



झारखण्ड अधिविद्य परिषद्, राँची  
JHARKHAND ACADEMIC COUNCIL, RANCHI

**NAME OF EXAMINATION – JHTET 2024**

**SYLLABUS : LEVEL – 2 (CLASS 6 TO 8)**

SR. NO.	NAME OF SUBJECT	SYLLABUS
01.	LANGUAGE 1 – HINDI	<p># हिन्दी साहित्य का इतिहास</p> <ul style="list-style-type: none"><li>• आदि काल</li><li>• भक्ति काल</li><li>• रीति काल</li><li>• आधुनिक काल</li></ul> <p>(छायावाद, प्रगतिवाद, प्रयोगवाद, नई कविता)</p> <p># हिन्दी गद्य की नई विधाएँ (यात्रावृत्तान्त, रिपोर्ताज, संस्मरण, डायरी, रेखाचित्र)</p> <p># भारतीय काव्य शास्त्र (काव्य की परिभाषा, गुण-दोष, शब्द-शक्ति, अलंकार, रस, रस-निष्पत्ति, साधारणीकरण, काव्य-हेतु, काव्य-प्रयोजन)</p> <p># भाषा विज्ञान (भाषा की परिभाषा, विशेषताएँ, अर्थ परिवर्तन: कारण और दिशाएँ, ध्वनि परिवर्तन: कारण और दिशाएँ, हिन्दी भाषा का उद्भव और विकास, राजभाषा, राष्ट्रभाषा एवं सम्पर्क भाषा के रूप में हिन्दी)</p>

		<p># अनुवाद (सिद्धान्त और प्रयोग)</p> <p># पत्रकारिता (सिद्धान्त और प्रयोग)</p> <p># प्रयोजनमूलक हिन्दी (सिद्धान्त और प्रयोग)</p> <p># व्याकरण (वाक्यों को शुद्ध करना, लिंग निर्णय, अनेक शब्दों के लिए एक शब्द, संक्षेपण अथवा पल्लवन)</p> <p># इन पुस्तकों/अंशों का अध्ययन भी अपेक्षित है - कुरुक्षेत्र (तीसरा सर्ग) गोदान, आधे-अधूरे, मैला आंचल, चन्द्रगुप्त, पूस की रात</p>
02.	<b>LANGUAGE 1 – ENGLISH</b>	<ul style="list-style-type: none"> <li>❖ The Age of Chaucer : Poetry</li> <li>❖ The Age of Shakespeare : Drama</li> <li>❖ The classical Age : Poetry and Novel</li> <li>❖ The Romantic Age : Poetry and Novel</li> <li>❖ The Victorian Age : Poetry and Novel</li> <li>❖ The Modern Age : Poetry, Drama and Novel</li> <li>❖ English Grammer.</li> </ul>
03.	<b>LANGUAGE 1 - URDU</b>	As per syllabus of Graduation of State University in Jharkhand.
04.	<b>MATHEMATICS</b>	<ul style="list-style-type: none"> <li>❖ <b>Coordinate Geometry</b> Change of RECTANGULAR AXES, Condition for the general equation of second degree to represent parabola, ellipse, hyperbola and reduction into standard forms, Equations of tangent and normal (using Calculus). Chord of contact, pole and polar, pair of tangents in reference to general equation of conic. Rectangular, spherical- polar and cylindrical co-ordinates, Direction cosines, Angle between straight lines, equation of planes and straight lines, Shortest distance between the lines, Sphere.</li> </ul>

