

NATIONAL P. G. COLLEGE, LUCKNOW

(An Autonomous NAAC Grade 'A' College of University of Lucknow)

Ph.D. Entrance Syllabus

• EDUCATION

Unit 1: Educational Studies

1. Contribution of Indian Schools of philosophy (Sankhya Yoga, Vedanta, Buddhism, Jainism) with special reference to Vidya, Dayanand Darshan; and Islamic traditions towards educational aims and methods of acquiring valid knowledge
2. Contribution of Western schools of thoughts (Idealism, Realism, Naturalism, Pragmatism, Marxism, Existentialism) and their contribution to Education with special reference to information, knowledge and wisdom.
3. Approaches to Sociology of Education (symbolic Interaction, Structural Functionalism and Conflict Theory). Concept and types of social Institutions and their functions (family, school and society), Concept of Social Movements, Theories of Social Movements (Relative Deprivation, Resource Mobilization, Political Process Theory and New Social Movement Theory)
4. Socialization and education- education and culture; Contribution of thinkers (Swami Vivekananda, Rabindranath Tagore, Mahatma Gandhi, Aurobindo, J. Krishnamurthy, Paulo Freire, Wollstonecraft, Nel Noddings and Savitribai Phule) to the development of educational thought for social change, National Values as enshrined in the Indian Constitution - Socialism, Secularism, justice, liberty, democracy, equality, freedom with special reference to education.

Unit 2: History, Politics and Economics of Education

1. Committees and Commissions' Contribution to Teacher Education Secondary Education Commission (1953), Kothari Education Commission (1964-66), National Policy of Education (1986,1992), National Commission on Teachers (1999), National Curriculum Framework 2005, National Knowledge Commission (2007), Yashpal Committee Report (2009), National Curriculum Framework for Teacher Education (2009), Justice Verma Committee Report (2012)
2. Relationship between Policies and Education, Linkage between Educational Policy and National Development, Determinants of Educational Policy and Process of Policy formulation: Analysis of the existing situation, generation of policy options, evaluation of policy options, making the policy decision, planning of policy implementation, policy impact assessment and subsequent policy cycles.
3. Concept of Economics of Education: Cost Benefit Analysis Vs Cost Effective Analysis in Education, Economic returns to Higher Education Signalling Theory Vs Human Capital Theory, Concept of Educational Finance; Educational finance at Micro and Macro Levels, Concept of Budgeting.
4. Relationship Between Politics and Education, Perspectives of Politics of Education Liberal, Conservative and Critical, Approaches to understanding Politics

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(Behaviouralist, Theory of Systems Analysis and Theory of Rational Choice),
Education for Political Development and Political Socialization.

Unit 3: Learner and Learning Process

1. Growth and Development: Concept and principles ,Cognitive Processes and stages of Cognitive Development , Personality: Definitions and theories (Freud, Carl Rogers, Gordon Allport, Max Wertheimer, Kurt Koffka) , Mental health and Mental hygiene.
2. Approaches to Intelligence from Unitary to Multiple: Concepts of Social intelligence, multiple intelligence, emotional intelligence Theories of Intelligence by Sternberg, Gardner, Assessment of Intelligence, Concepts of Problem Solving, Critical thinking, Metacognition and Creativity.
3. Principles and Theories of learning: Behaviouristic, Cognitive and Social theories of learning, Factors affecting social learning, social competence, Concept of social cognition, understanding social relationship and socialization goals.
4. Guidance and Counselling: Nature, Principles and Need, Types of guidance (educational, vocational, personal, health and social & Directive, Non-directive and Eclectic), Approaches to counselling – Cognitive-Behavioural (Albert Ellis – REBT) & Humanistic, Person-centred Counselling (Carl Rogers) - Theories of Counselling (Behaviouristic, Rational, Emotive and Reality).

Unit 4: Teacher Education

1. Meaning, Nature and Scope of Teacher Education; Types of Teacher Education Programs, The Structure of Teacher Education Curriculum and its Vision in Curriculum Documents of NCERT and NCTE at Elementary, Secondary and Higher Secondary Levels , Organization of Components of Pre-service Teacher Education Transactional Approaches (for foundation courses) Expository, Collaborative and Experiential learning.
2. Understanding Knowledge base of Teacher Education from the view point of Schulman, Deng and Luke & Habermas, Meaning of Reflective Teaching and Strategies for Promoting Reflective Teaching, Models of Teacher Education - Behaviouristic, Competency-based and Inquiry Oriented Teacher Education Models.
3. Concept, Need, Purpose and Scope of In-service Teacher Education, Organization and Modes of In-service Teacher Education, Agencies and Institutions of In-service Teacher Education at District, State and National Levels (SSA, RMSA, SCERT, NCERT, NCTE and UGC), Preliminary Consideration in Planning in-service teacher education programme (Purpose, Duration, Resources and Budget).
4. Concept of Profession and Professionalism, Teaching as a Profession, Professional Ethics of Teachers, Personal and Contextual factors affecting Teacher Development, ICT Integration, Quality Enhancement for Professionalization of Teacher Education, Innovation in Teacher Education.

