్తి
2. భాషా శాస్త్ర పరిచయం - బొడ్డుపాటి పురుషోత్తం
3. ఆధునిక భాషాశాస్త్ర సిద్ధాంతాలు - పి.యస్. సుబ్రహ్మణ్యం
4. తెలుగు వాక్యం - చేకూరి రామారావు

పేపర్-12 గద్యభాగం (నవల - నాటకం - కథలు)

సెమిస్టర్-V

- 1) నవల పరిచయం - రకాలు - లక్షణాలు
- 2) చిల్లర దేవుళ్ళు (నవల) - దాశరథి
- 3) తెలంగాణ కథా నేపథ్యం - కథా లక్షణాలు
- 4) కథలు (ఉత్తర తెలంగాణ రచయితలు)
 - భూమికథ - అల్లం రాజయ్య
 - గొల్ల రావమ్మ కథ - పి.వి. నరసింహారావు
 - వేపచెట్టు కథ - బి.యస్. రాములు
- 5) కథలు (దక్షిణ తెలంగాణ రచయితలు)
 - ఎంకన్న కథ - పి. యశోధా రెడ్డి
 - గ్యారాకడ్డు, బారాకొత్వాల్ - సురవరం ప్రతాపరెడ్డి
 - పరిగె కథ - వట్టికోట ఆళ్వారు స్వామి

సెమిస్టర్-VI

- 1) నాటకం పరిచయం - రకాలు - లక్షణాలు
- 2) మా భూమి (నాటకం) - సుంకర, వాసిరెడ్డి
- 3) కథా వస్తువులు - శిల్పాలు
- 4) కథలు (ఉత్తర తెలంగాణ రచయితలు)
 - కొసరి కొసరి బేరాలు కథ - డా. ముద్దిగంటి సుజాతారెడ్డి
 - గోస కథ - పెద్దింటి అశోక్ కుమార్
 - డబ్బుసంచి కథ - కె.వి. నరేందర్
- 5) కథలు (దక్షిణ తెలంగాణ రచయితలు)
 - నిధి కథ - పొల్లంపల్లి శాంతాదేవి
 - కాళ్ల కథ - భుక్త్యా తిరుపతి
 - ఊపిరాడని నగరం - బోయ జంగయ్య

TS EdCET-2020
PART-C
HINDI METHODOLOGY

SYLLABAS

History of the Hindi Literature and Language

- A) Hindi Sahitya ka Itihas
 - B) Hindi Bhasha ka gyan
 - C) Prayojanmoolak Hindi Evam Patraakaritha
 - D) **Aadhunik Hindi Sahitya**
- **HINDI SAHITYA KA ITIHAS :**
 - A) **HINDI SAHITYA KA AADIKAL AUR NAMKARAN :**
 - VEERGATHA KAAL
 - NATH SAPRADAY
 - B) **BHAKTI KAAL AUR SHAKHAYEIN :**
 - SAGUN BHAKTI DHARA
 - NIRGUN BHAKTHI DHARA
 - RAM BHAKTHI SHAKHA – TULASIDAS EVAM ANYA
 - KRISHNA BHAKTI SHAKHA-SURDAS,MEERA EVAM ANYA
 - GYAN MARGI SHAKHA-KABIR,RAIDAS EVAM ANYA
 - PREM MARGI SHAKHA-MALIK MOHD. JAISE EVAM ANYA
 - C) **HINDI SAHITYA KA REETIKAAL :**
 - REETIKAL KA NAMKARAN KI VISHESHTA
 - BIARILAL KI VISHESHTA EVAM KAVITAYEN
 - KESHAVDAS
 - REETIBADDA KAVYA EVAM REETI MUKT KAVYA
 - D) **HINDI SAHITYA KA AADHUNIK KAL**
 - GADYA KAL
 - PRAMUKH VAAD, RASTRAVAD,CHAYAVAAD, PRAGATIVAAD, PROAYOGVAAD EVAM PRAMUKH KAVI
 - KAHANI KE TATVA EVAM PRAMUKH KAHANIKAAAR
 - UPANYAS KE TATVA EVAM PRAMUKH UPANYASKAAR
 - NATAK SAHITYA EVAM PRAMUKH NATAK-KAAR
 - AADHUNIK KAVITHA EVAM PRAMUKH KAVI
 - **HINDI BHASHA GYAN :**
 - A) **HINDI BHASHA KA UDHBHAV :**
 - HINDI KI PRAMUKH BOLIVAN EVAM UP-BHASHAYEN—SANSKRIT,PRAKRIT,PAALI,APBRANSH AADI
 - HINDI BHASHA VIGYAN KA SAMANYA PARICHAY-DHWANI,PADH,VAAKYA,ARTH, PROKTI VIGYAN AADI
 - DEVNAGARI LEEPI KA PARICHAY EVAM VIKAAAS,
 - **PRAYOJAN MULAK HINDI AUR USKA PRAYOG :**
 - A) RASHTRA BHASHA – RAJ BHASHA KI AVADHARANA, SAMPARK BHASHA EVAM SANCHAAR KI BHASHA,
 - B) AALEKHAN, TIPPAN, GYAPAN, VIDYAPAN, SARKARI PATRA, ARDHA SARKAARI PATRA, KI SAMANYA JAANKAARI.
 - C) PAARIBHASHIK SHABDAVALI - ARTH EVAM PARIBHASHA
 - D) ANUVAAD KA SAMANYA GYAN