		<p>❖ <b>Trigonometry</b> Statement and proof of binomial theorem for any index, Exponential and Logarithmic series. De Moivre's theorem and its applications, Trigonometric and Exponential function of complex argument and hyperbolic functions. Summation of Trigonometrically series.</p> <p>❖ <b>Differential Calculus</b> Successive differentiation, Leibnitz's theorem, Maclaurin's and Taylor's series expansions, Partial differentiation, Euler's theorem for homogeneous functions of two variables, Total differential, jacobian, Tangent and normal, curvature, Asymptotes, Maxima and Minima of functions of two variables, Lagrange's multipliers.</p> <p>❖ <b>Integral Calculus</b> Integration of rational and irrational function, Evaluation of definite integrals, Special integrals, differentiation and integration under the sign of integration (Beta and Gamma functions are excluded). Reduction formula. Curve tracing. Length of plane curve and area bounded by plane curves. Volume and surface area of solid of revolution.</p> <p>❖ <b>Real Analysis</b> Limit of functions: Limit, algebra of limit of functions. Continuity and discontinuities, algebra of continuous functions, Intermediate value theorem, location of roots theorem, preservation of intervals theorem, Uniform continuity. Differentiation: Derivability, relationship with continuity, Rolle's theorem, Lagrange's and Cauchy Mean value theorem, Taylor's theorem, Maclaurin's theorem after n terms, power series expansion.</p> <p>❖ <b>Group Theory</b> Binary operations. Groups- Definition and examples. Uniqueness of identity and inverse of an element in a group, Finite group and group tables, Abelian groups, non-abelian groups, Order of a group, order of an element in a group. Subgroups, Subgroup test, intersection of subgroups. Cyclic group, Permutation group, cycle notation for permutations, product of disjoint cycles,</p>
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order of a permutation, transpositions, even and odd permutations, alternating group, Normal subgroups, Cosets, Lagrange's theorem.

❖ **Matrices**

Rank of a matrix Echelon form of a matrix, Elementary transformations of a matrix, Elementary matrices, Invariance of rank under elementary transformations, Reduction to normal form, Equivalence of matrices, Rank of sum and product of matrices.

Solution of a system of linear equations via matrix methods, Conditions for consistency and inconsistency, Matrix polynomials, Characteristic polynomial, Characteristic equation, Characteristic roots and Characteristic vectors of a matrix. Cayley Hamilton theorem.

❖ **Differential Equations**

Differential equation of first order but not of first degree, differential equation with constant coefficient, Equations of the first order but not of the first degree including Clairaut's form, Singular Solutions.

Partial differential equation: Solution of linear partial differential equation by Lagrange's method. Non linear partial differential equations of order one, Complete integral, Particular integral, Singular integral, general solution, Charpit's method

❖ **Complex Analysis**

Complex Analysis: Complex numbers, Continuity and differentiability of functions of complex variable, Analytic functions, Cauchy-Riemann differential equations in Cartesian and polar forms.

Conform representation: Transformation, jacobian, Conformal transformation, some general transformations, bilinear transformation, Critical points, fixed points, Cross ratio, fixed points of bilinear transformation.

❖ **Linear Algebra**

Vector spaces, subspace, algebra of subspaces, linear combination of vectors, linear span, linear dependence and linear independence, basis and dimension, co-ordinate vector of vector relative to a basis, Complement of a subspace, direct sum and quotient space. Linear

		transformations, null space, range, rank and nullity of a linear transformation, Sylvester law of nullity, Matrix representation of a linear transformation, algebra of linear transformations, Isomorphism and related theorems, inevitability and isomorphism.
05.	SCIENCE	<p><b><u>PHYSICS</u></b></p> <ul style="list-style-type: none"> <li>❖ <b>Mathematical Physics:</b> Calculus of single and multiple variables, partial derivatives, imperfect and perfect differentials, Taylor expansion, Fourier series. Vector algebra, Vector Calculus, Multiple integrals, Gauss' Divergence theorem, Green's theorem, Stokes' theorem. Spherical and Cylindrical Coordinate Systems. First order differential equations and linear second order differential equations with constant coefficients. Legendre, Bessel and Hermite Differential Equations. Beta and Gamma Functions, Matrices and determinants, Algebra of complex numbers.</li> <li>❖ <b>Mechanics:</b> Newton's laws of motion and applications, Velocity and acceleration in Cartesian, polar and cylindrical coordinate systems, uniformly rotating frame, centrifugal and Coriolis forces, Motion under a central force, Kepler's laws, Gravitational Law and field, Conservative and non-conservative forces. System of Particles, Center of mass, equation of motion of the CM, conservation of linear and angular momentum, conservation of energy, variable mass systems. Elastic and inelastic collisions. Rigid body motion, fixed axis rotations, rotation and translation, moments of Inertia and products of Inertia, parallel and perpendicular axes theorem. Principal moments and axes. Kinematics of moving fluids, equation of continuity, Bernoulli's theorem.</li> <li>❖ <b>Oscillations, Waves and Optics :</b> Differential equation for simple harmonic oscillator and its general solution. Damped and forced oscillators, resonance. Wave equation, travelling and standing waves in one dimension. Energy density and energy transmission in waves. Group velocity and phase velocity. Sound waves in media.</li> </ul>

