

Syllabus for Uchcha Madhyamic Paper II STET 2023

UNIT I Subject -----AGRICULTURE

100 Marks

Unit I: Ecology and its relevance to man

Ecology and its relevance to man, natural resources, their management and conservation. Physical and social environment as factors of crop distribution and production. Climatic elements as factors of crop growth, impact of changing environment on cropping pattern as indicators of environments. Environmental pollution and associated hazards to crops, animals and humans.

Unit II Agro-climatic Zones of Bihar

Agro-climatic Zones of Bihar; Cropping pattern in different agro-climatic zones of the country-with special reference to North Bihar and South Bihar, Impact of high-yielding and short duration varieties on shifts in cropping patterns in Bihar. Concept of multiple cropping, mixed cropping, relay and inter-cropping and their importance in relation to food production. Package of practices for production of important cereals, pulses, oilseeds, fibre, sugar and commercial crops grown during kharif and rabi seasons in different regions of the country. Important spices crops of Bihar-chillies, ginger, turmeric and coriander.

Unit III Forestry

Important features, scope and propagation of various types of forestry plantations, such as extension/social forestry, agro forestry and natural forests.

Unit IV Weeds, their characteristics

Weeds, their characteristics, dissemination and association with various crops, their multiplication; integrated weed management; cultural, biological and chemical control of weeds.

Unit V Soil Formation.

Processes and factors of soil formation, classification of Indian soils including modern concepts, Major soil types of Bihar; Mineral and organic constituents of soils and their role in maintaining soil productivity. Problem soils-extent and distribution in India; Problems of soil salinity, alkalinity and acidity and their management. Essential plant nutrients and other beneficial elements in soil and plants, their occurrence, factors affecting their distribution, functions and cycling in soils. Symbiotic and non-symbiotic nitrogen fixation, Principles of soil fertility and its evaluation for judicious fertiliser use; bio-fertilisers. Problems of Tal Diara and chour lands in Bihar, cropping system in such situations.

Unit VI Soil conservation

Soil conservation planning on water-shed basis, Erosion and runoff management in foot hills and valley lands; processes and factors affecting them Dry land agriculture and its problems. Technology for stabilising agriculture production in rainfed agriculture area. Water use efficiency in relation to crop production criteria for scheduling irrigations, ways and means of reducing runoff losses of irrigation water. Drainage of Water-logged soils. Role of different command area Development Agencies in agricultural development of Bihar.

VII Agricultural Marketing

Marketing and pricing of agricultural inputs and outputs; price fluctuations, Types and systems of Farming and factors affecting them. Role of Co-operative marketing and credit in agricultural development of Bihar.

Unit VIII Agricultural Extension

Agricultural extension, its importance and role, methods of evaluation of extension programmes; Important extension methods and media, rural leadership, socio-economic survey and status of big, small and marginal farmers and landless agricultural labourers. Farm mechanisation and its role in agricultural production and rural employment. Training programmes for extension workers. Krishi Vigyan Kendras, role of non-government organisations (N.G.Os) in extension.

Unit IX Plant Breeding

Application of principles of plant breeding to the improvement of major field crops, methods of breeding of self and cross-pollinated crops. Introduction selection, hybridisation heterosis and its exploitation. Male sterility and self-incompatibility, utilisation of Mutation and polyploidy in breeding, use of biotechnology and tissue culture in agriculture.

Unit X Heredity and Variation

Heredity and variation, Mendal's law of inheritance, chromosomal theory of inheritance, cytoplasmic inheritance, sex linked, sex influenced and sex-limited characters. spontaneous and induced mutations. Quantitative characters.

Unit XI Important Recommended Varieties of Principal crops in Bihar

Important recommended varieties of principal crops in Bihar. Origin and domestication of field crops. Morphology patterns of variation in varieties and related species of important field crops, causes and utilisation of variation in crops improvement.

Unit XII Seed Technology

Seed Technology and its importance; production, processing and testing of seeds of crop plants. Role of National and State seed organisation in production, processing and marketing of improved seed.

Unit XIII Climatic requirements and cultivation of major fruits and vegetables in Bihar

Climatic requirements and cultivation of major fruits and vegetables in Bihar; their recommended package of practices. Handling and marketing problems of fruits and vegetables; principal methods of preservation, important fruits and vegetable products. Processing techniques and equipment. Role of fruits and vegetables in human nutrition; landscape and floriculture including raising of ornamental plants and design and lay-out of lands and garden. Diseases and pests of field, vegetable, orchard and plantation crops of Bihar and their causes and management. Classification of plant diseases; principles of plant diseases control including exclusion, eradication, immunisation and protection. Biological control of pests and diseases. Integrated management of pests and diseases. Pesticides and their formulation. Plant quarantine.

XIV Storage pests of cereals and pulses

Storage pests of cereals and pulses; hygiene of storage godown, preservation and remedial measures. Hazards of pesticides use and safety measures.

Syllabus for Art of Teaching and Other Skills STET 2023

Unit II Art of Teaching, Other skills

Marks 50

(A) Art of Teaching

Marks 30

(B) Other skills

Marks 20

A. Art of Teaching

B. Teaching & Learning:- Meaning, Process & Characteristics.

C. Teaching Objectives and Instructional objectives: Meaning & Types, Blooms Taxonomy.

D. Teaching Methods: - Types and its Characteristics, Merit, and demerits of Methods.

E. Lesson Plan: - Types and Format & Various Model.

- F. Microteaching & Instructional analysis.
- G. Effective ecosystem of Classroom.
- H. Textbook and library
- I. Qualities of Teacher.
- J. Evaluation & Assessment for learning.
- K. Curriculum.
- L. Factors affecting teaching and learning.
- M. Teaching Aids and Hands on learning.

B. Other skills

1. General Knowledge,
- 2.Environmental Science
3. Mathematical aptitude,
- 4.logical Reasoning

Syllabus for Uchcha Madhyamic Paper II STET 2023

UNIT I Subject BOTANY

100 Marks

Unit-1 : General Biology & Microbiology

- An elementary study of origin of life, Evolution, Natural Selection, Darwinism and Neo-Darwinism.
- A comparative account of two kingdom, five kingdom and three domain classification systems
- Microbiology: Conceptual history of Microbiology.
- Techniques of isolation of micro-organisms and culture media preparation.
- Structure, growth and reproduction of Bacteria.
- Structure and reproduction of TMV and Bacteriophage.
- Industrial importance of bacteria.
- Role of microbes in nitrogen fixation.
- Structure, reproduction and economic importance of Cyanobacteria.

Unit-2 : Mycology and Plant Pathology

- General Study of structure, reproduction and classification of fungi.
- Structure and life History of following genera; Synchytrium, Albugo, Erysiphe, Peziza, Ustilago, Puccinia, and Alternaria.
- Role of Toxin and Enzymes in plant diseases. 2. Etiology, Symptoms and Control of the following plant diseases.
- (a) Late blight of Potato (b) Wart disease of Potato (c) White rust of Crucifers. (d) Powdery mildews (e) Loose Smut of wheat. (f) Brown Leaf Spot of Rice. (g) Rust of Wheat and Linseed. (h) Red Rot of Sugarcane. (i) Wilt of Pigeon Pea. (j) Citrus Canker. (k) Tobacco Mosaic Disease. (l) Little Leaf of Brinjal.
- Transmissions of Plant Viruses and Control measures.

Unit-3: Plant Diversity Algae - A general Study of the structure, reproduction and classification of Algae.

- Structure, Life History and evolutionary significance of following genera. Nostoc, Rivularia, Chlamydomonas, Volvox, Oedogonium, Chara, Vaucheria, Ectocarpus, Fucus, Batrachospermum, and Polysiphonia
- Lichens - A general account
- Bryophytes - General characteristics and classification of Bryophytes.
- A comparative study of the structures and life history of the following genera with particular reference to gametophytes and sporophytes. Marchantia, Peltia, Anthoceros, Sphagnum and Pogonatum.

Unit-4 : Pteridophytes General Characteristics and Classification, Stellar Evolution, Herterospory

- Structures and life history of the following genus: Psilotum, Lycopodium, Selaginella, Equisetum, Marsilea, Ophioglossum and Azolla
- Fossils: Rhynia, Lepidodendron and Calamities
- Gymnosperms- A Comparative and Evolutionary study of the morphological, anatomical and embryological features of gymnosperms with special reference to the following taxa-Living: Cycas, Pinus, Taxus and Gnetum
- Fossils: Lygenopteris and Cycadaeioidea.

Unit-5 :Taxonomy:

1. Introduction: Systematic, Taxonomy, Nomenclature, Classification and Phylogeny, Phenetics, Phyletic and Cladistics.

2. An elementary study of International Code of Botanical Nomenclature with particular references to the following - Naming of taxa, Nomenclatural types (Holotype, Isotype, Paratype, Syntype, lectotype and neotype) and Rule of priority.

3. A comparative study of the classification systems of : · Carolus Linnaeus. · G. Bentham & Hooker · Adolf Engler & Karl Prantl · John Hutchinson. 4. A study of diagnostic features and relationships of : Ranunculaceae, Annonaceae, Magnoliaceae, Cryophyllaceae, Tiliaceae, Euphorbiaceae, Curubitaceae, Rubiaceae, Apocynaceae, Asclepiadaceae, Boraginaceae, Scrophulariaceae, Acanthaceae, Lamiaceae, Amaranthaceae, Orchidaceae, Commelinaceae, Cyperaceae and Poaceae.

Unit-6: Anatomy

1. Mechanical tissues –their structure, distribution and function.. 2. Organisation of Tissue in relation to environment. 3. Anomalous secondary growth. 4. Periderm- Structure, origin and function. 5. Meristems structure and function. Various theories regarding organization of special meristems.

Unit-7: Embryology :

1. Microsporogenesis and male gametophyte.
2. Megasporogenesis and female gametophyte.
3. Fertilization.
4. Embryogeny.
5. Endosperm.
6. An elementary study of experimental embryology.

Unit-8: Economic Botany:

1. Cereals. 2. Pulses 3. Oil Seeds 4. Sugar and Starch Yielding plants 5. Fruits and Vegetables. 6. Spices and Condiments 7. Beverages, Narcotics, gums, resins and rubber 8. Essential Oil. 9. Fiber Yielding Plants 10. Timber Yielding Plants. 11. Medicinal Plants.

Unit-9 : Biodiversity and Environmental Biology: (Question Code – BQ (161 – 180)

- An introduction to the concept of Biodiversity. Loss of Biodiversity and conservation
- Eco system: Structure and function of ecosystem; General study of grassland, fresh water and forest ecosystem

Unit-10 : Cell Biology:

1. Conceptual history, cell theory, a comparative account of pro-and eukaryotic cells, characteristics of archaebacteria and mycoplasma.

2. Structure and function of cell organelles.

3. Cell wall and Cell membrane.

4. Ultrastructure of chromosomes.

5. Cell Division and its regulation.

6. Techniques in cell biology: " Principle of light, phase contrast, fluorescence and electron microscopy, autoradiography and their application. " Staining techniques: Acetocarmine and Feulgen

Unit-11 : Cytogenetics and Plant Breeding

1. Structure of the nucleus and chromosomes including Lampbrush Chromosomes, B Chromosomes, Polytene Chromosomes.
2. Cell Cycle, Mitosis and Meiosis.
3. Physical and Chemical Basis of Heredity.
4. Mendelian Inheritance.
5. Interaction of genes.
6. Polyploidy.
7. Chromosomal aberrations.
8. Linkage and Crossing Over.
9. Structure, Replication and expression of DNA, Genetic Code.
10. Mutation: Induction and biochemical basis.
11. One gene-One Polypeptide chain Hypothesis.
12. Extra nuclear Inheritance.