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Unit 5: Curriculum Studies

1. Concept and Principles of Curriculum, Strategies of Curriculum Development, Stages in the Process of Curriculum development, Foundations of Curriculum Planning - Philosophical Bases (National, democratic), Sociological basis (socio cultural reconstruction), Psychological Bases (learner's needs and interests), Bench marking and Role of National level Statutory Bodies - UGC, NCTE and University in Curriculum Development.
2. Models of Curriculum Design: Traditional and Contemporary Models (Academic / Discipline Based Model, Competency Based Model, Social Functions / Activities Model [social reconstruction], Individual Needs & Interests Model, Outcome Based Integrative Model, Intervention Model, C I P P Model (Context, Input, Process, Product Model).
3. Instructional System, Instructional Media, Instructional Techniques and Material in enhancing curriculum Transaction, Approaches to Evaluation of Curriculum : Approaches to Curriculum and Instruction (Academic and Competency Based Approaches), Models of Curriculum Evaluation: Tyler's Model, Stakes' Model, Scriven's Model, Kirkpatrick's Model.
4. Meaning and types of Curriculum change, Factors affecting curriculum change, Approaches to curriculum change, Role of students, teachers and educational administrators in curriculum change and improvement, Scope of curriculum research and Types of Research in Curriculum Studies.

Unit 6: Research in Education

1. Meaning and Scope of Educational Research, Meaning and steps of Scientific Method, Characteristics of Scientific Method (Replicability, Precision, Falsifiability and Parsimony), Types of Scientific Method (Exploratory, Explanatory and Descriptive), Aims of research as a scientific activity: Problem-solving, Theory Building and Prediction, Types of research (Fundamental, Applied and Action), Approaches to educational research (Quantitative and Qualitative), Designs in educational research (Descriptive, Experimental and Historical).
2. Variables: Meaning of Concepts, Constructs and Variables, Types of Variables (Independent, Dependent, Extraneous, Intervening and Moderator), Hypotheses - Concept, Sources, Types (Research, Directional, Non-directional, Null), Formulating Hypothesis, Characteristics of a good hypothesis, Steps of Writing a Research Proposal, Concept of Universe and Sample, Characteristics of a good Sample, Techniques of Sampling (Probability and Non-probability Sampling), Tools of Research - Validity, Reliability and Standardisation of a Tool, Types of Tools (Rating scale, Attitude scale, Questionnaire, Aptitude test and Achievement Test, Inventory), Techniques of Research (Observation, Interview and Projective Techniques).
3. Types of Measurement Scale (Nominal, Ordinal, Interval and Ratio), Quantitative Data Analysis - Descriptive data analysis (Measures of central tendency, variability, fiduciary limits and graphical presentation of data), Testing of Hypothesis (Type I and

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Type II Errors), Levels of Significance, Power of a statistical test and effect size, Parametric Techniques, Non- Parametric Techniques , Conditions to be satisfied for using parametric techniques, Inferential data analysis, Use and Interpretation of statistical techniques: Correlation, t-test, z-test, ANOVA, chi-square (Equal Probability and Normal Probability Hypothesis). Qualitative Data Analysis - Data Reduction and Classification, Analytical Induction and Constant Comparison, Concept of Triangulation.

4. Qualitative Research Designs: Grounded Theory Designs (Types, characteristics, designs, Steps in conducting a GT research, Strengths and Weakness of GT) - Narrative Research Designs (Meaning and key Characteristics, Steps in conducting NR design), Case Study (Meaning, Characteristics, Components of a CS design, Types of CS design, Steps of conducting a CS research, Strengths and weaknesses), Ethnography (Meaning, Characteristics, Underlying assumptions, Steps of conducting ethnographic research, Writing ethnographic account, Strengths and weaknesses), Mixed Method Designs: Characteristics, Types of MM designs (Triangulation, explanatory and exploratory designs), Steps in conducting a MM designs, Strengths and weakness of MM research.

Unit 7: Pedagogy, Andragogy and Assessment

1. Pedagogy, Pedagogical Analysis - Concept and Stages, Critical Pedagogy- Meaning, Need and its implications in Teacher Education, Organizing Teaching: Memory Level (Herbartian Model), Understanding Level (Morrison teaching Model), Reflective Level (Bigge and Hunt teaching Model), Concept of Andragogy in Education: Meaning, Principles, Competencies of Self-directed Learning, Theory of Andragogy (Malcolm Knowles), The Dynamic Model of Learner Autonomy.
2. Assessment – Meaning, nature, perspectives (assessment for Learning, assessment of learning and Assessment of Learning) - Types of Assessment (Placement, formative, diagnostic, summative) Relations between objectives and outcomes, Assessment of Cognitive (Anderson and Krathwohl), Affective (Krathwohl) and psychomotor domains (R.H. Dave) of learning.
3. Assessment in Pedagogy of Education: Feedback Devices: Meaning, Types, Criteria, Guidance as a Feedback Devices: Assessment of Portfolios, Reflective Journal, Field Engagement using Rubrics, Competency Based Evaluation, Assessment of Teacher Prepared ICT Resources.
4. Assessment in Andragogy of Education - Interaction Analysis: Flanders' Interaction analysis, Galloway's system of interaction analysis (Recording of Classroom Events, Construction and Interpretation of Interaction Matrix), Criteria for teacher evaluation (Product, Process and Presage criteria, Rubrics for Self and Peer evaluation (Meaning, steps of construction).