Doppler Effect. Division of amplitude and wavefront, Young's double slit experiment, Lloyd's Mirror and Fresnel's Biprism, Phase change on reflection: Stokes' treatment. Interference in Thin Films: Parallel and Wedge-shaped films. Fringes of equal inclination (Haidinger Fringes); Fringes of equal thickness (Fizeau Fringes). Newton's Rings. The Michelson interferometer. Fraunhofer diffraction from a single slit. Rayleigh criterion and resolving power. Diffraction gratings. Fresnel diffraction: Fresnel's Half-Period Zones for Plane Wave and zone plate. Polarization: linear, circular and elliptic polarization. Double refraction and optical rotation.

❖ **Electricity and Magnetism** : Coulomb's law, Gauss's law. Electric field and potential. Electrostatic boundary conditions, Solution of Laplace's equation for simple cases. Conductors, capacitors, dielectrics, dielectric polarization, volume and surface charges, electrostatic energy. Biot-Savart law, Ampere's law, Faraday's law of electromagnetic induction, Self and mutual inductance. Alternating currents. Simple DC and AC circuits with R, L and C components. Displacement current, Maxwell's equations and plane electromagnetic waves, Poynting's theorem, reflection and refraction at a dielectric interface, transmission and reflection coefficients (normal incidence only). Lorentz Force and motion of charged particles in electric and magnetic fields.

❖ **Thermal and Statistical Physics**: Elements of kinetic theory of gases. Velocity Distribution and equipartition of energy. Specific heat of Mono-, di- and tri-atomic gases. Ideal gas, van-der-waals gas and equation state. Mean free path, law of thermodynamics, zeroth law and concept of thermal equilibrium. First law and its consequences, isothermal and adiabatic processes. Reversible and quasi-static processes. Second law of entropy, carnot cycle, Maxwell's thermodynamic relation. Thermodynamic potentials and their applications. Phase transition. Ideas of ensembles,

Maxwell Boltzmann, Fermi-Dirac and Bose-Einstein distributions.

❖ **Modern Physics** : inertial frames and Galilean invariance, Postulates of special relativity, Lorentz transformations, length contraction, time dilation, relativistic velocity addition theorem, mass energy equivalence, Blackbody radiation, photoelectric effect, Compton effect, Bohr's atomic model, X-rays, wave-particle duality, Uncertainty principle, the superposition principle, calculation of expectation values, Schrödinger equation and its solution for one, two and three dimensional boxes, Solution of Schrödinger equation for the one dimensional harmonic oscillator, reflection and transmission at a step potential, Pauli exclusion principle, structure of atomic nucleus, mass and binding energy, radioactivity and its applications, law of radioactive decay.

❖ **Solid state Physics, Devices and Electronics** : Crystal structure, Bravais lattices and basis. Miller indices, X-RAY diffraction and Bragg's law; intrinsic and extrinsic semiconductors, variation of resistivity with temperature, Fermi level, p-n junction diode, I-V characteristics, Zener diode and its applications, BJT: characteristics in CB, CE, CC modes, amplifier, Boolean algebra: Binary number systems; conversion from one system to another system; binary addition and subtraction, logic Gates AND, OR, NOT, NAND, NOR exclusive OR; Truth tables; combination of gates; de Morgan's theorem.

### CHEMISTRY

#### **A. Inorganic Chemistry**

❖ **Periodic Table**: Periodic classification of elements, periodicity; Variations of orbital energy, effective nuclear charge, atomic, covalent, and ionic radii, ionization enthalpy, electron gain enthalpy, and electro negativity with atomic number.