13. Chromosomal and genetic sex-determination mechanism and Sex-Linked inheritance.
14. Human Genetics.
15. Genetics of bacteria and their viruses with special reference to conjugation, transduction and transformation.
16. Cytogenetics in crop Improvement.
17. General Principles of breeding for crop improvement.
18. Centres of origin of cultivated plants.

Unit-12 : Ecology and environmental studies

- **Ecological energetic:** Ecological factors, food chains and food web; Energy flow models, energy pyramids and biomass,
- **Biogeochemical cycles:** Hydrological cycle and water harvesting, gaseous and sedimentary nutrient cycle
- **Community ecology:** Structure and organization, individualistic and organization nature of community, functional aspects of communities Ecological succession; Seral and climax communities, succession in terrestrial and aquatic ecosystem
- An elementary study of population ecology
- **Environmental Pollution and Public Health:** Environmental pollutants, air and water pollution, radioactive and noise pollution, pollution control measures
- Major vegetational belts of India
- An elementary study of aerobiology
- **An introduction to MAB programme, resource ecology, conservation, forestry, wild life management and aquaculture**

Unit-13 : Plant Physiology and Biochemistry

- Imbibition, Diffusion and Osmosis
- Active and Passive transport of water and solutes; Conduction of water and Phloem transport
- Mechanism of stomatal movement and factors controlling it
- **Photosynthesis:** Pigment system, Photophosphorylation, Calvin cycle and Hatch and Slack cycle
- **Respiration:** Glycolysis, Krebs's Cycle, oxidative phosphorylation
- **Phytohormones:** General account and role of Auxins, Gibberellins and Cytokinins
- **Physiology of Flowering:** Photoperiodism
- Growth and Differentiation
- Movements in plant
- Biological Nitrogen Fixation and its mechanism
- Micro and Macronutrients and their role in plant nutritio
- **Biochemical component of cell:** Carbohydrates, Proteins, Fat and Nucleic Acid
- **Enzymes:** Classification, Nomenclature, Physiochemical properties, co-factors and co-enzymes, Iso-enzymes, Kinetics of enzyme action, significance, factors affecting enzyme activity
- Secondary plant metabolites and their roles

Unit-14 : (Question Code

- **Transcription and Translation:** General principles and mechanism of Transcription and Translation in prokaryotes and eukaryotes
- **Gene Regulation:** Prokaryotic Gene Regulation (Operon Concept), an elementary study of Eukaryotic Gene Regulation.
- **Genetic Engineering:** Tools and techniques of genetic engineering; Restriction Enzymes and Ligase, Reverse Transcriptase; Strategy for creation of recombinant DNA and its transfer in host. Cloning Vectors; Plasmids and Phagemids, genomic library & cDNA library. PCR and DNA fingerprinting
- **Role of genetic Engineering in Human Welfare**

Unit-15 : Plant Biotechnology:

- An introduction to Tissue Culture, Principles and significance of tissue culture, Explant culture and protoplast culture.

- **Application of Plant Tissue culture:** Commercial Applications of Plant Tissue culture; Mass Propagation; Transgenic Plants.
- **Bioinformatics:** An elementary idea.

Syllabus for Art of Teaching and Other Skills STET 2023

Unit II Art of Teaching, Other skills	Marks 50
(A) Art of Teaching	Marks 30
(B) Other skills	Marks 20

A. Art of Teaching

1. Teaching & Learning:- Meaning, Process & Characteristics.
2. Teaching Objectives and Instructional objectives: Meaning & Types, Blooms Taxonomy.
3. Teaching Methods: - Types and its Characteristics, Merit, and demerits of Methods.
4. Lesson Plan: - Types and Format & Various Model.
5. Microteaching & Instructional analysis.
6. Effective ecosystem of Classroom.
7. Textbook and library
8. Qualities of Teacher.
9. Evaluation & Assessment for learning.
10. Curriculum.
11. Factors affecting teaching and learning.
12. Teaching Aids and Hands on learning.

B. Other skills

1. General Knowledge,
2. Environmental Science
3. Mathematical aptitude,
4. logical Reasoning

Syllabus for Uchcha Madhyamic Paper II STET 2023

I Specified Subject Commerce- 100 Marks

Unit – I – Financial Accounting-

- Basic Concept of Book Keeping & Accounting.
- Preparation of subsidiary books of business.
- Preparation of Journal and Ledger
- Preparation of Trial Balance
- Principles of Accounting
- Preparation of Final Account of Trading concern
- Preparation of Final Account of Non – Trading concern
- Single Entry System.
- Hire-Purchase-System
- Instalment Payment System
- Dissolution of partnership firm- a case of solvency of partner
- Dissolution of partnership firm- a case of insolvency of partner
- Royalty Account
- Branch Account.
- Departmental Account.

Unit- II – Auditing-

Introduction, meaning, objectives, & classification of Audit

- Internal Check and Internal Audit.
- Audit procedure-Audit programme,
- Vouching,
- Valuation and Verification of Assets and Liabilities,
- Audit Report-Types.
- Company Audit-
- Qualification and disqualifications of Company Auditor-
- Rights, duties & liabilities of Company Auditor.
- Audit of Educational Institution and non-profit Company.

Unit- III – Business Law

The Indian contract Act 1872-Essential elements of Contract, kinds of contract, Law relating to offer and Acceptance, Consideration, competency to contract and free consent, Discharge of Contract.

- Sale of Goods Act 1930: Sale and agreement to sell, Law relating to conditions and warranty, sale by non-owner, Rights of unpaid seller,

- Indian Negotiable Instruments Act 1881: Type of negotiable Instruments.
- The Partnership Act 1932: Concept of partnership, Registration of a firm, Rights, Duties & Liabilities of a partner, Mode of dissolution of Partnership and Firm.
- Consumer's Protection Act 1986: Objectives & Machinery for consumer Protection, Types of consumers.

Unit- IV – Corporate Accounting:

Accounting for share Capital and debenture issue-

- Forfeiture and Reissue of forfeited shares,
- Redemption of Preference shares & debenture.
- Preparation of Final Account of a company as per company's Act-2013.
- Amalgamation of Companies.
- Accounting treatment for Internal Reconstruction.
- Accounting for Banking company
- Accounting for Insurance company.
- Accounting for Depreciation.

Unit- V –Cost Accounting:

- Meaning, Objectives, and Scope of Cost Accounting
- Its relationship with Financial Accounting & Management Accounting.
- Methods of costing.
- Elements of cost.
- Pricing of materials issued from Store.
- Classification, Allocation & Absorption of overheads.
- Methods of costing- unit costing,
- Job costing,
- Process costing
- Contract costing.

Unit- VI –Management Accounting:

- Meaning, nature, and scope of Management Accounting.
- Techniques of Management Accounting.
- Tools of Analysis of Financial statements.
- Scope and Significance of Financial Analysis
- Ratio analysis,

- Comparative analysis
- Fund Flow Analysis
- Cash Flow Analysis.
- Distinction between Cash Flow Statement and Fund Flow Statement.
- Inventory valuation Techniques.

Unit- VII –Income Tax-

- Concept, Objective and Types of Taxes-
- Direct and Indirect taxes.
- Residential Status & Computation of tax liability,
- Exemptions of income under section–10.
- Deductions under Section-80.
- Computation of income under- various Heads: -Salary, House property,
- Brief Introduction to-e-Filing.
- Basic Concept of Goods & Service tax (GST),
- Structure of GST,
- Exemptions from GST and Input tax credit.

Unit- VIII –Business Mathematics and Statistics:

- Mathematics for finance.
- Simple and compound Interest-
- Annuities-Discout and present values,
- Basic calculus-
- Rules for differentiation Matrix Theory,
- Determinants- Matrix operation, Business Applications.
- Statistics- Definition, scope, and limitations,
- Sources and Collection of data,
- Measures of central tendency- Mean, Median, Mode.
- Measures of Dispersion: Range, Mean Deviation, Standard Deviation
- Correlation: Karl Pearsons's correlation and Rank correlation,
- Time series: Components of Time series.
- Index Number: Methods of Construction and Measurements.

II	Art of Teaching, Other skills	Marks 50
	(A) Art of Teaching	Marks 30
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(A) Art of Teaching

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(B) Other skills

1. General Knowledge :- History of India, Geography of India, Economic Scenario,
Contribution of Bihar in National Movement, Current affairs
2. Environmental Science- Pollution. Solid Waste, Deforestation. Global Warming. Flora & Fauna
3. Mathematical aptitude: - Area, average, Compound Interest, Decimal Fractions LCM and HCF, Heights & Distances,
4. Logical Reasoning: - . Analogy, Classification, Series, Coding-Decoding, Blood Relations,

Syllabus For Uchcha Madhyamic Paper II STET 2023

UNIT I Subject -----Economics 100 Marks

Section A: Micro Economics

Unit I:

- Definition scope and subject matter of Economics
- Concept of opportunity cost, Production Possibility Curve

Unit II:

- Law of demand
- Elasticity of demand
- Cardinal and ordinal approach of law of demand
- Consumer surplus

Unit III:

- Law of supply
- Iso-quant, Iso-cost line
- Producer's equilibrium
- Law of variables proportions, Returns to scale
- Concept of costs; short run and long run cost curves

Unit IV:

- Types of markets
- Perfect Competition-Price determination, equilibrium of the firm and industry
- Monopoly- Price and output determination in monopoly
- Theory of Price discrimination
- Monopolistic competition
- Oligopoly Cournot's model, Kinked demand curve

Unit V :

1. Factors of Production
2. Marginal Productivity Theory of Distribution
3. Ricardian Theory of Rent, Modern theory of rent, Quasi rent
4. Classical and Keynesian theory of Interest
5. Demand and Supply theory of wages determination
6. Collective bargaining, Backward-bending supply curve of labour
7. Profit- Knight's theory of Profit, Schumpeter's Theory of profit.

Section B: Macro Economics

Unit VI:

- Circular flow of income, 2,3 and 4 sector model
- National income accounting: Concepts and Measures
- Classical Theory of Employment
- Keynesian Theory of employment
- Consumption Function
- Investment Function, Concepts of Multiplier & Accelerator

- Inflation, Inflationary Gap.

Unit VII:

- Money: Functions and role of Money
- Quantity theory of money-Fisher and Cambridge version
- Keynesian theory of money

Unit VIII:

- Monetary Policy- Objectives, Importance and Tools
- Central Banks: Functions and role of Central Banks.
- Commercial Banks: Functions, Type and Principles of Commercial Bank, Credit Creation Principle

Section C: Public Economics

Unit IX:

- Public and Private Goods
- Public Expenditure- causes of increase in Public Expenditure, Wagner's Law,
- Wiseman Peacock Hypothesis
- The Principle of Maximum Social Advantage
- Principles of Taxation: Ability to pay principle, Benefit Principle of Taxation
- Taxation- Canons of taxation, Economic effects of Taxation Impact, Incidence and shifting of tax
- Public Debt- Types and Effects, redemption of public debt

Unit X:

- The Indian Tax System
- Public Expenditure in India- Pattern and growth
- Public debt management in India
- Centre- State Financial Relations
- 15 Finance Commission

Section D: Economic Growth, Development & Planning

Unit XI:

- Concepts of Economic Development and Under Development
- Environment and sustainable development
- Characteristics of an Under Developed Country
- Poverty and Inequality: Conceptual issues and measurement.
- Classical Theory of Economic Development- Adam Smith, David Ricardo, Malthus, J.S. Mills
- Karl Marx Theory of Economic Development
- Schumpeter's Theory
- Rostow's Stages of Economic Growth
- Rodan's Big Push Theory
- Lewis Theory of Economic Development
- Balanced Vs Unbalanced Growth
- Nurkse' Vicious circle of Poverty
- Models of Economic Growth: Harrod-Domar, Solow

- Role of State in Economic Development
- Foreign Capital and Economic Development
- Population and Economic Development

Unit XII :

- Meaning and Types of Economic Planning
- Centralised and decentralised Planning.
- Planning by direction, Planning by inducement.
- Growth Models in Economic Planning

Section E: International Economics

Unit XIII:

- Theories of International Trade-Absolute Cost Advantage, Comparative Cost Advantage Theory, Heckscher - Ohlin Theory
- Balance of Payment: Causes of disequilibrium & measures to correct disequilibrium
- Concepts of Terms of trade
- Gains from Trade
- International Institutions: IMF, IBRD, WTO

Section F: Indian Economic Development

Unit XIV:

- Features of Indian Economy
- Structural Changes in Indian Economy
- Indian Agriculture: Role and Importance of Agriculture, Problems of Agriculture, Land reforms,
- Green Revolution and other major initiatives by the government in agriculture
- Indian Industry: Industrial growth in pre and post economic reforms era.
- Problems and prospects of Micro, Small, Medium Enterprises in India.
- Service Sector in India: Transport and Communication, Energy, Banking and Commerce.