Unit 8: Technology in/ for Education

1. Concept of Educational Technology (ET) as a Discipline: (Information Technology, Communication Technology & Information and Communication Technology (ICT) and Instructional Technology, Applications of Educational Technology in formal, non-

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formal (Open and Distance Learning), informal and inclusive education systems, Overview of Behaviourist, Cognitive and Constructivist Theories and their implications to Instructional Design (Skinner, Piaget, Ausubel, Bruner, Vygotsky), Relationship between Learning Theories and Instructional Strategies (for large and small groups, formal and non-formal groups).

2. Systems Approach to Instructional Design, Models of Development of Instructional Design (ADDIE, ASSURE, Dick and Carey Model, Mason's), Gagne's Nine Events of Instruction and Five E's of Constructivism, Nine Elements of Constructivist Instructional Design, Application of Computers in Education: CAI, CAL, CBT, CML, Concept, Process of preparing ODL, Concept of e learning, Approaches to E-learning (Offline, Online, Synchronous, Asynchronous, Blended learning, mobile learning).
3. Emerging Trends in e learning: Social learning (concept, use of web 2.0 tools for learning, social networking sites, blogs, chats, video conferencing, discussion forum), Open Education Resources (Creative Commons, Massive Open Online Courses; Concept and application), E Inclusion - Concept of E Inclusion, Application of Assistive technology in E learning, Quality of E Learning – Measuring quality of system: Information, System, Service, User Satisfaction and Net Benefits (D&M IS Success Model, 2003), Ethical Issues for E Learner and E Teacher - Teaching, Learning and Research.
4. Use of ICT in Evaluation, Administration and Research: E portfolios, ICT for Research - Online Repositories and Online Libraries, Online and Offline assessment tools (Online survey tools or test generators) – Concept and Development.

Unit 9: Educational Management, Administration and Leadership

1. Educational Management and Administration – Meaning, Principles, Functions and importance, Institutional building, POSDCORB, CPM, PERT, Management as a system, SWOT analysis, Taylorism, Administration as a process, Administration as a bureaucracy, Human relations approach to Administration, Organisational compliance, Organizational development, Organizational climate.
2. Leadership in Educational Administration: Meaning and Nature, Approaches to leadership: Trait, Transformational, Transactional, Value based, Cultural, Psychodynamic and Charismatic, Models of Leadership (Blake and Mouton's Managerial Grid, Fiedler's Contingency Model, Tri-dimensional Model, Hersey and Blanchard's Model, Leader-Member Exchange Theory).
3. Concept of Quality and Quality in Education: Indian and International perspective, Evolution of Quality: Inspection, Quality Control, Quality Assurance, Total Quality Management (TQM), Six sigma, Quality Gurus: Walter Shewart, Edward Deming, C.K Pralhad.
4. Change Management: Meaning, Need for Planned change, ThreeStep-Model of Change (Unfreezing, Moving, Refreezing), The Japanese Models of Change: Just-in-Time, Poka yoke, Cost of Quality: Appraisal Costs, Failure costs and Preventable costs, Cost Benefit Analysis, Cost Effective Analysis, Indian and International Quality Assurance

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Agencies: Objectives, Functions, Roles and Initiatives (National Assessment Accreditation Council [NAAC], Performance Indicators, Quality Council of India [QCI] , International Network for Quality Assurance Agencies in Higher Education [INQAAHE]).

Unit 10: Inclusive Education

1. Inclusive Education: Concept, Principles, Scope and Target Groups (Diverse learners; Including Marginalized group and Learners with Disabilities), Evolution of the Philosophy of Inclusive Education: Special, Integrated, Inclusive Education, Legal Provisions: Policies and Legislations (National Policy of Education (1986), Programme of Action of Action (1992), Persons with Disabilities Act (1995), National Policy of Disabilities (2006), National Curriculum Framework (2005), Concession and Facilities to Diverse Learners (Academic and Financial), Rehabilitation Council of India Act (1992), Inclusive Education under Sarva Shiksha Abhiyan (SSA), Features of UNCRPD (United Nations Convention on the Rights of Persons with Disabilities) and its Implication.
2. Concept of Impairment, Disability and Handicap, Classification of Disabilities based on ICF Model, Readiness of School and Models of Inclusion, Prevalence, Types, Characteristics and Educational Needs of Diverse learners' Intellectual, Physical and Multiple Disabilities, Causes and prevention of disabilities, Identification of Diverse Learners for Inclusion, Educational Evaluation Methods, Techniques and Tools.
3. Planning and Management of Inclusive Classrooms: Infrastructure, Human Resource and Instructional Practices, Curriculum and Curricular Adaptations for Diverse Learners, Assistive and Adaptive Technology for Diverse learners: Product (Aids and Appliances) and Process (Individualized Education Plan, Remedial Teaching), Parent-Professional Partnership: Role of Parents, Peers, Professionals, Teachers, School.
4. Barriers and Facilitators in Inclusive Education: Attitude, Social and Educational, Current Status and Ethical Issues of inclusive education in India, Research Trends of Inclusive Education in India.