- ❖ **Chemical Bonding and shapes of molecules:** Ionic bond: packing of ions in crystals, radius ratio rule, Born-Haber cycle, solvation energy, polarizing power and polarizability; hybridization, molecular orbital theory, molecular orbital diagrams of diatomic and simple polyatomic molecules and ions; Multiple bonding ( $\sigma$  and  $\pi$  bond approach) and bond lengths; weak bonds, hydrogen bonding ; VSEPR theory.
- ❖ **Main Group Elements(s and p blocks):** Reaction of alkali and alkaline earth metals with oxygen, hydrogen and water; Alkali and alkaline earth metals in liquid ammonia; Gradation in properties of main group element in a group; Inert pair effect; synthesis, structures and properties of diborane, ammonia, silane, phosphine and hydrogen sulphide; Allotropes of carbon; Oxides of nitrogen, phosphorous and sulphur; Oxoacids of phosphorus, sulphur and chlorine; Halides of silicon and phosphorus; Synthesis and properties of benzene.
- ❖ **Extraction of Metal:** Mineral and ores, General methods of isolation and purification of elements.
- ❖ **Transition Metal (d block):** Characteristics of d-blocks element; oxide, hydroxide and salts of first row metals; coordination complexes: structure, isomerism, reaction mechanism and electronic spectra; VB, MO and Crystal field theoretical approaches for Structure, color and magnetic properties of metal complexes; Organ metallic compounds with metal-ligand single and multiple bonds (such as metal carbonyls, metal nitro-lysis and metallocenes); Homogenise catalysis involving Wilkinson's catalyst.
- ❖ **Inorganic polymers:** Silicones, phosphazenes.
- ❖ **Bioinorganic Chemistry:** Essential and trace elements of life; basic reaction in the biological systems and the role of metal ions, especially  $\text{Fe}^{2+}$  and  $\text{Zn}^{2+}$  ; structures and function of myoglobin , haemoglobin and carbonic anhydrase.
- ❖ **Analytical Chemistry:** Principles of qualitative and quantitative analysis; Acid -base , oxidation reduction and complex metric titration using EDTA; Precipitation reactions.



## B. Organic Chemistry

- ❖ **Basic Concepts in Organic Chemistry and Stereochemistry:** Electronic effects (resonance inductive hyper conjugation) and steric effects and its application (acid/base property); optical isomerism in compounds with and without any stereocenters (allenes, biphenyls); conformation of acyclic system (substituted ethane/n-propane/n-butane) and cyclic systems, substituted cyclohexanes.
- ❖ **Chemistry of functional groups :** General properties and reactions of alkanes, alkenes, alkynes, alkyl halides, alcohols, phenol, ethers, Carbonyl compounds, carboxylic acid and their derivatives, amines; synthetic application of organic reactions.
- ❖ **Chemistry of Biomolecules:** Carbohydrate-classification, general properties and reaction; Amino acids and proteins; Nucleic acids
- ❖ **Qualitative Organic Analysis:** Identification of functional groups by chemical tests; elementary UV, IR and <sup>1</sup>H NMR spectroscopic techniques as tools for structural elucidation of simple organic molecules.
- ❖ **Aromatic and Heterocyclic Chemistry:** Monocyclic, bicyclic and tricyclic aromatic hydrocarbons, and monocyclic compounds with one hetero atom: synthesis, reactivity and properties, aromaticity; Electrophilic and nucleophilic aromatic substitution reactions.

## C. Physical Chemistry

- ❖ **Atomic and Molecular Structure:** Planck's black body radiation, Photoelectric effect, Atomic models de Broglie postulate, Heisenberg's Uncertainty Principle; Schrodinger's wave equation, wave function, spectrum of hydrogen atom; Shapes of s, p, d and f orbital; electronic configuration
- ❖ **Gaseous State:** Kinetic molecular model of a gas: molecular collisions; Maxwell-Boltzmann distribution; molecular velocities, law of equipartition of energy, Ideal gases, and deviation from ideal gas behaviour, vander Waals equation of state.
- ❖ **Liquid State:** Physical properties of Liquid, vapour pressure, surface tension and coefficient of viscosity and their applications; effect of concentration of solutes on surface

tension and viscosity; effect of temperature on viscosity of liquids.