Unit XV :

- Human Development in India
- Demographic features, Health, Education,
- Poverty and Unemployment in India
- Demographic dividend and skill development
- Development policies in India: 5 years plans, Niti Aayog

Unit XVI :

Issues concerning economy of Bihar: Present status and performance, Policy initiatives for economic development.

Section G: Quantitative Methods

Unit XVII:

- Measures of Central Tendency
- Measures of Dispersion
- Correlation and Regression

- Index number
- Simple differentiation and Integration
- Maxima and Minima
- Application of Mathematics in Economics

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1. General Knowledge,
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Syllabus for Uchcha Madhyamic Paper II STET 2023

UNIT I Subject ENGLISH

100 Marka

1. BRITISH POETRY- History of British Poetry and the following poems:
 - a) Spenser's Sonnet No. 67- "Like as a Huntsman...",
 - b) Shakespeare's Sonnet No. 127- "In Old Age...",
 - c) John Donne- "The Sunne Rising"
 - d) Alexander Pope- "The Rape of the Lock", Canto 1, 2 and 3 of 1714 edn.
 - e) William Blake – "The Lamb" and "The Tyger"
 - f) Wordsworth- "Tintern Abbey"
 - g) Shelley- "Ozymandias"
 - h) Keats- "Ode on a Grecian Urn"
 - i) Tennyson- "Break, Break, Break"
 - j) Arnold- "The Scholar Gypsy" first 200 lines
 - k) W.B. Yeats- "The Second Coming" and "Sailing to Byzantium"
 - l) T.S. Eliot- "The Hollow Men"
 - m) Philip Larkin- "Church Going"
 - n) Seamus Heaney- "Punishment"
2. BRITISH DRAMA – History of British Drama and the following plays:
 - a. Christopher Marlowe- "Doctor Faustus"
 - b. Shakespeare- "Macbeth"
 - c. Aphra Behn- "The Rover"
 - d. William Congreve- "Love for Love"
 - e. Oscar Wilde- "The Importance of Being Earnest"
 - f. G.B. Shaw- "Candida"
 - g. John Galsworthy- "Justice"
 - h. T.S. Eliot- "Murder in the Cathedral"
 - i. John Osborne- "Look Back in Anger"
 - j. Samuel Beckett- "Waiting for Godot"
3. BRITISH PROSE AND FICTION- History of Prose and Fiction and the following texts:
 - a. Daniel Defoe - "Robinson Crusoe"
 - b. Jane Austen- "Pride and Prejudice"
 - c. Charles Dickens- "A Tale of Two Cities"
 - d. Emily Bronte- "Wuthering Heights"
 - e. George Eliot- "Silas Marner"
 - f. Thomas Hardy- "The Mayor of Casterbridge"
 - g. D H Lawrence's short stories – "The Fox" and "The White Stocking"
 - h. Francis Bacon's essay- "Of Studies"
 - i. E. M Forster's essay- "What I Believe"
 - j. A.G. Gardiner's essay- "On Saying Please"
4. BRITISH LITERARY CRITICISM- History of Literary Criticism and the following texts:
 - a. Philip Sydney- "An Apology for Poetry"
 - b. Alexander Pope- "An Essay on Criticism"
 - c. Samuel Johnson- "Preface to Shakespeare"
 - d. William Wordsworth- "Preface to Lyrical Ballads"
 - e. Matthew Arnold – "The Study of Poetry"
 - f. T.S. Eliot - "The Function of Criticism"

5. INDIAN POETRY- History of Indian English Poetry and the following poems:
 - a) Derozio- "Poetry"
 - b) Toru Dutt- "Lotus"
 - c) R. N. Tagore- "Where the Mind is Without Fear"
 - d) Sarojini Naidu- "The Palanquin Bearers"
 - e) Kamala Das- "An Introduction"
 - f) Nissim Ezekiel- "The Night of the Scorpion"
 - g) A.K. Ramanujan- "Striders"
 - h) Arun Kolatkar- "An Old Woman"
 - i) Vikram Seth- "A Little Distance"
 - j) Sujata Bhatt- "Voice of the Unwanted Girl"
 - k) Eunice De Souza- "Sweet Sixteen"
 - l) Gurudas Mukherjee- "The Hollyhock"
 - m) Agha Shahid Ali- "Postcard from Kashmir"
 - n) Tabish Khair - "South Delhi Murder"
6. INDIAN DRAMA - History of Indian Drama and the following texts in English
 - a) Kalidasa - "Abhijanashakuntalam"
 - b) Shudraka - "Mrichhakatikam"
 - c) Vijay Tendulkar - "Silence! The Court is in Session"
 - d) Girish Karnard - "Hayavadana"
 - e) Mahesh Dattani - "Final Solutions"
7. INDIAN PROSE AND FICTION -History of Indian English Prose and Fiction and the following texts:

Prescribed Essays:

- a. R.N. Tagore - "The Spirit of Freedom"
- b. Pandita Ramabai - "Widowhood"
- c. Vivekanand - "India: Our Motherland"
- d. M.K. Gandhi - "A Stain on India's Forehead"
- e. J L Nehru - "The Reawakening of India"
- f. S.C. Bose - "Women's Role in National Movement"
- g. Rajendra Prasad - "Unity Amidst Diversity"
- h. Salim Ali - "Man and Nature in India: The Ecological Balance"
- i. Jai Prakash Narayan - "Nations, Nationalism and National Unity"
- j. A.P.J. Abdul Kalam – "Work Brings Solace"

Prescribed Stories:

- a. M.R. Anand - "The Barber's Trade Union"
 - b. R.K. Narayan - "An Astrologer's Day"
 - c. Ruskin Bond - "Thief"
 - d. Jhumpa Lahiri - "Sexy"
 - e. Shashi Deshpande - "Hear Me Sanjay"
 - f. Khushwant Singh - "The Voice of God"
 - g. Bhabani Bhattacharya - "Steel Hawk"
8. AMERICAN LITERATURE- History of and the following texts:
 1. Tennessee Williams - "The Glass Menagerie"
 2. Toni Morrison - "Beloved"
 3. (a) Edgar Allan Poe: "The Purloined Letter"
 - (b) O. Henry - "The Last Leaf"
 - (c) F. Scott Fitzgerald – "The Crack-up"
 - (d) William Faulkner – "Dry September"

4. (a) Anne Bradstreet – “The Prologue”
- (b) Walt Whitman – “Selections from Leaves of Grass”
- “O Captain, My Captain” and “Passage to India” (lines1–68)
- (c) Alexie Sherman Alexie – “Crow Testament”, “Evolution”
- (d) Robert Frost – “The Road Not Taken” and
“Stopping by Woods on A Snowy Evening”

9. POST-COLONIAL LITERATURE:

Prescribed Essays:

- k. R.N. Tagore - “The Spirit of Freedom”
- l. Pandita Ramabai - “Widowhood”
- m. Vivekanand - “India: Our Motherland”
- n. M.K. Gandhi - “A Stain on India’s Forehead”
- o. J L Nehru - “The Reawakening of India”
- p. S.C. Bose - “Women’s Role in National Movement”
- q. Rajendra Prasad - “Unity Amidst Diversity”
- r. Salim Ali - “Man and Nature in India: The Ecological Balance”
- s. Jai Prakash Narayan - “Nations, Nationalism and National Unity”
- t. A.P.J. Abdul Kalam – “Work Brings Solace”

Prescribed Stories:

- h. M.R. Anand - “The Barber’s Trade Union”
 - i. R.K. Narayan - “An Astrologer’s Day”
 - j. Ruskin Bond - “Thief”
 - k. Jhumpa Lahiri - “Sexy”
 - l. Shashi Deshpande - “Hear Me Sanjay”
 - m. Khushwant Singh - “The Voice of God”
 - n. Bhabani Bhattacharya - “Steel Hawk”
1. Introduction to Postcolonial Literature
 - (a) The Beginning and The End of Colonial Era
 - (b) Postcolonial Theory & Salient Features
 2. Poetry
 - (a) Pablo Neruda – “Tonight I can Write”
 - (b) Derek Walcott – “A Far Cry from Africa”
 - (c) A. K Ramanujan – “The Striders”
 - (d) Gabriel Okara – “Once upon a Time”
 - (e) David Malouf – “Revolving Days”
 3. Drama
 - (a) Badal Sircar: ‘Indian History Made Easy’ in Two Plays: Indian History Made Easy, Life of Bagala, Oxford University Press, 2009.
 4. Novel
 - (a) Chinua Achebe - “Things Fall Apart”
 - (b) Raja Rao – “Kanthapura”

10. LANGUAGE AND LINGUISTICS

1. Language:
 - a) Definition and Features
 - b) Language varieties: Dialect, Register, Standard Language
 - c) Language Change: Old English, Middle English, Modern English.
2. Phonetics and Phonology: Organs of Speech,
Classification of Vowel and Consonant Sounds,
Phonemes, Syllables, Stress and Intonation

3. Morphology: Morphemes and Allomorphs, Word Formation.
4. Techniques of oral Practice in the Language Laboratory, Oral Drills:
Vowel sounds, Consonant Sounds, Stress, Intonation

11. GRAMMAR AND VOCABULARY

Parts of Speech, Subject Verb Agreement, Time and Tense, Modal Auxiliaries, Voice, Narration, Degree of Adjective, Question Tag, Common Errors, Antonyms, Synonyms, Idioms and Phrases, Proverbs

LITERARY TERMS

The following terms:

Alliteration, Allegory, Anaphora, Allusion, Antithesis, Chiasmus, Hyperbole, Metaphor, Onomatopoeia, Malapropism, Euphemism, Affective Fallacy, Intentional Fallacy, Irony, Litotes, Pathetic Fallacy, Oxymoron, Personification, Synecdoche, Simile, Satire, Soliloquy, Zeugma

12. ENGLISH LANGUAGE TEACHING

1. Knowing the Learner

- (a) Bloom's Taxonomy
- (b) Multiple intelligences (Gardner's Theory)
- (c) Learning disabilities
- (d) Socio-economic, cultural and other contexts
- (e) Learning and participation styles
- (f) Advanced Approaches to teaching – Cooperative Learning, Device Based Teaching Learning (IT Based).

2. Methods of teaching English Language and Literature

- (a) Teaching & understanding of LSRW (Listening, Speaking, Reading, Writing)
- (b) Teaching Vocabulary
- (c) Teaching Grammar
- (d) Teaching Poetry
- (e) Teaching Prose
- (f) Lesson Planning

3. Assessing Language Skills

- (a) Error Identification and Correction
- (b) Language Proficiency
- (c) Types of Assessment – project-based, formative, summative.