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• ENGLISH

UNIT I: Drama – Restoration Drama, Augustan Drama, Elizabethan Drama

1. **Historical Contexts of Each Period** – Understanding the socio-political and cultural climates of the Elizabethan (1558–1603), Restoration (1660–1688), and Augustan (1700–1750) eras, and how they shaped dramatic forms.
2. **Major Playwrights** – Study of key dramatists such as Shakespeare, Marlowe, Kyd (Elizabethan); Dryden, Congreve, Wycherley (Restoration); and Sheridan, Goldsmith (Augustan).
3. **Themes and Concerns** – Exploration of dominant themes like love, power, morality, satire, comedy of manners, and political commentary.
4. **Generic Features** – Familiarity with forms such as tragedy, history plays, romantic comedy, comedy of humours, comedy of manners, heroic drama, and sentimental comedy.
5. **Dramatic Conventions** – Use of soliloquies, aside, blank verse, wit and repartee, dramatic unities, and theatricality.
6. **Performance and Audience Culture** – Understanding the evolution of theatre spaces: The Globe, indoor theatres, Restoration playhouses, and audience behaviour.
7. **Influence and Legacy** – How each dramatic period influenced later literature, drama theory, and modern theatre.

UNIT II: Poetry – From Chaucer to Victorian Age

1. **Chronological Coverage** – Survey of major poetic movements from Middle English poetry (Chaucer) to Victorian poets (Tennyson, Browning, Arnold).
2. **Representative Poets** – Chaucer, Spenser, Donne and the Metaphysical, Milton, Dryden, Pope, Blake, Wordsworth, Coleridge, Shelley, Keats, Browning, Tennyson, and others.
3. **Poetic Forms and Techniques** – Sonnets, epics, odes, ballads, dramatic monologue, allegory, satire, blank verse, and lyrical poetry.
4. **Themes Across Ages** – Nature, faith and doubt, love, war, morality, humanism, imagination, industrialization, and social criticism.
5. **Movements and Schools** – Renaissance poetry, Metaphysical poetry, Neoclassical verse, Pre-Romantics, Romanticism, Victorian poetry.
6. **Evolution of Style and Language** – Shift from Middle English to Early Modern English; rise of personal voice; transition from reason to emotion.
7. **Major Literary Debates** – Romantic imagination vs. neoclassical decorum, Victorian moral earnestness, and emerging modern sensibilities.

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UNIT III: Fiction – 16th to 20th Century

1. **Origins and Growth of the Novel** – Development from early prose romances and picaresque narratives to the rise of the English realistic novel in the 18th century.
2. **Major Authors and Works** – Cervantes, Defoe, Richardson, Fielding, Austen, Brontë sisters, Dickens, Hardy, Conrad, Woolf, Joyce, Orwell, Forster.
3. **Genres and Forms** – Gothic fiction, realist novel, bildungsroman, modernist fiction, dystopian fiction, psychological novel, and postcolonial fiction (up to the 20th century).
4. **Themes and Preoccupations** – Individual vs. society, morality, class, gender, imperialism, industrialization, human psychology, alienation.
5. **Narrative Techniques** – Omniscient narration, unreliable narrator, stream of consciousness, interior monologue, fragmentation.
6. **Historical Influences** – Enlightenment, Industrial Revolution, Victorian social conditions, World Wars, and early modernism.
7. **Evolution of Characterization** – From flat/moral characters to complex, psychologically rich figures.

UNIT IV: Language – Basic Concepts, Theories and English Pedagogy

1. **Basic Linguistic Concepts** – Phonetics, phonology, morphology, syntax, semantics, pragmatics.
2. **Language Acquisition Theories** – Behaviourism, innatism (Chomsky), interactionism, cognitive theories, and sociocultural perspectives.
3. **Pedagogical Approaches** – Grammar-translation method, communicative language teaching, task-based learning, structural and functional approaches.
4. **English in Use** – Registers, varieties of English, code-switching, discourse analysis, spoken vs. written language.
5. **Language Change and Variation** – Historical, social, and regional variations; world Englishes.
6. **Teaching of English** – Curriculum design, assessment strategies, classroom management, error analysis, ELT in Indian classrooms.
7. **Language and Society** – Relationship between language, identity, power, and social groups.

UNIT V: English in India – History, Evolution and Futures

1. **Historical Foundations** – Introduction of English during colonial rule; Macaulay's Minute; English education under British administration.
2. **Indianization of English** – Development of Indian English literature, linguistic features of Indian English, and code-mixing.
3. **Postcolonial Perspectives** – Debates on English vs. vernacular languages, linguistic imperialism, nationalism, and language identity.

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4. **English in Contemporary India** – English as a link language, academic language, and global communication tool.
5. **Policy and Pedagogy** – English in Indian education policy, curriculum frameworks (NCF, NEP 2020), teaching challenges.
6. **Indian English Writers** – Raja Rao, R.K. Narayan, Anita Desai, Salman Rushdie, Arundhati Roy, Amitav Ghosh, among others.
7. **Future Directions** – Digital literacy, English and globalization, expanding multilingualism.