- ❖ **Solid State:** Unit Cells, Miller indices, crystals systems and Bravais Lattices, X-ray diffraction, Bragg's Law, Structure of NaCl, CsCl and KCl, diamond, and graphite; Close packing in metals and metal compounds, semiconductors, insulators; Defects in crystals, lattice energy; isomorphism.
- ❖ **Chemical Thermodynamics and Thermo chemistry:** Reversible and irreversible process; Laws of thermodynamics, Thermo chemistry, thermodynamic functions, such as enthalpy, entropy, and Gibbs free energy, their properties and applications.
- ❖ **Chemical Equilibrium:** Law of mass action  $K_p$ ,  $K_c$  and  $K_x$ ; Effect of temperature on  $K$ ; Le-Chatelier's principle; Ionic equilibria in solutions; pH and buffer solutions; Salt hydrolysis; Solubility and Solubility product.
- ❖ **Phase Equilibrium:** Gibbs phase rule; phase equilibria; single and two component phase diagram.
- ❖ **Electrochemistry:** Conductivity, equivalent and molar conductivity and their properties: Kohlrausch law; Applications of conductance measurement; Quantitative aspects of Faraday's laws of electrolysis, application of electrolysis in metallurgy and industry; Electromotive force of a cell, Nernst equation; Standard electrode potential, Electrochemical series; Application of EMF measurement including potentiometric titrations.
- ❖ **Solution and Colligative Properties:** Concentrations terms, Raoult's Law and Henry's Law, vapour pressure, Elevation in boiling point, Depression in Freezing point, Osmotic pressure
- ❖ **Chemical Kinetics:** Order and molecularity of reaction, differential and integrated form of rate equation; Temperature dependence of reaction rates, Arrhenius equation, activation energy; Collision theory of reaction rates.
- ❖ **Adsorption:** Gibbs adsorption isotherm; types of adsorption; surface area of adsorbents; surface films on liquids.
- ❖ **Spectroscopy:** Beer-Lambert's Law; fundamental concepts of rotational, vibrational and electronic spectroscopy.

## **BIOLOGY**

### **❖ MICROBIOLOGY, PHYCOLOGY AND MYCOLOGY**

**Microbiology:** Viruses, Bacterial Cell Wall, Bacterial Reproduction (conjugation, transformation and transduction)

**Phycology-**thallus organization; Cell structure; Reproduction, Morphology and life-cycle of *Nostoc*

**Mycology-** Brief account of allied fungi and applied mycology, life cycle pattern of *Puccinia*.

**Phytopathology-** Fungal diseases – Early blight of potato, Black stemrust of wheat.

### **❖ NON-FLOWERING PLANTS**

**Bryophytes-** Range of thallus organization. Morphology, anatomy, reproduction and alternation of generation of *Riccia* and *Funaria*. Ecological and economic importance of Bryophytes.

**Pteridophytes-** Ecological and economic importance of **pteridophytes**. life cycle and alternation of generation of *Selaginella*, *Equisetum* and *Pteris*.

**Gymnosperms-** life cycle of *Cycas* and *Pinus*; Ecological and economic importance.

### **❖ PLANT ANATOMY AND EMBRYOLOGY**

**Tissues and its types (Permanent and Meristematic)** Secondary growth.

**Adaptations of xerophytes and hydrophytes**

**Pollination and fertilization** brief account of Pollination and double fertilization.

### **❖ ECOLOGY AND ENVIRONMENTAL STUDIES**

Trophic organization; Food chains and Food webs; Ecological pyramids. Pond ecosystem, grassland ecosystem and forest ecosystem, Biogeochemical cycles (Carbon, Nitrogen and Phosphorus cycle), Energy flow and productivity.

**Phytogeographical regions of India; Local Vegetation and Endemism; hotspots**

### **❖ Biodiversity and Conservation**

Biodiversity: Definition, threats and importance, natural resources: renewable and non-renewable, conservation- in-situ and ex-situ methods. IUCN conservation category: Endangered, threatened, vulnerable, Biodiversity management committees, people's biodiversity register; Red Data Book, sustainable development goals: Biofuel. Convention on Biological Diversity, National Biodiversity Authority and Botanical Survey of India

**economically important plants with special reference to Jharkhand** (Kendu, Ber, Sahtoot, Mango, Jamun, Piyar, Karonda)

Botanical Nomenclature- Principles and rules of ICBN, Mutations; Molecular basis of Mutations; Mutagen, Photosynthesis as a chemical process – Light and Dark reaction, The pigment system. Plant growth regulators, Photoperiodism, Cell wall and plasma membrane Chemistry, structure and function of Plant cell wall. Overview of membrane function; fluid mosaic model; Chemical composition of membranes

**Cell organelles Nucleus:** Structure-nuclear envelope, nuclear pore complex, nuclear lamina, molecular organization of chromatin; nucleolus. Chloroplast, mitochondria and peroxisomes: Structural organization; Function; Semiautonomous nature of mitochondria and chloroplast. Endomembrane system: Endoplasmic Reticulum – Structure, targeting and insertion of proteins in the ER, protein folding, processing; Smooth ER, export of proteins and lipids. Golgi Apparatus – organization, protein glycosylation, protein sorting and export from Golgi Apparatus; Lysosomes, Cell division Phases of eukaryotic cell cycle, mitosis and meiosis; Regulation of cell cycle- checkpoints. Biomolecules, Carbohydrates, Lipids, Proteins, Enzymes. DNA synthesis, Concept of central dogma, protein synthesis, Biological Intellectual Property Right.