• **AADHUNIK HINDI SAAHITYA :**

- A) HINDI SAHITYA KA PUNARJAGARAN KAAL – BHARATENDU
HARISHACHANDRA YUG KA SAMANYA ADHYAYAN,
B) HINDI SAHITYA KA NAVAJAGARAN KAAL – MAHAVEER PRASAD
YUG KE PRAMUKH KAVI EVAM RACHANAKAAR, SARASWATHI
PATRIKA KI BHOOMIKA..,
C) RASHTRAVAADI SAAHITYA EVAM KAVITHA- MAITHILI SHARAN
GUPT, DINKAR, MAKHANLAL CHATURVEDI, SHRIDHAR PATHAK,
BALKRISHNA SHARMA NAVEN, SUBHADRA KUMARI CHAUHVAN,
D) CHAYAVAADI KAAVYA DHARA – MAHADEVI VARMA, PRASAD,
PANT, NIRALA, RAMKUMAR VARMA, HARIVANSH ROY BACHAN,
E) PRAGATHI VADI KAAVYA DHARA –NAGARJUN, KEDARNATH
AGARWAL,RAM VILAS SHARMA, RANGAY RAGHAV,
DHOOMIL,THRILOCHAN, SHIV MANGAL SINGH SUMAN
F) PRAYOG VAAD –SAMANYA PARICHAY – AGYAYEN,
MUKTIBODH, NAKEN
G) KATHA SAHITYA – PREM CHAND, JAYSHANKAR PRASAD,
CHANDRADHAR SHARMA GULERI, SUDARSHAN,VRINDAVANLAL
VARMA, FANIVASHAVARNATH RENU, YASHAPAL,MOHAN RAKESH,
H) VIMARSH SAHITYA – NAARI VIMARSH, DALITH VIMARSH,
AADIVASI VAMARSH, MUSLIM VIMARSH,

REFER BOOKS :-

HINDI SAHTYA KA ITIHAS – DR. NAGENDR
HINDI SAHITYA KA SUBODH ITIHAS – DR GULAB ROY
HINDI SAHITYA YUG AUR PRAVRUTHIYAN – DR. SHIV KUMAR SHARMA
HINDI BHASHA VIDYAN – DR BHOLANATH TIVARI,
HINDI PRAYOJAN MULAK HINDI – DBHPS/HPS PRESCRIBED BOOKS
HINDI ADHUNIK KAVYA PRAKASH –
EDITED DAXIN BHARATH HINDI PRASAR SABHA

TS Ed.CET 2020

Urdu Methodology- Syllabus

B.A. - Ist year (Oriental Urdu) بی اے سال اول

- پرچہ اول** : تاریخ ہند
قدیم دور سے مغلیہ سلطنت کے قیام تک 1000 AD 1526 BC
۱. تاریخ ہند - حصہ اول از رحمت علی
۲. بی- اے اردو میڈیم کے نصاب میں شامل تاریخ ہند حصہ اول
- پرچہ دوم** : نثر قدیم و جدید
۱. آشفہ بیانی میری از رشید احمد صدیقی
۲. یادگار غالب از الطاف حسین حالی
۳. باغ و بہار از میر امن - پہلا اور دوسرا درویش
- پرچہ سوم** : نظم قدیم و جدید
۱. انتخاب کلام میر مرتبہ عبدالحق - ردیف "الف" اور "ن"
۲. غالب از غالب - ردیف "ی"
۳. بال جبرئیل از علامہ اقبال - صرف نظمیں