4. Using Technology in Language Teaching

- (a) Introduction to ICT
- (b) Use of ICT

13. CONTEMPORARY CRITICISM AND LITERARY THEORY

The following terms:

New Criticism, Psychoanalytical Criticism, Colonialism, Postcolonialism, Marxism, Feminism, Structuralism, Post Structuralism, New Historicism, Ecocriticism, Ecofeminism, Post Modernism

14. LITERATURE OF THE MARGINALISED:

The following texts:

Dalit Literature-

1. Bama- "Karakku"
2. Omprakash Valmiki - "Joothan"

Tribal Literature –

1. Mamang Dai – "The Black Hill"
2. Tamsula Ao - "Laburnum for My Head"

African-American Literature –

1. Alice Walker – “The Color Purple”
2. Ralph Ellison – “Invisible Man”

Syllabus for Art of Teaching and Other Skills STET 2023

Unit II Art of Teaching, Other skills

Marks 50

(A) Art of Teaching

Marks 30

(B) Other skills

Marks 20

A. Art of Teaching

1. Teaching & Learning:- Meaning, Process & Characteristics.
2. Teaching Objectives and Instructional objectives: Meaning & Types, Blooms Taxonomy.
3. Teaching Methods: - Types and its Characteristics, Merit, and demerits of Methods.
4. Lesson Plan: - Types and Format & Various Model.
5. Microteaching & Instructional analysis.
6. Effective ecosystem of Classroom.
7. Textbook and library
8. Qualities of Teacher.
9. Evaluation & Assessment for learning.
10. Curriculum.
11. Factors affecting teaching and learning.
12. Teaching Aids and Hands on learning.

B. Other skills

1. General Knowledge,
2. Environmental Science
3. Mathematical aptitude,
4. logical Reasoning

Syllabus for UCHCHA Madhyamic Paper II STET 2023

UNIT I Subject ---- HINDI

100 Marks

1. हिन्दी साहित्य का काल- विभाजन और नामकरण
 2. अदिकाल, भक्ति काल, रीतिकाल की प्रमुख प्रकृतियाँ एवं रचनाकार
 3. आधुनिक काल- भरतेन्दु युग, द्विवेदी युग, छायावाद, प्रगतिवाद, प्रयोगवाद, नई कविता
 4. हिन्दी गद्य की विविध विधाएँ- कहानी, उपन्यास, नाटक, निबंध, आलोचना
 5. हिन्दी गद्य का नवीन स्वरूप-
 - संस्मरण
 - रेखाचित्र
 - जीवनी
 6. चयनित कहानियाँ-
 - कानों में कंगना
 - उसने कहा था
 - कहानी का प्लॉट
 - पूस की रात
 - पंचलाइट
 - चीफ की दावत
 7. चयनित उपन्यास-
 - गोदान
 - त्याग पत्र
 - मैला आँचल
 8. चयनित नाटक-
 - चंद्रगुप्त
 - आषाढ़ का एक दिन
 9. चयनित निबंध-
 - गेहूँ और गुलाब (रामवृक्ष बेनीपुरी)
 - आचरण की सभ्यता (सरदार पूर्ण सिंह)
 - नाखून क्यों बढ़ते हैं (हजारी प्रसाद द्विवेदी)
 - श्रद्धा और भक्ति (रामचंद्र शुक्ल)
 10. चयनित कवि और कविताएँ-
 - विद्यापति (विद्यापति पदावली, सं०-रामवृक्ष बेनीपुरी)
 - देख देख राधा रूप अपार - पद सं०- (2)
 - जय जय भैरवि - पद सं०- (3)
 - कुंज भवन से निकसल रे - पद सं०-(59)
 - तातल सैकत बार-बिन्दु सम- पद सं०-(254)
- कबीर-
- दुलहनी गावहु मंगलाचार
 - झीनी झीनी बीनी चदरिया

- काहे रे नलिनी
- सूरदास-
- भ्रमरगीत सार (सम्पादक- रामचंद्र शुक्ल) पद संख्या- 6,9,10,108,109
- जायसी -
- नगमती वियोग खण्ड
- तुलसी दास-
- रामचरित मानस (केवल अयोध्या काण्ड)
- मैथिली शरण गुप्त-
- दोनों ओर प्रेम पलता है।
- रामधारी सिंह दिनकर-
- हिमालय
- सूर्यकांत त्रिपाठी निराला-
- वह तोड़ती पत्थर
- जयशंकर प्रसाद-
- तुमुल कोलाहल
- केदारनाथ अग्रवाल-
- मैने उसको
- नागार्जुन-
- शासन की बंदूक
- आरसी प्रसाद सिंह-
- जीवन का झरना
- जानकी वल्लभ शास्त्री-
- मेघगीत
11. काव्य शास्त्र-
- रस
 - अलंकार
 - छंद
12. व्याकरण-
- सर्वनाम, संधि, समास, उपसर्ग, प्रत्यय, पर्यायवाची शब्द, विलोम शब्द, वाक्य संशोधन
13. प्रमुख हिन्दी पत्र- पत्रिकाएँ
14. पुरस्कृत रचनाएँ
15. राजभाषा, राष्ट्रभाषा

Syllabus for Art of Teaching and Other Skills STET 2023

Unit II Art of Teaching, Other skills	Marks 50
(A) Art of Teaching	Marks 30
(B) Other skills	Marks 20

A. Art of Teaching

1. Teaching & Learning:- Meaning, Process & Characteristics.
2. Teaching Objectives and Instructional objectives: Meaning & Types, Blooms Taxonomy.
3. Teaching Methods: - Types and its Characteristics, Merit, and demerits of Methods.
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5. Microteaching & Instructional analysis.

6. Effective ecosystem of Classroom.
7. Textbook and library
8. Qualities of Teacher.
9. Evaluation & Assessment for learning.
10. Curriculum.
11. Factors affecting teaching and learning.
12. Teaching Aids and Hands on learning.

B. Other skills

1. General Knowledge,
- 2.Environmental Science
3. Mathematical aptitude,
- 4.logical Reasoning

Syllabus for Uchha Madhyamic Paper II STET 2023

UNIT I Subject-----History

100 Marks

Unit-01 The Harappan civilization

- a. Geographical extent and Important sites.
- b. Town- Planning and structures; Society, Economy, Religion.
- c. Decline of the Harappan culture.

Unit-02 The Mauryan Age

- a. Achievements of Chandragupta maurya.
- b. Asoka's foreign policy and dharma (Dhamma).
- c. Mauryan society, economy and Art.
- d. Administration.
- e. Decline and disintegration.

Unit-03 Renaissance

- a. Causes
- b. Stages
- c. Nature
- d. Impact

Unit-04 Industrial Revolution.

- a. Causes
- b. Impact.

Unit-05 Harshavardhan.

- a. Sources
- b. Conquests and Extent of Empire.
- c. Administration

Unit-06 The Cholas

- a. Career and achievements of Raj Raj and Rajendra Chola.
- b. Local administration
- c. Maritime activities.

Unit-07 The French Revolution of 1789

- a. Causes, Nature, Significance

- b. Achievements of the National Assembly
- c. Reign of Terror

Unit–08 Second World War.

- a. Causes
- b. Impact

Unit–09 Establishment of the Delhi Sultanate(1206 - 90) with special reference to

- a. Iltutmish
- b. Balban

Unit–10 Akbar

- a. Restoration and expansion of the Mughal Empire
- b. Relations with the Rajputs
- c. Religious policy
- d. Akbar as a ‘National Monarch’

Unit–11 Battles of Plassy and Buxar

- a. Circumstances
- b. Causes
- c. Significance.

Unit–12 Revolt of 1857

- a. Causes
- b. Nature
- c. Effects.

Unit–13

- a. Origin of the Indian National Congress.
- b. Early nationalist movements-Moderator extremists revolution.

Unit–14

- a. Non-Cooperation Movement- Causes and Effects.
- b. The Swarajists
- c. Civil Disobedience Movement-Causes and Effects.
- d. Communalism.

Unit–15

- a. Independence and Partition-Cabinet Mission Proposals and Indian Independence Act.
- b. Nationalist movement and the Princely states.

Syllabus for Art of Teaching and Other Skills STET 2023

Unit II Art of Teaching, Other skills	Marks 50
(A) Art of Teaching	Marks 30
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A. Art of Teaching

1. Teaching & Learning:- Meaning, Process & Characteristics.
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10. Curriculum.
11. Factors affecting teaching and learning.
12. Teaching Aids and Hands on learning.

B. Other skills

1. General Knowledge,
2. Environmental Science
3. Mathematical aptitude,
4. logical Reasoning

Syllabus for Uchcha Madhyamic Paper II STET 2023

Unit I Syllabus ---Magahi 100 Marks

1. मगही साहित्य के इतिहास (आरंभ से आधुनिक स्वरूप तक)
2. मगही प्रबंध काव्य
3. मगही गीतिकाव्य
4. नयकी मगही कविता
5. मगही के उपन्यास साहित्य
6. मगही के नाट्य-साहित्य
7. मगही के कहानी साहित्य
8. प्राचीन एवं मध्यकालीन मगही के काव्य (सिद्ध साहित्य आउ भक्ति साहित्य)
9. मगही के निबंध साहित्य
10. मगही गद्य के अन्य विधायें
11. मगही पत्रकारिता
12. मगही भाषा के उद्भव आउ विकास
13. भाषा विज्ञान : सिद्धांत
14. काव्य शास्त्र
15. व्याकरण- संज्ञा, सर्वनाम, विशेषण, क्रिया, विपरीतार्थक शब्द, पर्यायवाची शब्द, मुहावरा आउ कहावत

Syllabus for Art of Teaching and Other Skills STET 2023

Unit II	Art of Teaching, Other skills	Marks 50
(A)	Art of Teaching	Marks 30
(B)	Other skills	Marks 20

A. Art of Teaching

1. Teaching & Learning:- Meaning, Process & Characteristics.
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8. Qualities of Teacher.
9. Evaluation & Assessment for learning.