## Zoology

- ❖ **Kingdom Protista**, Parazoa and Metazoa General characteristics and classification up to classes; Study of Euglena, Amoeba and Paramecium.
- ❖ **Phylum Porifera** General characteristics and classification up to classes; Canal system in sponges.
- ❖ General characteristics and classification up to classes; Life cycle, pathogenicity of Ascaris
- ❖ **DIVERSITY OF CHORDATA**

		<p>Introduction to Coelomates Evolution of coelom and metamerism.  Introduction to Chordates General characteristics and outline classification  Zoogeographical realms, Theories pertaining to distribution of animals, Plate tectonic and Continental drift theory, Distribution of vertebrates in different realms.</p> <p>❖ <b>ANIMAL PHYSIOLOGY</b>  Structure, location, classification and function of epithelial tissue, connective tissue, Muscular tissue and nervous tissue.  Functional Histology of endocrine glands - pineal, pituitary, thyroid, parathyroid, pancreas, adrenals</p> <p>❖ <b>BIOLOGY OF INSECTA</b>  General Features of Insects Distribution and Success of Insects on the Earth  Insect Society Group of social insects and their social life</p>
06.	<b>SOCIAL STUDIES</b>	<p><b><u>History</u></b></p> <p>❖ स्रोत - साहित्यिक /पुरातात्विक</p> <p>❖ पाषाण काल</p> <p>❖ हड़प्पा सभ्यता</p> <p>❖ वैदिक सभ्यता, महाजनपद काल</p> <p>❖ बौद्ध एवं जैन धर्म</p> <p>❖ मगध का उत्कर्ष तथा मौर्यवंश</p> <p>❖ उत्तर मौर्य - शुंग, कण्व, सातवाहन, कुषाण वंश</p> <p>❖ गुप्त वंश एवं हर्षवर्द्धन का काल</p> <p>❖ दक्षिण भारत राजवंश - चोल, चालुक्य, पाण्ड्य पल्लव, संगम युग</p> <p>❖ त्रिपक्षीय संघर्ष तथा (पाल, प्रतिहार, राष्ट्रकूल)</p> <p>❖ मध्यकालीन भारत का इतिहास</p> <p>(1) अरबों का आक्रमण  (2) महमूद गजनी एवं मो० गोरी  (3) दिल्ली सन्तनत- गुलामवंश, खिलजीवंश, तुगलक वंश, सैय्यद वंश एवं लोदी वंश  (4) स्वतंत्र प्रांत - विजयनगर, बहमनी</p>

- (5) भक्ति एवं सूफी आंदोलन
- (6) मुगल राजवंश शिवाजी

#### ❖ आधुनिक भारत का इतिहास

- (1) भारत में विदेशी कम्पनियों का आगमन तथा औपनिवेशिक शासन की स्थापना (बंगाल, मराठा, अथवा हैदराबाद, मैसूर, पंजाब सिंध, अवध)
- (2) 1857 का विद्रोह
- (3) विभिन्न गवर्नर जनरल एवं वायसराय का कार्य-काल
- (4) विभिन्न चार्टर अधिनियम तथा भारत शासन अधिनियम
- (5) सामाजिक सुधार आंदोलन तथा प्रमुख संस्थाएँ
- (6) कांग्रेस की स्थापना तथा नरम दल एवं गरम दल
- (7) होमरूल आंदोलन, गाँधीयुग असहयोग आंदोलन, सविनय अवज्ञा आंदोलन, भारत छोड़ो आंदोलन।
- (8) भारत में क्रांतिकारी आंदोलन
- (9) सम्प्रदायिकता का विकास- (आधुनिक काल में)
- (10) 1940 के उपरांत संवैधानिक संकट तथा आजादी की प्राप्ति