B.A. - IInd year بی اے سال دوم

- پرچہ اول** : تاریخ ہند
مغلیہ سلطنت کے قیام سے آزادی تک - 1516 AD 1947 A.D.
۱. تاریخ ہند - حصہ دوم از رحمت علی
۲. بی- اے اردو میڈیم کے نصاب میں شامل تاریخ ہند حصہ دوم
- پرچہ دوم** : تاریخ ادب اردو - قدیم دور سے ۱۷۵۵ء تک
۱. اردو کی ابتدائی نشو و نما میں صوفیائے کرام کا کام : عبدالحق
۲. دکن میں اردو از نصیر الدین ہاشمی
۳. دکنی ادب کی تاریخ از ڈاکٹر زور
- پرچہ سوم** : اردو ناول کا ارتقاء - ایک سرسری جائزہ
۱. شکست از کرشن چندر
۲. مرآة العروس از ڈپٹی نذیر احمد
۳. چائے کے باغ از قرۃ العین حیدر
- B.A. - Third year بی اے سال سوم

- پرچہ اول** : ادبی تنقید
۱. مقدمہ شعر و شاعری از الطاف حسین حالی
۲. ہماری شاعری از مسعود حسین رضوی
۳. رُوح تنقید از ڈاکٹر زور
- پرچہ دوم** : تاریخ ادب اردو - ولی اورنگ آبادی سے موجود دور تک
۱. مختصر تاریخ ادب اردو از اعجاز حسین

۲ اردو میں ترقی پسند تحریک از خلیل الرحمن اعظمی
۳ علی گڑھ تحریک از نسیم قریشی

پرچہ سوم : تاریخ اسلام از شاہ معین الدین ندوی

- یا -

قدیم اردو - دکنی ادب

۱ سب رس از ملا وجہی مرتبہ عبدالحق
۲ کلیات محمد قلی قطب شاہ از پروفیسر سیدہ جعفر و ڈاکٹر زور
۳ مینا ستونتی از غواصی مرتبہ پروفیسر غلام عمر خاں
۴ کلیات قلی قطب شاہ سے ذیل کا انتخاب
۱ مناجات مراتوں سن یا سمیع
۲ دردہ لک اس نبیؐ پر جو نرنجن رب کے پیارے ہیں
۳ پریم پیاری کا جلوہ گاؤ سارے
۴ نیبڑ ڈھیٹ شوخی سوں آکر کھڑی جب
۵ میری سانولی من کوں پیاری دے
۶ چھبیلی سوں لگیا ہے من ہمارا
۷ بسنت آیا سکی جوں لال گالا

پرچہ ہشتم : عروض و بلاغت

۱ عروض از کلیم اللہ حسینی
۲ بلاغت از کلیم اللہ حسینی
۳ درس بلاغت از شمس الرحمن فاروقی

پرچہ نہم : ڈاکٹر زور

۱ ڈاکٹر زور از خلیق انجم
۲ ڈاکٹر زور از پروفیسر سیدہ جعفر
۳ مطالعہ زور از ڈاکٹر اکبر حیدری
۴ ڈاکٹر زور از عطیہ رحمانی

پرچہ دہم : اردو ڈرامہ

۱ اشکنتلا از کالی داس ترجمہ اختر حسین رائے

پوری

۲ آزمائش از پروفیسر محمد مجیب
۳ دروازے کھول دو از کرشن چندر

Arabic methodology

ARABIC

B.A. (L) I Year Arabic : -(w.e.f. 2013-2014)

Paper I English: (Urdu Medium English Reader Degree 1st Year)

Paper I URDU: (Second Language) (Urdu Medium Urdu Reader of Degree 1st year)

Paper I History: History of India

(MAIN LANGUAGE)

Paper –I (ML) : Title : **Classical Arabic Prose and Poetry**

Prescribed Books:

(Under Section A)

Classical Prose:

1. Mukhtaratul Adab By: Zaidan Badran
 - 1) Khutbah Abi Bakr to end
2. Al Mukhtaratul Jameelah By: Dr. Mohd. Abdul Jameel Khan Excluding Chapters:
 1. Al Adab wo Usooluhu
 2. Al Mahatma Gandhi
 3. Al Internet wo Fawaaiduhu

Classical Poetry:

1. Deewan Abdul Atahiyah (First 60 Years)

Paper II (ML) : Title : **Grammar and Translation**

Prescribed Books:

(Under Section A)

Syntax :

1. Taiseer ul Quawaid min Ilmin Nahwu (Part-I)
By Dr. Mohammed Zulfeqar Mohiuddin Siddequi

(Under Section B)

Marphology:

1. At Tasreeful wadeh (Part – I)
By: Prof. Hafiz Syed Badiuddin Sabri

(Under Section C)

Translation

1. Minhajul Arabiyyah (Part-V) -By: Syed Nabi
2. Al Qiratul Murshidah – By Prof. Syed Jahangir

B.A. (L) IIInd Year Arabic : -(w.e.f. 2014-2015)

Paper I English: (Urdu Medium English Reader Degree 2nd Year)

Paper I URDU: (Second Language) (Urdu Medium Urdu Reader of Degree 2nd year)

Paper I History: History of India (From 1526 A.D. To 1747)

(MAIN LANGUAGE)

Paper – III (ML) : Title: *Modern Arabic Prose and Poetry*

Prescribed Books

(Under Section – A)

Modern Prose

1. **Al – Nazraat -** By : Mustafa Lutfi Al Manflooti
1) Al Gad 2) Ainal Fadeelah
2. **Al – Abraat -** By: Mustafa Lutfi Al Manflooti
1) Al Hijab 2) Al Yateem

(Under Section – B)

Modern Poetry

1. **Quaseedah Al Hamziyah Al Nabawiyah** By Ahmed Shouqi (1-50 verses)

Paper-IV (ML): Title: Grammar and Translation

Prescribed books:

(Under Section – A)

Syntax:

1. **Taiseer ul Quawaid min Ilm al Nahw (Part-II) –**
By: Dr. Mohammed Zulfeqar Mohiuddin Siddequi

(Under Section – B)

Marphology:

1. **At Tasreeful Wadeh (Part-II)**
By : Prof. Hafiz Syed Badiuddin Sabri

(Under Section – B)

Translation:

1. **Duroosul Lugah Al Arabiyyah Ligairin Natiqeena Bioha (Part-III)**

B.A. (L) IIIrd Year Arabic : -(w.e.f. 2015-2016)

(Main Language)

Paper V (ML): Title : **Tafseer Literature**

Prescribed Books:

1. Safwatut Tafaseer by: Mohaammed Ali Al Sabooni
i) Surah al Kahaf ii) Surah Maryam

Paper VI Title: **Hadith. Literature**

Prescribed Books

1. Saheeh Muslim Shareef
i) Kitabul Aadaab ii) Kitabul Ahkam

Paper VII (ML) : Title : **Fiqh and Kalam**

Prescribed Books:

(Under Section – A)

- Fiqh** 1. Sharh Wiqayah
i) Kitabun Nijkah ii) Kitabut Talaq

(Under Section –B)

- Aqaid** 1. Sharh Aqaid Nasafi

Paper VIII (ML): Title : **History of Islam**

Recommended Books

1. Mukammal Tareekh-e-Islam By : Moulana Shoukat Fahim
2. Siratun Nabi (SAW) By: Moulana Shibli Noumani
3. Rahmath-e-Alam (SAW) By: Moulana Syed Sulaiman Nadwi

Paper IX (ML) : Title : **Arab Culture**

Recommended Books

1. Tareekh-e- Tamaddun-e-Arab By: Moulana Syed Sulaiman Nadwi

Paper X (ML): Title: **Fundamentals of Sufism**

Recommended Books

1. Hidayaat al Shuyookh
2. Awariful Maarif by Shaik Shahabuddin Suharwardi
3. Istelatuhatus Sufiyyah

Sanskrit Methodology

TS EdCET-2020

PART-C

SANSKRIT SYLLABUS

ORIENTAL LANGUAGE

Part –II Subjects: Sanskrit (1st YEAR)