UNIT VI: Cultural Studies

1. **Origins and Scope** – Emergence of Cultural Studies from Birmingham School; interdisciplinary nature.
2. **Key Concepts** – Ideology, representation, discourse, identity, power structures, hybridity, hegemony.
3. **Major Thinkers** – Raymond Williams, Stuart Hall, Foucault, Gramsci, Edward Said, Homi Bhabha, Gayatri Spivak.
4. **Popular Culture** – Film, television, advertisements, social media, fashion, and music as cultural texts.
5. **Race, Class, Gender, Sexuality** – Intersectional approaches to analyzing cultural production.
6. **Globalization and Culture** – Cultural flows, homogenization, resistance, diaspora cultures.
7. **Methodologies** – Semiotics, discourse analysis, ethnography, reader-response, deconstruction.

UNIT VII: Literary Criticism

1. **Classical Criticism** – Aristotle, Horace, Longinus; mimesis, catharsis, decorum, sublimity.
2. **Neoclassical and Romantic Criticism** – Johnson, Wordsworth, Coleridge; reason vs. imagination, poetic diction.
3. **Modern Critical Theories** – Formalism, New Criticism, Structuralism, Post-structuralism.
4. **Psychoanalytic, Marxist and Feminist Criticism** – Freud, Lacan, Marx, Engels, Showalter, Butler.
5. **Postcolonial and Queer Theory** – Said, Bhabha, Spivak; sexuality and identity studies.
6. **Reader-centric Approaches** – Reader-response, reception theory, hermeneutics.
7. **Contemporary Debates** – Eco-criticism, digital humanities, affect theory.

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UNIT VIII: Research Methods and Materials in English

1. **Research Fundamentals** – Nature, scope, and objectives of research in literary studies.
2. **Types of Research** – Qualitative, quantitative, mixed methods; textual, archival, digital, comparative.
3. **Formulating Research Questions** – Hypothesis building, narrowing down topics, identifying gaps.
4. **Research Tools and Sources** – Primary and secondary resources, libraries, databases, bibliographies, online repositories.
5. **Citation and Documentation** – MLA, APA, Chicago styles; avoiding plagiarism; ethical research practices.
6. **Research Writing** – Writing proposals, abstracts, theses, annotated bibliographies, reviews.
7. **Methodological Approaches** – Close reading, discourse analysis, historiography, ethnography, digital tools.

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• GEOGRAPHY

UNIT I: Geomorphology

Continental Drift, Plate Tectonics, Internal and External Geomorphic Forces, Processes of Denudation and Weathering, Geomorphic Cycles (Davis and Penck), Concepts and Mechanisms of Slope Formation, Earth Movements (earthquakes, folding, faulting and volcanism), Spatial Distribution of Landforms, Fluvial Processes and Landforms (erosion, transportation, deposition, drainage patterns), Glacial Processes and Landforms, Aeolian Processes and Landforms, Coastal Processes and Landforms, Karst Topography, Soil Formation and Pedogenesis, Morphogenetic Regions (Peltier and Budel), Applied Geomorphology, Causes and Distribution of Geomorphic Hazards (earthquakes, volcanic eruptions, landslides, avalanches)

UNIT II: Climatology

Composition and Structure of Atmosphere, Insolation, Earth's Heat Budget, Temperature, Pressure and Winds, Atmospheric Circulation (air masses, fronts, jet streams and upper air circulation), Cyclones and Anticyclones (tropical and temperate), Atmospheric Stability and Instability, Heat and Moisture Transfer, Monsoon Theories (Halley, Dynamic, Flohn), Air Pollution Meteorology, Climatic Classification (Koppen, Thornthwaite, Trewartha), ENSO Events (El Nino, La Nina and Southern Oscillation), Meteorological Hazards (cyclones, thunderstorms, tornadoes, hailstorms, heat waves, cold waves, drought, cloudburst, GLOF), Climate Change: Evidence and Causes, Anthropogenic Impacts, Human Biometeorology (heat stress, wind chill)

UNIT III: Oceanography

Relief of Oceans, Temperature, Density and Salinity of Ocean Water, Ocean Circulation (warm and cold currents), Waves, Tides, Sea-Level Changes, Marine Ecology and Biodiversity, Coral Reefs (Darwin, Daly, Murray), Estuaries, Mangroves, Marine Resources (biotic, abiotic and energy), Marine Pollution, Oceanic Hazards (tsunami, cyclonic disturbances)

UNIT IV: Geography of Environment / Biogeography

Ecosystem Components and Geographic Classification, Human Ecology, Trophic Levels, Energy Flow, Biogeochemical Cycles (carbon, nitrogen, oxygen), Food Chain, Food Web, Ecological Pyramids, Ecological Succession (Clements and Gleason), Biodiversity (levels, hotspots, conservation), Protected Areas (national parks, wildlife sanctuaries, biosphere reserves), Environmental Pollution (air, water, land, noise), Urban Heat Island, Desertification and Land Degradation, Human Impacts on Environment, Environmental Ethics and Deep Ecology, Environmental Impact Assessment (EIA), Environmental Policies and Legal

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Framework, International Environmental Agreements (Brundtland Commission, Kyoto Protocol, Agenda 21, SDGs, Paris Agreement)

UNIT V: Population and Settlement Geography

Population Geography:

Sources of Population Data (census, sample surveys, vital statistics), Patterns and Determinants of Population Distribution, Population Growth (prehistoric to modern), Demographic Transition, Theories of Population (Malthus, Sadler, Ricardo, Optimum Population Theory, Marxian Theory), Fertility and Mortality Measures, Population Ageing, Demographic Dividend, Migration (types, causes, consequences, models), Population Composition (age, sex, rural–urban, occupational, educational), Population Projection and Forecasting, Population Policies (developed and developing), Family Planning Programmes

Settlement Geography:

Rural Settlements (types, patterns, distribution), Rural Service Centres and Hierarchy, Rural Problems (migration, land-use change, land acquisition), Origin of Towns (Childe, Pirenne, Mumford), Urbanisation (developed and developing), Size, Structure and Functions of Towns, Urban Systems (primate city and rank-size rule), Central Place Theories (Christaller and Losch), Urban Structure Models (Burgess, Hoyt, Harris-Ullman), Urban Morphology (Bid-Rent Theory, CBD, residential patterns), Megacities, Global Cities, Edge Cities, Peri-Urban Areas, Urban Governance, Housing Problems, Social Segregation, Urban Poverty (slums, informal sector, crime, exclusion), Smart and Sustainable Cities

UNIT VI: Geography of Economic Activities and Regional Development

Economic Geography:

Spatial Organisation of Economic Activities (primary, secondary, tertiary, quaternary), Natural Resources (classification, distribution, problems), Resource Politics (water geopolitics, oil politics), Resource Management, World Energy Crisis, Digital Economy and E-Commerce.

Agricultural Geography:

Land Capability Classification, Land-Use Planning, Cropping Patterns (Weaver, Doi, Rafiullah), Crop Diversification, Agricultural Productivity (measures and determinants), Regional Variations, Von Thunen's Model, Agricultural Systems of the World, World Agriculture Types (Whittlesey).

Industrial Geography:

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Industrial Classification, Industrial Location Factors, Location Theories (Weber, Hoover, Losch, Pred, Smith), World Industrial Regions, SEZs and Industrial Decentralisation, Globalisation and Industry, ICT and Knowledge-Based Industries.

Transport and Trade:

Spatial Interaction Theories (Ullman, Hurst), Connectivity and Accessibility Indices, Gravity Models and Variants, WTO, Globalisation and Trade Patterns, Intra- and Inter-Regional Cooperation, International Trade Theories (Comparative Advantage, Heckscher-Ohlin)

Regional Development:

Typology of Regions, Formal and Functional Regions, Regional Disparities, Theories of Regional Development (Hirschman, Myrdal, Friedman, Dependency Theory, Growth Pole Theory), Global Economic Blocs, Regional Development and Social Movements, Rural Development Programmes, Backward Area Development

UNIT VII: Cultural, Social and Political Geography

Cultural and Social Geography:

Culture, Cultural Complexes, Cultural Regions, Cultural Landscape (Sauer), Cultural Ecology, Cultural Diffusion (Hagerstrand), Cultural Convergence and Divergence, Social Structure and Processes, Social Well-Being and Quality of Life, Social Exclusion, Spatial Distribution of Social Groups (tribe, caste, religion, language), Ethnic Conflicts, Gender Geography, Disease Ecology, Nutritional Status, Health Care Policies, Medical Tourism.

Political Geography:

State, Nation, Nation-State, Boundaries and Frontiers (types and Indian examples), Heartland and Rimland Theories, Trends in Political Geography, Electoral Geography and Behaviour, Electoral Reforms, Geopolitics of Climate Change, Water Geopolitics (Indus, Nile, Jordan), Geopolitics of Resources, Indian Ocean Geopolitics, Geopolitical Codes (Lacoste, O'Tuathail), Regional Cooperation (SAARC, ASEAN, EU, OPEC), Neopolitics of Natural Resources

UNIT VIII: Geographic Thought

Greek, Roman, Arab, Chinese, Indian Contributions to Geography, Contributions of Varenus, Kant, Humboldt, Ritter, Schaefer, Hartshorne, Impact of Darwinian Thought, Major Traditions (Earth-science, Man–Environment, Area Studies, Spatial Analysis), Dualisms (physical–human, regional–systematic, qualitative–quantitative, ideographic–nomothetic), Paradigm Shifts, Quantitative Revolution, Radical Geography (Harvey), Humanism, Behaviouralism, Structuralism, Feminism, Postmodernism, Time–Space Convergence (Hägerstrand), Contemporary Indian Contributions (cartographic, thematic, methodological)

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UNIT IX: Geographical Techniques

Sources of Geographic Data (spatial and non-spatial), Map Types, Choropleth, Isarithmic, Dasymetric, Chorochromatic and Flow Maps, Data Representation (pie, bar, line), GIS Databases (raster, vector, attribute), GIS Functions (conversion, editing, overlay, buffering, network analysis), DEM, Georeferencing (coordinate systems, map projections, datums), Remote Sensing (EMR, sensors, platforms, resolutions), Photo and Image Interpretation, Photogrammetry, Aerial Photographs, Digital Image Processing, UAV/Drone Remote Sensing, Big Data in Resource Management, GPS Components and Uses, Statistical Techniques (central tendency, dispersion, inequalities, sampling, chi-square, t-test, ANOVA, time series, correlation and regression, spatial autocorrelation, Moran's I, Geary's C, Kriging), Index Construction, Composite Indices, PCA, Cluster Analysis, Morphometric Analysis (stream ordering, bifurcation ratio, drainage density, drainage frequency, circularity ratio, form factor, profiles, slope analysis, clinographic curve, hypsographic curve, altimetric frequency graph)