#### ❖ झारखण्ड का इतिहास एवं संस्कृति

- (1) झारखण्ड की प्रमुख जनजातियाँ
- (2) जनजातियों की प्रमुख संस्थाएँ पर्व-त्योहार एवं परम्पराएँ
- (3) झारखण्ड के प्रमुख जनजातीय विद्रोह
- (4) टाना भगत विद्रोह
- (5) बिरसा मुण्डा उलगुलान
- (6) टाना भगत आन्दोलन
- (7) झारखण्ड में 1857 का विद्रोह
- (8) झारखण्ड में स्वतंत्रता आंदोलन
- (9) झारखण्ड आंदोलन एवं पृथक राज्य का निर्माण

#### ❖ विश्व का इतिहास

- (1) फ्रांसीसी क्रांति
- (2) नेपोलियन बोनापार्ट
- (3) मेटरनिक युग

- (4) जर्मनी एवं इटली का एकीकरण
- (5) प्रथम विश्वयुद्ध
- (6) पेरिस की संधि, राष्ट्र संघ
- (7) द्वितीय विश्वयुद्ध- संयुक्त राष्ट्र संघ।

### **Geography**

- ❖ Physical geography- Earthquake and Volcanoes; Landforms formed by rivers, glaciers, winds; Erosion and weathering; Atmospheric Composition and structure; Isolation and Temperature; winds;
- ❖ Geography of India and Jharkhand- Physiography, Climate, Drainage, Soil, Agriculture, Minerals
- ❖ Cartographic techniques- scale, isolines, map reading.

### **Political Science**

#### ❖ **POLITICAL THEORY**

1. Nature and significance of political theory
2. Liberty and Equality
3. Justice and Rights
4. Secularism
5. Sovereignty – Monism and Pluralism
6. Democracy: Types, Methods of Participation and Representation
7. Federalism

#### ❖ **INDIAN GOVERNMENT AND POLITICS**

1. Indian Constitution: Salient Features
2. Preamble and Philosophy of Indian Constitution
3. Fundamental Rights and Duties, Directive Principles of State Policy
4. Union Executive: President, Council of Ministers and Prime Minister
5. Union Legislature: Lok Sabha and Rajya Sabha
6. Supreme Court: Power and Functions

## 7. Nature of Indian Federalism

### **ECONOMICS**

#### ❖ **Theories of Consumers Behaviour**

- Law of diminishing marginal utility and Law of Equi-marginal utility
- Indifference Curve Analysis
- Consumer Surplus

#### ❖ **Theories of production**

- Short-run and Long-run production function
- Isoquants and expansion path

#### ❖ **Theories of Distribution**

- Marginal Productivity theory of distribution

#### ❖ **Theories of Market**

- Equilibrium of firm and industry in perfect and imperfect market

#### ❖ **National Income Accounting**

#### ❖ **Concept, Evolution and functions of Money.**

#### ❖ **Functions of Commercial and Central Bank.**

#### ❖ **Inflation- Causes, Effects and measures to Control.**

#### ❖ **Economic Reforms - LPG policy.**

#### ❖ **Features of Jharkhand Economy.**

### **Sociology**

#### ❖ **Principle of Sociology**

- [Definitions; Nature & Scope; Social Group – Meaning & Classifications; Stratification - meanings, forms & theories; Culture- meaning, element, personality, Cultural lag; Status & role – meaning, types)



❖ **Classical Sociological Thinkers**

- [Auguste Comte; Herbet Spencer; Emile Durkheim; Karl Marx; Max Weber.]

❖ **Modern Indian Social Thoughts**

- [G.S. Ghurye; A.R. Desai; R.K. Mukherjee; N.K. Bose; M.N. Srinivas; B.R. Ambedker; Irawati Karve]

❖ **Society in India.**

- [Village, Towns, Rural – Urban linkages; Institutions – caste; class & power; Weaker Sections – Dalits, Tribals, Minorities; Castesim; Regionalism; dominant caste; Sanskritization; Change & Transformation in Indian Society – approaches]

❖ **Social Problems in Contemporary India.**

- [Minorities; Dowry – meaning, causes & effects; Poverty – meaning, causes & remedies; Unemployment – Meaning & Causes; Child Labour – Problem, Remedies & Legislations; violence against women – Causes & remedies]