10. Curriculum.
11. Factors affecting teaching and learning.
12. Teaching Aids and Hands on learning.

B. Other skills

1. General Knowledge,
- 2.Environmental Science
3. Mathematical aptitude,
- 4.logical Reasoning

Syllabus for Uchcha Madhyamic Paper II STET-2023

Unit- I Subject .. मैथिली साहित्य—पाठ्यक्रम

100 Marks

इकाई—1

कथा साहित्य

निर्धारित पोथी—

1. अतीत (कथा संग्रह) प्रो० उमानाथ झा, मैथिली, अकादमी, पटना।
पाठ्यांश— जयन्ती रहस्य, दाम्पत्य, गामधरक गप्प, अतीत प्रायश्चित, जीवन संघर्ष।
2. मैथिली कथा धारा (कथा संग्रह) कामख्या देवी, साहित्य अकादेमी, दिल्ली।
पाठ्यांश— देह, लालकार्ड, टुटैत कीलक जाँत, ढेप, एक खीरा तीन फाँक, एक पीढ़ीक अन्तर, फंसरीक छोर, कंचनियाँ, मोड़।

इकाई—2

उपन्यास साहित्य

निर्धारित पोथी—

1. पृथ्वीपुत्र— ललित, मैथिली अकादमी, पटना
2. हमरा लग रहब— प्रभास कुमार चौधरी, मैथिली अकादमी, पटना
(उपन्यासक विषय वस्तु— महत्व—मूल्यांकन)

इकाई—3

आरम्भिक एवं मध्यकालीन काव्य

निर्धारित पोथी—

1. मैथिली प्राचीन गीतावली— स० सुरेन्द्र झा 'सुमन'— रामदेव झा, मैथिली अकादमी, पटना।
पाठ्यांश— कंसनारायण, गजसिंह, अमृतकर, दशावधान ठाकुर भीषम, सिंहनृपति आ चतुरचतुर्भुज।
2. कृष्णजन्म— मनबोध, मैथिली अकादमी, पटना।
3. रागतरंगिणी— लोचन, मैथिली अकादमी, पटना।
पाठ्यांश— विद्यापति— 1 सँ 10 पद धरि— चन्द्रकला, लक्ष्मीनारायण, चतुर्भुज एवं लोचन।
4. गोविन्द दास भजनावली— सं गोविन्द झा मैथिली अकादमी, पटना।
पाठ्यांश— 1 सँ 10 पद धरि।
सन्दर्भ—

(1) मैथिली साहित्यक इतिहास— डॉ० दुर्गानाथ झा 'श्रीश'

इकाई—4

मैथिली गद्य साहित्य

निर्धारित पोथी—

1. जीवन यात्रा— हरिमोहन झा— मैथिली अकादमी, पटना।
2. संकलन— मैथिली अकादमी, पटना।

पाठ्यांश— वर्णना, शिक्षा माता ओ मातृभाषा, राष्ट्रीय एकताक महत्व, आदान—प्रदान, समीक्षावृत्ति, कविवर चन्दा झा आ कोइलीक सन्देश ।

सन्दर्भ ग्रन्थ—

1. मैथिली साहित्यक आधुनिक इतिहास— देवकान्त झा, साहित्य अकादेमी, दिल्ली ।
2. मैथिली पत्रकारिताक इतिहास— चन्द्रनाथ मिश्र 'अमर', मैथिली अकादमी, पटना ।

इकाई — 5

मैथिली नाटक

निर्धारित पोथी—

1. कविवर जीवन झा रचनावली — मैथिली अकादमी, पटना ।
पाठ्यांश — (सुन्दर संयोग मात्र)
2. पारिजातहरण— उमापति, मैथिली अकादमी, पटना ।
सन्दर्भ ग्रन्थ —

(1) मैथिली नाटकक उद्भव ओ विकास— डॉ० लेखनाथ मिश्र

इकाई — 6

भाषाविज्ञान (सिद्धान्त पक्ष)

निर्धारित ग्रन्थ—

1. मैथिली भाषा शास्त्र— डॉ० धीरेन्द्रनाथ मिश्र,
2. मैथिली भाषा विज्ञान— डॉ० विजयेन्द्र झा
3. मैथिली भाषिकी: मैथिली भाषाक प्रकृति ओ प्रकार्य— डॉ० मुनीश्वर झा एवं स. बीरेन्द्र झा
4. भाषा विज्ञान की भूमिका— प्रो० देवेन्द्र नाथ शर्मा
पाठ्यांश — भाषाक परिभाषा, भाषोत्पत्तिक सिद्धान्त भाषाक वर्गीकरण, भाषा विज्ञानक अन्य विज्ञानक संग सम्बन्ध, भाषाक परिवर्तनशीलता ओ कारण, अर्थ परिवर्तन ओ कारण, ध्वनि परिवर्तन सिद्धान्त ।

इकाई — 7

मैथिली साहित्यक इतिहास (आधुनिक काल)

सन्दर्भ ग्रन्थ—

1. मैथिली साहित्यक इतिहास— डॉ० दुर्गानाथ झा श्रीश
2. मैथिली साहित्यक इतिहास — डॉ० जयकान्त मिश्र, साहित्य अकादमी, दिल्ली ।
3. मैथिली साहित्यक आधुनिक इतिहास — डॉ० देवकान्त झा, साहित्य अकादमी, दिल्ली ।
4. मैथिली साहित्यक आलोचनात्मक इतिहास — डॉ० दिनेश कुमार झा
5. मैथिली साहित्यक इतिहास — प्रो० मायानन्द मिश्र, किसुन संकल्प लोक सुपौल ।
6. मैथिली साहित्यक रूपरेखा— चेतना समिति, पटना ।

इकाई — 8

आधुनिक मैथिली काव्य

निर्धारित पोथी —

1. चन्द्ररचनावली – स० विश्वेश्वर मिश्र , मैथिली अकादमी, पटना ।
पाठ्यांश – सूर्य (1-3), गणेश (1-2), उमामहेश्वर (1-3), गंगा स्तुति (1-2), मिथिला महिमा (1-2), योग (1-2)
2. पत्र हीन नग्न गाछ – यात्री
3. इतिश्री – उपेन्द्र ठाकुर मोहन, मैथिली अकादमी, पटना ।
4. सुन्दर काण्ड (मिथिला भाषा रामायण) – शेखर प्रकाशन, पटना ।

इकाई – 9

काव्यशास्त्र

सन्दर्भ ग्रन्थ—

1. मैथिली काव्यशास्त्र – डॉ० दिनेश कुमार झा, मैथिली अकादमी, पटना ।
2. काव्यशास्त्रक रूपरेखा – डॉ० धीरेश्वर झा 'धीरेन्द्र'
3. मैथिली उद्गम ओ विकास – पं० गोविन्द झा, मैथिली अकादमी, पटना ।
4. रस परिचय – डॉ० किशोर नाथ झा
पाठ्यांश – काव्यक परिभाषा, काव्यक लक्षण, काव्यक प्रयोजन, काव्यक हेतु, काव्यक भेद, शब्द शक्ति, रस अलंकार एवं छन्द ।

इकाई – 10

भाषाविज्ञान (व्यवहारिक पक्ष)

पाठ्यांश – भाषा विज्ञानक उपादेयता, भारोपीय भाषा परिवार में मैथिलीक स्थान, भाषाक वर्गीकरण (आकृतिमूलक – पारिवारिक) भाषा ओ बोली मे अन्तर, शब्दक ऐतिहासिक विकास क्रम एवं भाषा विज्ञानक अन्य शास्त्रक संग सम्बन्ध ।

1. मैथिली भाषा शास्त्र –डॉ० धीरेन्द्र मिश्र
2. मैथिली भाषा विज्ञान—डॉ० विजयेन्द्र झा
3. मैथिली भाषा का उदभव ओ विकास – पं० गोविन्द झा
4. मैथिली उद्गम ओ विकास—पं० गोविन्द झा

इकाई—11

आधारभूत भाषा

निधारित पोथी—

1. रघुवंश—कालिदास, द्वितीय सर्ग ।
2. पुरुष परीक्षा – विद्यापति –प्रथम परिच्छेद ।

इकाई—12

मैथिली साहित्यक इतिहास (प्राचीन काल)

पाठ्यांश— चर्यापद, प्रमुख सिद्धगण, डाकवचन, प्राकृत पेंगलम्,, वर्णरत्नाकर ज्योतिरीश्वर ओ हुनक काल निर्धारण हुनक अन्य कृति । मैथिली साहित्यक काल निर्धारण, मैथिली लोक साहित्य ।

1. मैथिली साहित्यक इतिहास—डॉ० दुर्गानाथ झां श्रीश
2. मैथिली साहित्यक इतिहास—डॉ० जयकान्त मिश्र

3. मैथिली साहित्यक इतिहास—डॉ० मायानन्द मिश्र
4. मैथिली साहित्यक आलोचनात्मक इतिहास —डॉ० दिनेश कु० झा

इकाई—13

मैथिली साहित्यक इतिहास (मध्यकाल)

पाठ्यांश— लोचन ओ हुनक रागतरंगिणी, विद्यापतिक लोकप्रियता, विद्यापतिक कालनिर्धारण, विद्यापतिक रचना, कीर्तनियॉनाटक, अंकीयानाट, गोविन्ददास, उमापति, मनबोध, हर्षनाथ प्रभृति कवीश्वर चन्दा झा सँ पूर्व धारि।

सन्दर्भ ग्रन्थ—

1. मैथिली साहित्यक रूपरेखा चेतना समिति पटना।
2. मैथिली साहित्यक इतिहास—डॉ०दुर्गानाथ झा।
3. मैथिली साहित्यक पृष्ठभूमि—डॉ०अमरनाथ झा।
4. मैथिली साहित्यक इतिहास—डॉ० जयकान्त मिश्र।
5. मैथिली साहित्यक आलोचनात्मक इतिहास—डॉ० दिनेश कुमार झा।

इकाई—14

आधुनिक मैथिली कवि ओ हुनक रचना

पाठ्यांश—चन्दा झा, लालदास, सीताराम झा, किरण, यात्री, भुवन, मधुप, अमर, हरिमोहन झा, आरसी प्रसाद सिंह, किसुन, राजकमल, सुमन जी, जीवकान्त।

संदर्भ ग्रंथ

1. परिचायिका— डॉ० भीमनाथ झा
2. वाणी—विधान — डॉ० अरुणा चौधरी
3. शिखरिणी—चेतना समिति पटना
4. मैथिली साहित्यक आधुनिक इतिहास—डॉ० देवकान्त झा— साहित्य अकादेमी दिल्ली
5. आधुनिक मैथिली कविता—रामकृष्ण झा 'किसुन', किसुन संकल्प लोक सुपौल।
6. इकाई—15

आधुनिक कालक विभिन्न विधा

पाठ्यांश— प्रबन्ध काव्य, खण्डकाव्य, समीक्षा, आलोचना, संस्मरण, अनुवाद, स्त्री विमर्श, आत्मकथा, बालसाहित्य, कथा—उपन्यासक शिल्प विधि।

संदर्भ ग्रंथ—

1. आधुनिक मैथिली साहित्यक इतिहास— डॉ० देवकान्त झा साहित्य अकादेमी दिल्ली।
2. सम्बोधित स्वर — डॉ० केश्वर ठाकुर।
3. मैथिली गद्यक विकास— स. मोहन भारद्वाज, साहित्य अकादेमी, दिल्ली।
4. मैथिली अनुवाद सिद्धान्त ओ विवेचन— डॉ० निक्की प्रियदर्शिनी, नवारम्भ, पटना।
5. मैथिली साहित्यक इतिहास—डॉ० मायानन्द मिश्र, किसुन संकल्प लोक, सुपौल।

6. मैथिली साहित्यक आलोचनात्मक इतिहास– डॉ० दिनेश कुमार झा, मैथिली अकादमी, पटना।
7. मैथिली साहित्यक रूपरेखा– चेतना समिति पटना।

Syllabus for Art of Teaching and Other Skills STET 2023

Unit II Art of Teaching, Other skills	Marks 50
(A) Art of Teaching	Marks 30
(B) Other skills	Marks 20

A. Art of Teaching

- B. Teaching & Learning:- Meaning, Process & Characteristics.
- C. Teaching Objectives and Instructional objectives: Meaning & Types, Blooms Taxonomy.
- D. Teaching Methods: - Types and its Characteristics, Merit, and demerits of Methods.
- E. Lesson Plan: - Types and Format & Various Model.
- F. Microteaching & Instructional analysis.
- G. Effective ecosystem of Classroom.
- H. Textbook and library
- I. Qualities of Teacher.
- J. Evaluation & Assessment for learning.
- K. Curriculum.
- L. Factors affecting teaching and learning.
- M. Teaching Aids and Hands on learning.