<i>Paper-III</i>	<i>INDIAN HISTORY</i>
<i>Paper-IV</i>	<i>SIDDHANTA KAUMUDI – KARAKA PRAKARANA MUKTAVALI PRATYAKSHA KHANDA – BUDDHIVIBHAGADI PRATYAKSHA KHANDANTA PARYANTAM</i>
<i>Paper-V</i> (<i>Sahitya</i>)	<i>DHVANYALOKA 1ST UDDYOTA RASAGANGADHARA 1ST AANANA – UTTAMA KAVYANTAARTAMU</i>
(<i>Vyakaranana</i>)	<i>SIDDHANTA KAUMUDI – BHVADI PRAKARANAM PROUDHA MANORAMA – SAJNA & PARIBHASHA PRAKARANAMS</i>
(<i>Nyaya</i>)	<i>TARKA BHASHA DINAKARI-ANUMANAKHANDA ONLY</i>

Part –II Subjects: Sanskrit (2nd YEAR)

<i>Paper-III</i>	<i>INDIAN HISTORY</i>
<i>Paper-IV</i> (<i>Sahitya</i>)	<i>KAavyALAMKARA SUTRA VRITTI – 1 TO 3 ADHIKARANAMS DHVANYALOKA 2nd UDDYOTA</i>
(<i>Vyakarana</i>)	<i>PARIBHASENDU SEKHARA 1ST PRAKARANA – 1 TO 20 PARIBHASAS PROUDHA MANORAMA – AC SANDHI PRAKARANA</i>
(<i>Nyaya</i>)	<i>MADHURI PANCHALAKSHANI DINAKARI – SABDHAKHANDA PARYANTAM</i>
<i>Paper-V</i> (<i>Sahitya</i>)	<i>DASARUPAKA – CHAPTER –I RASAGANGADHARA – GUNAPRAKARANANTHA</i>
(<i>Vyakarana</i>)	<i>PARIBHASENDU SEKHARA 1ST PRAKARANA – 20 TO 38 PARIBASAS SIDDHANTA KAUMUDI –AVYAYIBHAVA & TATPURUSHA</i>
(<i>Nyaya</i>)	<i>NYAYA BHASHYA – ADHYAYA 1 only</i>

VYSESHIKA DARSHANA WITH UPASKARA ADYAYA I
ONLY PRATHAMA, DVITIYA (1-98)
PRADHAMA DVITIYA AHNIKE (1-126)

Part –II Subjects: Sanskrit (3rd YEAR)

- Paper –I* SIDDHANTA KAUMUDI – POORVA KRIDANTA
PRAKARANAM
- Paper-II* MUKTAVALI – ANUMANA KHANDA
- Paper-III* BHASHA SASTRA & BHASHA CHARITAM
- Paper-IV* ALAMKARA SARVASVA 1 TO 20 ALAMKARAS
(Sahitya) RASA GANGADHARA – UPTO THE END OF
PRATHAMANANM PARYANTAM
(Vyakaranana) MABHASHYA AHNIKA I & II
BHUSHANASARA LAKARARTHA NIRYANA
- (Nyaya) GANGADHARA SIDDHANTA LAKSHANA PAKASHANTA –
-SAMANYA PAKSHATA – MATRA
- Paper-V* KAVYA PRAKASAH – I & II CHAPTERS
(Sahitya) DHVANYALOKA UDDYOTA –IV
(Vyakarana) MAHABHASHYA AHNIKA III & IV
LAGHU SABDENDUSEKHARA - SAMJNA PRAKARANA
ONLY
- (Nyaya) GADADHARA – AVYAYA GRANTHA
NYAYA PRAKARANANA MATRA
ETVABHASA SAMANYANIRUKTI – PRATHAMA
LAKSHANA PARYANTHAM
- Paper-VI*
(Sahitya) KAAYADARSA – CHAPTER 1-II
KUNVALAYNANDA – 1-20
- (Vyakarana) LAGHUSABDENDUSEKHARA – ACSANDHI
PRAKARANAM
SIDDANTHA KAUMUDI
TADDITHA PRAKARANA
- (Nyaya Bhashya) ADHYA – II - AHNIKA – II 128 – 292
VAISESHIKA DARSHANAM – BHASHYA
ADHYA – II – AHNIK – II (99-195)