❖ **Sociology of Development & Change.**

- [Social Change – meaning & factors; forms of social change – evolution, progress, revolution; Theories of social change – evolutionary, cyclical; Westernization & modernization – Impact; Development – Meaning & Approaches; Patterns of social change]

❖ **Rural Sociology**

- [Nature & Scope; Characteristics of rural society; Rural Family – Concept & types; Rural Leadership – meaning types, functions; Panchayati Raj System and its Function; Rural Development Programmes in India]

❖ **Marriage, Family & Kinship**

- [Marriage – meaning & types; Problems of marriage in India – Dowry, Child Marriage;
- Family – meaning, types & functions; Recent changes in Family System in India
- Kinship – meaning & Types; Kinship Usages]

❖ **Sociology of Tribes**

- [Concept; Tribes & caste; Tribal family, kinship and marriage; tribal movement in Jharkhand; constitutional safeguards; De-tribalization – meaning & causes]

		<ul style="list-style-type: none"> <li>❖ <b>Research Methodology</b> <ul style="list-style-type: none"> <li>○ [Meaning; importance; stages; social survey; Hypothesis – Meaning &amp; Characteristics; Sampling – meaning, types; Questionnaire &amp; Schedule; Observations – meaning &amp; Types]</li> </ul> </li> <li>❖ <b>Urban Sociology</b> <ul style="list-style-type: none"> <li>○ [Nature; Scope; importance; town &amp; its characteristics; rural – urban continuum; Migration – meaning &amp; characteristics; Urban community – meaning &amp; characteristics; Urban Problem – Slum, Alcoholism &amp; urban Poverty]</li> </ul> </li> </ul>
07.	<b>CHILD DEVELOPMENT &amp; PEDAGOGY</b>	<ul style="list-style-type: none"> <li>❖ <b>Growth and Development</b> <p>Stage of growth and development with respect to Physical, Motor, Social, Emotional and Cognitive development with reference to –</p> <p>(I) Infancy (ii) Early Childhood (iii) Childhood</p> <p><b><u>Adolescence - with special reference to the</u></b> –</p> <p>(I) Needs and problems of the adolescent</p> <p>(II) Aspects of growth and development during adolescence (Physical, Emotional, Social and Mental)</p> </li> <li>❖ <b>Heredity and Environment</b> <ul style="list-style-type: none"> <li>❖ Importance and role of heredity and Environment</li> <li>❖ Educational implications</li> </ul> </li> <li>❖ <b>Individual difference</b> <ul style="list-style-type: none"> <li>❖ Nature, Areas, Causes</li> <li>❖ Influence of individual differences on learning ; Educational implications</li> </ul> </li> </ul>

		<ul style="list-style-type: none"> <li>❖ <b>Intelligence and Creativity</b> <ul style="list-style-type: none"> <li>❖ Emotional Intelligence           <ul style="list-style-type: none"> <li>❖ Theories of Intelligence</li> <li>❖ Distribution of Intelligence               <ul style="list-style-type: none"> <li>(i) Gifted, (ii) Backward – Slow Learner &amp; (iii) Mentally Challenged</li> </ul> </li> </ul> </li> <li>(I) Process of Creativity</li> <li>(II) Role of teachers in Enhancing Creativity</li> </ul> </li> <li>❖ <b>Personality</b> <ul style="list-style-type: none"> <li>Nature, Factors, Types, Theories</li> </ul> </li> <li>❖ <b>Learning and Teaching</b> <ul style="list-style-type: none"> <li>- Theories of Learning</li> <li>- Motivation -           <ul style="list-style-type: none"> <li>(i) Technique of motivate children in classroom</li> </ul> </li> </ul> </li> <li><b><u>Guidance and Counseling</u></b> <ul style="list-style-type: none"> <li>- Role of the teacher and school in Guidance and Counselling</li> </ul> </li> </ul>
08.	<b>GENERAL STUDIES</b>	❖ सामान्य अध्ययन से संबंधित प्रश्न।
09.	<b>LANGUAGE SUBJECT</b>	हिन्दी /अंग्रेजी /उर्दू /संथाली /बंगला /मुण्डारी(मुण्डा) /हो /खड़िया /कुडुख (उरांव) /कुरमाली /खोरठा /नागपुरी /पंचपरगनिया /उड़िया /संस्कृत

\*AS PER STATE UNIVERSITY SYLLABUS OF JHARKHAND.