UNIT X: Geography of India

Physiographic Regions and Evolution, Drainage Systems (Himalayan and Peninsular), Water Disputes and Management, Climate (seasonal weather, monsoon mechanisms, jet streams, Himalayan cryosphere), Natural Resources (soil, vegetation, water, minerals, marine resources), Population Distribution, Growth and Composition (rural–urban, age, sex, educational, occupational, ethnic, religious), Determinants and Policies, Agriculture (production, productivity, crop regions, regional variations, agro-climatic zones, Green Revolution, food security), Industries (post-independence growth, industrial regions, industrial corridors, industrial policies), Transport Networks (rail, road, water, air, pipelines), Internal and External Trade (trends, composition, direction), Regional Planning, Globalisation and Indian Economy, Natural Disasters (earthquake, drought, flood, cyclone, tsunami, Himalayan hazards).

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• HISTORY

Unit 1: Sources, Prehistory, Protohistory and Early Historic Developments

- Archaeological sources: exploration, excavation, epigraphy, numismatics; dating techniques.
- Literary sources: indigenous, foreign accounts (Greek, Chinese, Arabic); issues of dating.
- Neolithic & Chalcolithic cultures: settlement, tools, exchange.
- Indus/Harappa Civilization: origins, society, polity, religion, decline, trade, urbanisation.
- Vedic & Later Vedic periods: Aryan debates, political & social institutions, state theories, varna, stratification, iron technology, megaliths.
- Mahajanapadas, emergence of states, second urbanisation, heterodox sects (Jainism, Buddhism, Ajivikas).

Unit 2: State Formation, Empire Building and Early Classical Age

- Rise of Magadha; Alexander's invasion.
- Mauryan Empire: polity, society, economy, Ashoka's Dhamma, decline, art & architecture, edicts.
- Post-Mauryan polities: Indo-Greeks, Sungas, Satavahanas, Kushanas, Sakas; Sangam literature & society.
- Trade with Roman world; Mahayana Buddhism; Kharavela; art schools—Gandhara, Mathura, Amaravati.
- Gupta-Vakataka age: polity, society, agrarian economy, land grants, rights, Sanskrit, science & technology.
- Harsha's administration & religion; Salankayanas & Visnukundins.

Unit 3: Early Medieval India – Regional Kingdoms, Society, Economy & Culture

- Regional kingdoms of Deccan, South, East, West & North India (Gangas to Paramaras).
- Features of early medieval polity, kingship, state structure.
- Agrarian economy, land grants, land rights, coins; trade networks; ports & guilds; SE Asia contacts.
- Growth of Vaishnavism, Shaivism; temples; Bhakti; Shankara, Madhava, Ramanuja.
- Social structure: caste proliferation, women, tribes, untouchability.
- Education: agraharas, mathas, mahaviharas; regional languages.
- State formation debates: feudal, segmentary, integrative models.
- Arab accounts, Sulaiman, Ghaznavid conquests, Alberuni.

Unit 4: Political Developments in Medieval India

- Sources of medieval history: archaeological, Persian, Sanskrit, regional, daftar records, foreign travellers.
- Delhi Sultanate: Ghorids to Lodis; decline.

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- Mughal Empire: Babur to Aurangzeb; expansion, consolidation, decline; later Mughals & disintegration.
- Deccan polities: Vijayanagara, Bahmani Sultanate; Bijapur, Golkonda, Bidar, Berar, Ahmadnagar; Gajapatis.
- Rise & expansion of Marathas: Shivaji, Peshwas, confederacy, decline.
- Frontier policies; inter-state relations.

Unit 5: Medieval Administration, Economy and Material Culture

- Administration under Sultanate & Mughals: central, provincial, local; succession; Mansabdari & Jagirdari.
- Vijayanagara & Bahmani administrative systems; Maratha administration (Ashta Pradhan).
- Agriculture, irrigation, village economy, loans, taxation, peasantry.
- Industries: textiles, handicrafts, agro-based industries, technology.
- Trade & commerce: internal/external trade, European traders, ports, transport; hundi, insurance, currency, minting.
- Famines & peasant revolts.

Unit 6: Society, Religion and Culture in Medieval India

- Social organisation; ruling classes, ulema, merchants, professionals, Rajputs.
- Rural society: chiefs, village officials, cultivators, artisans.
- Position of women: zenana, devadasi traditions.
- Sufism: orders, saints, practices; social interactions.
- Bhakti movement: major saints of North & South; impact; women saints.
- Sikh movement: Guru Nanak, teachings, Adi Granth, Khalsa.
- Education: centres, curriculum, madarasa learning.
- Art and architecture: Indo-Islamic, Mughal architecture, regional temples, forts, gardens.
- Painting: Mughal, Rajasthani, Pahari, Garhwali; development of music.