B. Other skills

1. General Knowledge,
2. Environmental Science
3. Mathematical aptitude,
4. logical Reasoning

Syllabus for Uchcha Madhyamic Paper II STET-2023

Unit I Subject –PERSIAN

100 Marks

Unit-I

فارسی زبان کی تاریخ
سامانی عہد میں فارسی زبان و ادب کی تاریخ
رودکی، دقیقی، رابعہ قزداری، شہید بلخی، ابو علی بلعمی

Unit-II

غزنوی عہد میں فارسی زبان و ادب کی تاریخ
شاعران عہد غزنوی: عنصری، منوچہری، فرخی
شاہنامہ اور فردوسی

Unit-III

سلجوقی عہد میں فارسی زبان و ادب کی تاریخ
سلجوقی خاندان کے معروف سلاطین
سلجوقی عہد میں قصیدہ نویسی
ظہیر فاریابی، خاقانی، انوری

Unit-IV

سلجوقی عہد میں مثنوی
بابا طاہر، ابو سعید ابی الخیر، سنائی، عطار
سلجوقی عہد میں رباعی
خواجہ عبد اللہ انصاری
عمر خیام اور ان کی رباعیات

Unit-V

سلجوقی عہد میں نثر
مرزبان نامہ، تاریخ بیہقی، کیمیای سعادت،
چہار مقالہ، سیاست نامہ، قابوس نامہ

Unit-VI

مغول اور تاتار عہد میں فارسی زبان و ادب کی تاریخ
فارسی نثر: اخلاق جلالی، اخلاق محسنی، گلستان

Unit-VII

حافظ
سعدی
مولانا روم

Unit-VIII

ہندوستان کے معروف فارسی شعراء
امیر خسرو، نظیری، عرفی، علامہ اقبال، بیدل

Unit-IX

تاریخ ہند سے متعلق فارسی تصانیف
تزک بابری، ہمایون نامہ، آئینہ اکبری،
منتخب التواریخ، جہانگیر نامہ

Unit-X

جدید فارسی ادب آغاز و ارتقا
قاچاری عہد کے سیاسی اور سماجی حالات
جدید فارسی شاعری: بہار، شہریار، پروین اعتصامی، لاہوتی

Unit-XI

جدید فارسی نثر
محمد حجازی، سعید نفیسی، علی اصغر حکمت

جمالزادہ، صادق ہدایت

Unit-XII

تاریخ اسلام
سیرت نبوی
خلفائے راشدین

Unit-XIII

فارسی ادب کے اصناف
قصیدہ مثنوی
غزل
داستان کوتاہ
رباعی
ڈرامہ

Unit-XIV

اسم :
ضمیر، اسم معرفہ و نکرہ ، صفت موصوف، مضاف مضاف الیہ،
واحد جمع
فعل :
ماضی ، حال ، مستقبل
اقسام ماضی

Unit-XV

فعل امر و نہی
مصدر و مضارع
جملہ : جملہ سادہ و مرکب، جملہ پرسشی، جملہ تعجبی
فارسی محاورات اور ان کے معنی

Syllabus for Art of Teaching and Other Skills STET 2023

Unit II	Art of Teaching, Other skills	Marks 50
(A)	Art of Teaching	Marks 30
(B)	Other skills	Marks 20

A. Art of Teaching

- B. Teaching & Learning:- Meaning, Process & Characteristics.
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- K. Curriculum.
- L. Factors affecting teaching and learning.
- M. Teaching Aids and Hands on learning.

B. Other skills

- 1. General Knowledge,
- 2.Environmental Science
- 3. Mathematical aptitude,
- 4.logical Reasoning

Syllabus for Uchcha Madhyamic Paper II STET 2023

UNIT I Subject -----Physics 100 Marks

Unit-1

Mechanics :-

- Error Theory
- Units and dimensions, SI Units, Kinematics of Particle (projectiles and circular motion).
- Dynamics of Particles: forces in nature, Friction, Gravitation, Contact forces
- Work and energy, Momentum and Energy conservation laws, collision in one and two dimensions, Gravitational potential, Satellite, escape speed, variation of g on Earth.
- Centre of mass, moment of force, angular momentum, moment of inertia
- Analytical Mechanics: Generalised co-ordinates and velocities, Hamilton's Principle, Lagrangian and the Euler- Lagrange equation, Hamilton's equations of motion.
- High speed mechanics: Postulates of Special Theory of Relativity, Lorentz Transformations, Variation of mass with velocity, Mass-energy Equivalence.

Unit -2

General Properties of Bulk matter :-

- Elasticity: Stress, strain, Hooke's law, Moduli of elasticity, Poisson's ratio, stress in anisotropic bodies
- Viscosity: Types of fluid flow, Ideal flow and Bernoulli's Theorem, viscosity, Stokes law, Poiseuille Equation
- Surface Tension: Surface Energy, Contact angle, capillarity, Effect of temperature and contaminations

Unit -3

Heat & Thermodynamics :-

- Kinetic Theory of Gases, Distribution of Velocities, Maxwell-Boltzmann Law of Distribution of Velocities in an Ideal Gas and Experimental Verification, Mean free Path, Van der Waal's Equation of State for Real Gases.
- Zeroth and First Law of Thermodynamics: Zeroth Law of Thermodynamics & Concept of Temperature, First Law of Thermodynamics and its differential form, Internal Energy, Application of First Law: General Relation between C_p and C_v , Work Done during Isothermal and Adiabatic Processes.

- Second Law of Thermodynamics: Reversible and Irreversible process with examples, Carnot's Cycle, Carnot engine & efficiency, Refrigerator & coefficient of performance, 2nd Law of Thermodynamics: Kelvin – Planck and Clausius Statements and their Equivalence, Carnot's Theorem.
- Entropy: Concept of Entropy, Clausius Theorem, Clausius Inequality, Second Law of Thermodynamics in term of Entropy.

Unit -4

Oscillations and Waves :-

- Periodic motion, oscillation, SHM Damped oscillation, forced oscillation, Resonance.
- Wave Motion: Plane and Spherical Waves, Longitudinal and Transverse Waves. Plane Progressive (Travelling) Waves, Wave Equation, Phase and Group Velocities, Changes with respect of Position and Time.
- Wave Speed in air, Laplace's correction to Newton's formula Oscillation of air column and resonance tube, Beats, Acoustic Doppler Effect, Acoustics of Buildings.

Unit -5

Electrostatics and Magnetostatics

- Electric Field and Electric Potential: Electric field, electric field lines, electric flux Gauss' Law with applications. Conservative nature of Electrostatic Field, Electrostatic Potential, Laplace's and Poisson equations.
- Dielectric Properties of Matter: Polarization, Displacement Vector D, Relations between E, P and D
- Magnetic Field: Magnetic force between current elements and definition of Magnetic Field B, Biot-Savert's Law and its simple applications.
- Magnetic Properties of Matter: Magnetization vector (M), Magnetic Intensity (H), Magnetic Susceptibility and permeability, Relation between B, H, M. H-H curve and hysteresis, Ferromagnetism.

Unit -6

Electromagnetic Theory:-

- Electromagnetic Induction: Faraday's Law, Lenz's Law, Self Inductance and Mutual Inductance, Introduction to Maxwell's Equations : Displacement Current, Boundary Conditions at Interface between Different Media, Wave Equation, Electromagnetic Energy Density and its Physical concept.

- EM Wave in Bounded Media: Brewster's law, Total internal reflection.
- Optical Fibres: Numerical Aperture, Step and Graded Indices (Definitions Only), Single and Multiple Mode Fibres.

Unit -7

Electric circuit:-

- Charging and discharging of capacitor in RC circuit, Growth and decay of current in inductor in LR circuit, AC circuit: Kirchhoff's Law for AC circuits, impedance, Reactance, Capacitance, circuits with AC source and L, C and R. LCR-series circuit, resonance, band width, Q-factor, Parallel LCR circuit as rejecter circuit.

Unit -8

Optics :-

- Fermat Principle, reflection law and mirrors, refraction laws, refractive index, critical angle, Total Internal Reflection, Slab, Prism, refraction at spherical interface, lens, lens maker's formula, magnification, power of lens doublet,
- Dispersion, scattering, Light waves: Huygens Principle.
- Interference: Young's double slit experiment interference in Thin Film, parallel and wedge-shaped films, Fringes of equal inclination (Haidinger Fringes), Fringes of equal thickness (Fizeau Fringes), Newton's Ring, Measurement of wavelength and refractive index.
- Difference between interference and diffraction.
- Polarization and its laws.

Unit -9

Modern Physics:-

- Planck's Quantum hypothesis, Blackbody radiation, Photoelectric effect, Compton's scattering, De-Broglie's wavelength, Davission-Germer experiment, Wave description of particles by wave packets, Heisenberg Uncertainty Principle.
- Many electron atom: Bohr's Atomic model, Bohr's Sommerfeld atomic model, Fine structure of hydrogen lines, Total Angular Momentum, Vector Atom Model, Quantum numbers associated with the atom, Spin Quantization, Spin orbit coupling in atom: L-S and J-J couplings.
- Particle Accelerators: Cyclotron, Measurement of Charge and the ratio (e/m).

- Size and structure of atomic nucleus, Nature of Nuclear force, NZ curve, Binding energy Stability of the nucleus, Radioactivity, Mean life and half-life, Alpha decay, Beta decay, Gamma ray emission, Origin and types of X-ray spectra, Fission and fusion, Nuclear reactor.
- Lasers: Spontaneous and Stimulated emission, Optical Pumping and Population Inversion.
- Basic Quantum mechanics: Wave function of a free particle, Time dependent Schrodinger equation, Properties of wave function, Interpretation of Wave Function, Normalization, Eigenvalues and Eigenfunctions, Particle in a box, Simple harmonic oscillator-energy levels and energy eigenfunctions.
- Quantum Numbers of Hydrogen like atoms, Zeeman Effect.

Unit -10

Electronics and communication:-

- P and N type semiconductors, Energy band gap, conductivity and mobility, PN junction Diode, Forward and Reverse Biased Diode, Zener diode and Voltage Regulation.
- Transistor, I-V characteristics, Current gains in transistor, transistor and amplifier, Barkhausen's Criterion, Oscillator (basic).
- Digital circuit: analog and digital circuit, Decimal and Binary Numbers, Logic Gates, Universal Logic Gates, De Morgan's Theorems, Boolean Laws.
- Block diagram and communication system Bandwidth of signal, Propagation of EM waves in the atmosphere, Sky and space wave propagation, Need for modulation, Amplitude Modulation.

Syllabus for Art of Teaching and Other Skills STET 2023

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A. Art of Teaching

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9. Evaluation & Assessment for learning.