Unit 7: Modern India – Colonial State, Economy, Society and National Movement

- Sources of modern history.
- European traders; British conquest; relations with states; administrative evolution.
- 1857 Revolt: causes, nature, impact.
- Colonial administrative structures; princely states; local self-government; constitutional acts (1909–1935).
- Colonial economy: trade, agriculture, land settlements, indebtedness, irrigation.
- De-industrialisation; modern industries; labour laws; trade unions; railways; communication; Urbanisation, town planning; famines; epidemics.
- Tribal & peasant movements.
- Indian society in transition: missions, education, science, technology; Social-religious reform movements; caste mobility; women's organisations & legal reforms.

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- National movement: Congress phases; Gandhian movements; revolutionaries; Bose & INA; Left politics; depressed classes; communal politics; Partition.
- Post-1947 India: integration of princely states, Constitution, planning, tribal issues, linguistic reorganisation, foreign policy, emergency, liberalisation.

Unit 8: Historical Methodology and Historiography

- Scope & importance of History; objectivity; bias.
- Heuristics, criticism, synthesis, presentation; auxiliary sciences.
- Causation, imagination, regional history; trends in Indian history.
- Research methodology: hypothesis, topic selection, data collection, notes, referencing, bibliography, plagiarism, thesis writing.
- Historiography: Greek, Roman, Church; Renaissance; Ranke; Marxism; Spengler; Toynbee; postmodernism; Indian historiographical trends.

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• PHYSICAL EDUCATION

Unit 1: Foundations of Physical Education

- History & Development: Indian & Western, Philosophical foundations, aims & objectives, principles, etc.
- Role of PE: Education, society, research, curriculum planning, program development, etc.
- Trends & Policies: National & international trends, professional ethics, educational policies, etc.

Unit 2: Exercise Physiology

- Body Systems: Muscular, cardiovascular, respiratory, nervous, energy systems, etc.
- Physiological Adaptations: Training responses, fatigue, recovery, performance enhancement, etc.
- Nutrition & Ergogenic Aids: Sports nutrition, exercise for special populations, stress responses, etc.

Unit 3: Kinesiology & Biomechanics

- Movement Mechanics: Planes, axes, levers, force, torque, motion analysis, etc.
- Application in Sports: Mechanical principles in skills, posture, balance, postural correction, etc.
- Ergonomics & Equipment: Sports equipment biomechanics, injury prevention, performance improvement, etc.

Unit 4: Sports Psychology & Motor Learning

- Learning & Skill Acquisition: Learning theories, motor control, memory, etc.
- Motivation & Behavior: Personality, anxiety, aggression, self-efficacy, etc.
- Group & Leadership: Team cohesion, group dynamics, leadership, psychological performance factors, etc.

Unit 5: Measurement, Evaluation & Statistics

- Test Construction: Reliability, validity, objectivity, norms, etc.
- Assessment Tools: Fitness, motor ability, skill tests, standardized protocols, etc.
- Data Analysis: Descriptive & inferential statistics, research reporting, etc.
- Computer Applications: MS Excel, SPSS, R, MATLAB for data analysis, simulation, predictive modelling, digital scoring, performance tracking, etc.

Unit 6: Training & Coaching

- Training Principles: Overload, specificity, progression, reversibility, etc.
- Program Design: Periodization, load management, recovery, adaptation, performance monitoring, etc.
- Coaching Methods: Talent identification, skill analysis, evaluation techniques, video-assisted coaching, motion analysis tools, etc.

Unit 7: Health, Wellness & Rehabilitation

- Health & Fitness: Concepts of health, wellness, lifestyle management, etc.

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- Rehabilitation & Therapy: Injury prevention, physiotherapy, therapeutic exercise, etc.
- Special Populations: Elderly, differently-abled, chronic conditions, adaptive programs, etc.
- tele-rehabilitation tools, etc.

Unit 8: Pedagogy in Physical Education

- Teaching Methods: Demonstration, guided discovery, peer teaching, lecture, etc.
- Lesson & Curriculum Planning: Unit planning, evaluation of teaching-learning, etc.
- Inclusive Education: Adapted physical education, classroom & field pedagogy, assessment strategies, etc.
- Educational Technology: Smartboards, MS PowerPoint, interactive apps, online lesson planning, digital evaluation tools, blended learning, virtual PE labs, etc.

Unit 9: ICT & Technology in PE

- Computer Applications: MS Excel, MS PowerPoint, fitness testing software, motion capture systems, biomechanical analysis software, performance monitoring tools, etc.
- Digital Learning & Teaching: E-learning modules, video analysis, simulation, online skill tutorials, virtual PE classrooms, etc.
- Data & Research Tools: Digital data collection, cloud databases, wearable sensors, statistical & predictive modeling, digital reporting, etc.

Unit 10: Research Methodology & Ethics

- Research Fundamentals: Nature, scope, types, objectives, problem formulation, hypothesis development, etc.
- Data & Analysis: Sampling techniques, data collection, reliability & validity of tools, statistical methods, MS Excel/SPSS analysis, etc.
- Ethics & Reporting: Ethics in research, plagiarism, dissertation writing, referencing, presentation, publication standards, etc.

QUESTION PAPER PATTERN					
Section	Type of Questions	Total Questions	Questions to be Attempted	Marks per Question	Total Marks
A	MCQs	20	20	1	20
B	Short Answer	6	4	5	20
C	Long Answer	5	3	10	30
					Total = 70