10. Curriculum.
11. Factors affecting teaching and learning.
12. Teaching Aids and Hands on learning.

B. Other skills

1. General Knowledge,
- 2.Environmental Science
3. Mathematical aptitude,
- 4.logical Reasoning

Syllabus for Uchcha Madhyamic Paper II STET 2023

UNIT I Subject -----Political Science 100 marks

Unit 1 Political Theory

- a) Political Science: Meaning, Nature and Scope
- b) Evolution of Political Science
- c) Approaches to the study of Political Science: - i) Traditional Approaches – Normative, Historical and Analytical
ii) Modern Approaches – Behavioural Approach, Post Behavioural, System Analysis Approach and Structural-Functional Approach

Unit 2 State and Democracy

- a) State – Origin, elements and functions - Liberalism, Marxism, Socialism
- b) Sovereignty : Monistic and Pluralistic
- c) Theories: Liberty, Equality, Rights, Justice and Law
- d) Democracy – Meaning, theories and conditions of success
- e) Political Parties and Pressure Groups

Unit 3 Constitution of India

- a) Making of the Indian Constitution
- b) Preamble and Salient Features of Indian Constitution
- c) Federalism – Centre-State relations
- d) Fundamental Rights and Duties
- e) Amendment of Indian Constitution
- f) Directive Principles of State Policy

Unit 4 Government and Political Process

- a) Legislature – Union and State
- b) Executive – Union and State
- c) Judiciary – Supreme Court and High Courts
- d) Party System in India and Pressure Groups
- e) Election Commission and Electoral Reforms
- f) Commissions – Finance Commission, NITI Ayog, UPSC, CAG, Women’s Commission, SC/ST Commission

Unit 5 Dynamics of Indian Politics

- a) Voting Behaviour and its Determinants
- b) Caste and Politics
- c) Communalism Vs. Secularism
- d) Regionalism
- e) Language Politics
- f) Women and Politics
- g) Social Movement and New Social Movement

Unit 6 Comparative Politics

- a) Comparative Politics – Meaning, Nature and Scope
- b) Approaches to the Study of Comparative Politics
- c) Capitalism, Socialism & Colonialism
- d) Party System and Pressure Groups
- e) Political Culture, Political Socialisation, Political Development, Political Modernisation and Political Communication

Unit 7 Comparative Government

- a) UK in the context of Constitution, Legislature, Executive, Judiciary and Party System
- b) USA in the context of Constitution, Legislature, Executive, Judiciary and Party System

- c) Switzerland in the context of Constitution, Legislature, Executive, Judiciary and Party System
- d) China in the context of Constitution, Legislature, Executive, Judiciary and Party System
- e) France in the context of Constitution, Legislature, Executive, Judiciary and Party System

Unit 8 Understanding Public Administration

- a) Public Administration : Meaning, Nature and Scope
- b) Development Administration, New Public Administration, New Public Management
- c) Public Administration vs. Private Administration, Theories - Classical, Scientific Management and Bureaucratic
- d) Neo-classical Theories – Humanistic and Decision Making
- e) Principles of Organisation – Hierarchy, Unity of Command, Span of Control, Line and Staff
- f) Contemporary theories – Ecological, Innovation and Entrepreneurship

Unit 9 Functional Public Administration:

- a) Decision Making, Communication, Motivation theories, Leadership and Morale
- b) Personnel : Recruitment, Training, Promotion, Public Relations
- c) Corruption : CVC, Ombudsman, Lokpal and Lokayukts
- d) Budgetary Process
- e) Public Policy and Fiscal Policy
- f) Disaster Management
- g) Administrative Reforms Commission and Independent Regulatory Commission

Unit 10 Administrative Law

- a) Administrative Law: Meaning, Scope and Significance
- b) Delegated Legislation
- c) Administrative Tribunals
- d) Control over Administration – Legislative, Executive, Judicial and Financial Control
- e) Police-Public Relations and Police Reforms

Unit 11 Local Self-Government

- a) Evolution of local self-government
- b) 73rd constitutional amendment
- c) Panchayati Raj Institution: Composition, Functions and Power and Sources of Income
- d) 74th Constitutional Amendment
- e) Urban Local Bodies – Nagar Nigam, Nagar Parishad and Nagar Panchayat
- f) State Finance Commission
- g) State Election Commission

Unit 12 Indian Political Thought

- a) Manu and Shukraniti,
- b) Shantiparv,
- c) Kautilya
- d) M N Roy
- e) Mahatma Gandhi
- f) Dr. B R Ambedkar
- g) Dr Ram Manohar Lohia
- h) Deen Dayal Upadhyay
- i) Jai Prakash Narayan

Unit 13 Western Political Thought

- a) Plato – Justice, Education, Ideal State
- b) Aristotle – Slavery, Citizenship, Revolution, Classification of Democracy and Critique of Plato
- c) Machiavelli
- d) Hobbes, Locke and Rousseau

- e) J S Mill
- f) Karl Marx
- g) Hannah Arendt
- h) John Rawls

Unit-14 International Politics

- a) International Politics: Meaning, Nature and Scope
- b) International Relations – Meaning, Nature and Scope
- c) Approaches to the Study International Politics – Idealist, Realist, Neo-Realist, Constructivism
- d) International Organisations – League of Nations, UNO and its Organs and Agencies
- e) Pacts and Treaties –Collective Security, Disarmament, Arms Control, CTBT and NPT
- f) Regional Organisations – SAARC, ASEAN, BRICS, NATO and G20

Unit 15 Contemporary Global Issues

- a) Cold War & Unipolar World
- b) Non Aligned Movement and Super Powers
- c) Global Economy – New International Economic Order, GATT, WTO, IMF, World Bank, European Union
- d) Contemporary Issues – Globalisation, Liberalisation, Privatisation, Terrorism, Feminism, Environmentalism and Human Rights
- e) India’s Foreign Policy
- f) India and Third World Countries

Syllabus for Art of Teaching and Other Skills STET 2023

Unit II Art of Teaching, Other skills	Marks 50
(A) Art of Teaching	Marks 30
(B) Other skills	Marks 20

A. Art of Teaching

1. Teaching & Learning:- Meaning, Process & Characteristics.
2. Teaching Objectives and Instructional objectives: Meaning & Types, Blooms Taxonomy.
3. Teaching Methods: - Types and its Characteristics, Merit, and demerits of Methods.
4. Lesson Plan: - Types and Format & Various Model.
5. Microteaching & Instructional analysis.
6. Effective ecosystem of Classroom.
7. Textbook and library
8. Qualities of Teacher.
9. Evaluation & Assessment for learning.
10. Curriculum.
11. Factors affecting teaching and learning.
12. Teaching Aids and Hands on learning.

B. Other skills

1. General Knowledge,
- 2.Environmental Science
3. Mathematical aptitude,
- 4.logical Reasoning

Syllabus for Uchcha Madhyamic Paper II STET 2023

UNIT I Subject -----Psychology

100 Marks

Unit-1

1. Nature Scope and sub fields of Psychology
2. Perspective of Psychology
3. Methods-Introspection, Observation, Case study, Survey and Experimental method
4. Nature of perception-Gestalt Theory of perception, factors of perception
5. Depth perception, Monocular and Binocular cues
6. Attention: Meaning, Types of Attention, factors of attention

Unit-2

1. Learning: Meaning, Types of Learning
2. Theories of Learning: Classical conditioning, Instrumental conditioning, Observational learning, Insight theory, Tolman's Cognitive Theory
3. Memory: Nature, Types of Memory: Sensory memory, short term memory and long term memory.
4. Models of memory : Information processing model, Levels of processing model, Parallel distributed model
5. Forgetting: Nature, Forgetting curve, Determinants of forgetting: Theories of forgetting.

Unit-3

1. Motivation: Nature, Types of Motivation
2. Theories of Motivation : Maslow, Herzberg, McClelland, Vroom's ERC, Drive reduction, Arousal Theory
3. Emotion: Nature, types, Bodily changes in emotion.
4. Theories of emotion: James-Lange Theory, Cannon-Bard Theory, Schachter-Singer Theory.

Unit-4

1. Thinking: Meaning, Nature and tools of thinking, types of thinking.
2. Problem solving: Meaning and Strategies-Trial and error, Algorithm Heuristic and insight, barriers to problem solving, reasoning.
3. Creativity: Nature, Stages and factors
4. Intelligence: Nature, types and measurement of Intelligence.
5. Theories of Intelligence: Spearman, Thurstone, Gardner, Guilford and Sternberg
6. Emotional Intelligence

Unit-5

1. Personality : Meaning, nature and determinants of personality
2. Approaches to personality-Type and Trait approach, personality measurement.
3. Theory of personality : Freud, Neo Freudian, Cattell, Allport, Murray, Social cognitive theory, Big – five theory
4. Stress: meaning and nature causes, effect of stress, coping strategies.
5. Theories of stress-Cannon, Selye, Lazarus.

Unit-6

1. Psychological Disorders : Anxiety disorder, GADhobia, Obsessive-compulsive disorder
2. Post traumatic stress disorder, Mood disorder (manic and depressive)
3. Personality disorder
4. Schizophrenia

Unit-7

1. Mental retardation
2. Autism disorder
3. Attention deficit hyperactive disorder
4. Conduct disorder
5. Somatoform disorder hypo chondriasis and conversion disorder.

Unit-8

1. Neuron: structure function and types, electrical activity of neuron, resting, graded and action potentials.
2. Synapse and Synaptic transmission, Neuro transmitters.
3. Nervous system- Central NS and peripheral NS- Structure and functions.
4. Lobes and functions- Frontal, Temporal, Occipital and Parietal.
5. Endocrine Glands- Types and Functions.

Unit-9

1. Social Perception- Meaning, Verbal and Non-verbal eyes of Social Perception.
2. Impression formation & Management.
3. Social Cognition- Social Loafing and Social Facilitation.
4. Social Influence- Conformity, Compliance and Obedience.
5. Inter Personal Attraction- Meaning and factors of Inter personal attraction.
6. Social Tension- Types, Causes and Reduction.

Unit-10

1. Group: Kinds of Groups, Formation and Functions of Group.
2. Leadership- Nature Type and functions of leader.
3. Prejudice: Determinants and Reduction
4. Attitude: Nature, Components, Formation and change of Attitude.
5. Balance Theory and Cognitive Dissonance Theory of Attitude Change.

6. Measurement of Attitude- Thurstone and Likert Scales.
7. Prosocial Behaviour- Nature and Determinants.
8. Aggression- Nature, Causes and Control.

Unit-11

1. Industrial Psychology- Meaning, Nature, Evolution (Classical and Neo-Classical era)
2. Motivation- Meaning, Nature, Theories of work motivation.
3. Leadership- Meaning, Theories- Trait Theory, Behaviour Theory, Transactional and Transformational Leadership Model, Types of Leadership and function of leader.
4. Communication: Meaning, Process, Types, Factors and Barriers of effective Communication
5. Fatigue and Monotony: Nature, Causes and Methods of Reducing Fatigue and Monotony.
6. Accidents: Meaning Causes and prevention of Industrial Accidents, Accident proneness.
7. Job Satisfaction- Meaning, Factors and Impact.

Unit-12

1. Clinical Psychology: Clinical assessment and techniques: Interview: observation, case study.
2. Tests : MMPI, 16 PF, EPQ
3. Projective tests – TAT: Rorschach Ink blot test
4. PsychoTherapeutic techniques: Psychoanalytic technique Behaviour Therapy Group Therapy, Family Therapy.
5. Cognitive- behaviour Therapy: Rational Emotive Therapy : Beck's Therapy
6. Client Centred Therapy
7. Role of clinical Psychologists in different fields – mental hospital child guidance, school, industry etc.

Unit-13

1. Education Psychology: Methods- Rating, Ranking case study and Interview.
2. Measurement of Intelligence, Aptitude and Achievement.
3. Learning: Formal & Non-formal: Role of motivation in Learning, Incentives.
4. Examination- Essay-types and objective types.
5. Exceptional children: meaning characteristics and types.
6. Educational Guidance and counsellings and Meaning Uses and Methods
7. Effective teaching: Characteristics, Methods

Unit-14

1. Research Methodology: Scientific Research, Nature: Characteristics and steps.

2. Research Problem: Meaning sources and characteristics: Variables: Meaning and types : Hypothesis : Meaning types and characteristics.
3. Sampling: Probability and Non-probability sampling
4. Data collection technique: Interview Questionnaire, tests and scales.
5. Types of Research-Experimental and Non-experimental.

Unit-15

1. Fundamentals of statistics: Levels of measurement-Nominal Ordinal, Interval & Ratio.
2. Measures of Central Tendency: Mean, Median and Mode.
3. Variability-QD,SD & AD.
4. Correlation-Meaning Types & calculation
5. t-test, concept, uses & calculation
6. Non-Probability curve; characteristics and application.
7. Chi-square

Syllabus for Art of Teaching and Other Skills STET 2023

Unit II Art of Teaching, Other skills	Marks 50
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12. Teaching Aids and Hands on learning.

B. Other skills

1. General Knowledge,
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Syllabus for Uchcha Madhyamic Paper II STET 2023

Unit I Subject संस्कृत

100 Marks

Unit – 1 व्याकरण

लघु सिद्धान्त कौमुदी (वरदाचार्य)

(क) संज्ञा प्रकरण

(ख) संधि प्रकरण

Unit – 2 उपजीव्य काव्य का सामान्य परिचय

पाठ्य अंश – रामायण, महाभारत, पुराण

Unit – 3 संस्कृत साहित्य का इतिहास

महाकाव्य, नाटक, गद्य, कथासाहित्य, गीतिकाव्य और काव्यशास्त्र

Unit – 4 पद्य-साहित्य

मेघदूतम् (पूर्वमेघ) – कालिदास

रघुवंशम् (द्वितीय सर्ग) – कालिदास

किरातार्जुनीयम् (प्रथम सर्ग) – भारवि

Unit – 5 व्याकरण

वैयाकरण सिद्धान्त कौमुदी – भट्टोजिदीक्षित

पाठ्यांश – कारक प्रकरण, वाच्य परिवर्तन

Unit – 6 गद्य-साहित्य

कादम्बरी (शुकनासोपदेश) बाणभट्ट विरचित

Unit – 7 गद्य-साहित्य

शिवराजविजय (पं० अम्बिकादत्त व्यास)

Unit – 8 नाट्य-साहित्य

अभिज्ञानशाकुन्तलम् (कालिदास)

Unit – 9 नाट्य-साहित्य

स्वप्नवासवदत्तम् (भास)

Unit – 10

1. ऋग्वेद संहिता पाठ्यांश –

(i) अग्नि सूक्त

(ii) सवितृ सूक्त

(iii) विष्णु सूक्त

(iv) इन्द्र सूक्त

(v) उषस् सूक्त

(vi) सूर्य सूक्त

2. कठोपनिषद् (प्रथम अध्याय)

Unit – 11 व्याकरण

(क) शब्द रूप–

राम, लता, साधु, फल(नपुं), नदी, मति, मधु, राजन्, वारि, वधू, गौ, मातृ, पितृ, युष्मद्, अस्मद्, तीनों लिंगों में – तत्, किम्, सर्व, अदस्, संख्यावाचक शब्दों के रूप

(ख) धातु रूप– (पाँच लकारों में)

भू, गम्, सेव्, ह्, लभ्, रम्, शीङ्, श्रु, स्था, दृश, पठ्, दा, कृ

Unit – 12

वैदिक साहित्य का इतिहास

वेदों का काल, वेदों की विषय-वस्तु का संक्षिप्त परिचय, संहिता, ब्राह्मण, आरण्यक, उपनिषद् एवं वेदोद्भूतों का सामान्य परिचय।

Unit – 13

व्याकरण

लघु सिद्धान्त कौमुदी (वरदराज)

1. माहेश्वर सूत्र, प्रत्याहार
2. समास प्रकरण

Unit – 14

काव्यदीपिका (श्री कान्तिचन्द्रभट्टाचार्य)

काव्यलक्षण, काव्यप्रयोजन, काव्यभेद, शब्द-शक्ति, काव्यगुण, काव्य-रीति

Unit – 15

- (i) अलंकार-परिचय

अनुप्रास, यमक, उपमा, अनन्वय, रूपक, सन्देह, अपह्नुति, उत्प्रेक्षा, अतिशयोक्ति, दीपक, दृष्टान्त, व्यतिरेक, समासोक्ति, अप्रस्तुतप्रशंसा, अर्थान्तरन्यास, विभावना, विशेषोक्ति, संकर तथा संसृष्टि।

- (ii) छन्द-परिचय

अनुष्टुप्, आर्या, इन्द्रवज्रा, उपेन्द्रवज्रा, उपजाति, वंशस्थ, वसंततिलका, मालिनी, मन्दाक्रान्ता, शिखरिणी, हरिणी, शार्दूलविक्रीडित एवं स्रग्धरा।

Syllabus for Art of Teaching and Other Skills STET 2023

Unit II Art of Teaching, Other skills

Marks 50

(A) Art of Teaching

Marks 30

(B) Other skills

Marks 20

A. Art of Teaching

- B. Teaching & Learning:- Meaning, Process & Characteristics.
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- H. Textbook and library
- I. Qualities of Teacher.
- J. Evaluation & Assessment for learning.
- K. Curriculum.
- L. Factors affecting teaching and learning.
- M. Teaching Aids and Hands on learning.

B. Other skills

1. General Knowledge,
2. Environmental Science
3. Mathematical aptitude,
4. logical Reasoning

Syllabus for Uchcha Madhyamic Paper II STET 2023

UNIT I Subject -----SOCIOLOGY 100 Marks

1. **Scientific Study of Social phenomena-** Emergence of Sociology and its relationship with other disciplines, their scope and approaches. Science and Study of social behaviour, the problems of objectivity, reliability and validity. Scientific methods and scientific language; their meaning, goals, types; elements and features. Research Design Techniques of data collection and analysis, Attitude measurements; problems and scales.

2. **Pioneering Contributions to Sociology-** Theoretical beginnings- Positivism and evolutionism with reference to Comte, Spencer and Morgan; Historical Sociology contributions of Karl Mark, Maxweber and P.A. Sorokin; Functionalism; E. Durkheim, Pareto. Parsons and Merton, Conflict School; Gumpлович Dahrendorf and Coser; Recent approaches in Sociology, Micro Sociology, Macro Sociology, Middle Range theories, Neo positivism, Exchange theories and Interactions Sociology.

3. **Social Structure and Social Organisation;** Concept and types approaches to Social Structure; Structural functionalist school, Structuralist school and Marxist School: Elements of Social Structure-Individual and society; social interaction; social groups, concept and types; concept of status and role, their determinants and types, dimensions of roles in simple and complex societies, role conflict; Social Network; Basic concepts and types, culture and personality, concepts of conformity and social control, agencies of social control; concept of Minority Groups, their relationship with majority; Secularism versus Integration.

4. **Social Stratification and Mobility-**Concept, consequences and types of stratification; inequality and stratification, Dimensions and bases of stratification; Theoretical approaches to the study of stratification, functionalist approach and conflict approach; Social Stratification and Social Mobility; Concept of Sanskritization and Westernisation. Types of Mobility: intergenerational mobility, vertical versus horizontal mobility, open and closed models of mobility.

5. **Caste system and its transformation,** Economic Structural and Cultural view about Caste, origin of the Caste system, issues of inequality and social justice among Hindu and Non-Hindu castes, Caste mobility, Scheduled Caste and untouchability, changes among Scheduled Castes, eradication of untouchability, industrial and agrarian class structures,.

6. **Family marriage and Kinship-Structure,** functions and types of family marriage and kinship; social change and change in age and sex roles; change in marriage, family and kinship; significance of family in industrial society. Regional variation in Kinship system and its socio-

cultural correlates, changing aspects of Kinship, The joint family system its structural and functional aspects, its changing form and disorganisation.

7. Formal Organisation-Elements of formal and informal structures and organisations, bureaucracy functions, dysfunctions and characteristics, bureaucracy and political development, political socialisation and political participation, modes of participation, democratic and authoritarian forms, voluntary organisations,

8. Economic System-Property concepts, social dimensions of division of labour; type of exchange, social aspects of pre- industrial and industrial economic systems; industrialisation and changes in the political, educational religious, familiar and stratificational spheres; social determinants and consequences of economic development.

9. Political Systems-Concepts, elements and types of political systems: functions of a political system, institutions under the political system; political processes with reference to individuals, groups, political organisations, parties and other agencies. Concepts, bases and types of power, authority and legitimacy; Concept of Stateless societies; political socialisation versus political participation; properties of State. Power of elites, and masses in democracy and in totalitarian societies; political parties and voting, Leadership democratic order and democratic stability.

10. Educational Systems- Concepts and goals of education; Schools of philosophy; - Naturalism, Idealism and pragmatism, their bearing on education; importance of education in society, democracy, international understanding and nationalism. New trends in education; Role of various agencies-school home society state and religion in education and socialisation. Population Education- its concepts and components, Education as a medium of cultural reproduction, indoctrination, social stratification, mobility and modernisation.

11. Religion- The religious phenomenon; the concepts of sacred and profane, social functions and dysfunctions of religion, magic religion and science, social change and religious secularisation.

12. Social change and development- Factors of social change, economic, biological and technological; Theories of social change- evolutionary, functional and conflict; social change, modernisation and development; Democratisation equality and social justice; social reconstruction. Section.

Social Change and modernisation: Problems of role conflict youth unrest- intergenerational gap, changing status of women. Major sources of social change and of resistance to change, impact of west reform movements, social movements, industrialisation and urbanisation pressure groups, factors of planned change, five year plans legislative of executive measures;

structural contradictions and break-downs. Current social evils-corruption and Nepotism Smuggling, Black Money.

13. Indian Society- Features of traditional Hindu Social Organisation, Socio-cultural dynamics through the ages, impact of Buddhism, Islam and West on Indian Society, factors in continuity and change.

14. Tribal societies: Major tribal communities in India, their distinctive features; tribe and case their acculturation and integration; problem of Bihar tribes (social, economic and Political), different approaches to tribal welfare, constitutional and governmental safeguards; tribal movements in India. The Tana bhagat movement, the Birsa movement and the Jharkhand movement, their significance in tribal development.

15. Population dynamics: Theories of population growth Malthusian, biological, demographic transition, optimum population socio-cultural aspects of population composition (sex, age, marital status), determinants of fertility, mortality and migration. Need of population policy in India; population explosion and other determinants factors; social psychological cultural and economic determinants behind population acceptance of family planning practices in India. Family Planning Programmer through first to eighth five-year plans; population education; concept, goals, aspects, agencies and techniques of population education.

Syllabus for Art of Teaching and Other Skills STET 2023

Unit II	Art of Teaching, Other skills	Marks 50
(A)	Art of Teaching	Marks 30
(B)	Other skills	Marks 20

A. Art of Teaching

1. Teaching & Learning:- Meaning, Process & Characteristics.
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8. Qualities of Teacher.
9. Evaluation & Assessment for learning.
10. Curriculum.
11. Factors affecting teaching and learning.
12. Teaching Aids and Hands on learning.

B. Other skills

1. General Knowledge,
2. Environmental Science
3. Mathematical aptitude,
4. logical Reasoning

Syllabus for Uchcha Madhyamic Paper II STET 2023

UNIT I Subject -- Urdu

Marks 100

1. کلمہ اور اس کی قسمیں
2. اسم اور اس کی قسمیں
3. ضمیر اور اس کی قسمیں
4. صفت اور اس کی قسمیں
5. فعل اور اس کی قسمیں
6. فعل ماضی اور اس کی قسمیں ، متعلق فعل
7. جملہ اور اس کی قسمیں
8. حروف
9. سابق اور لاحق
10. مترادفات
11. کلمات ضرب الامثال (تعریف اور جامع فہرست)
12. اعراب کے فرق سے معنی کا فرق
13. اضداد کی جامع فہرست
14. واحد جمع کی جامع فہرست
15. اعراب و علامات اور ان کا استعمال حرف بردی
16. مطلع ، حسن مطلع، قافیہ ، ردیف اور مقطع کی تعریف
17. مختلف اصناف سخن کی تعریف ، غزل ، مثنوی، قصیدہ، رباعی ، مثلثہ،
18. مرثیہ، آزاد نظم، نظم معریٰ
19. خطوط نویسی
20. مضمون نگاری

Syllabus for Art of Teaching and Other Skills STET 2023

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- I. Evaluation & Assessment for learning.
- J. Curriculum.

K. Factors affecting teaching and learning.

L. Teaching Aids and Hands on learning.

B. Other skills

1. General Knowledge,

2.Environmental Science

3. Mathematical aptitude,

4.logical Reasoning

Syllabus for Uchcha Madhyamic Paper II STET 2023

UNIT I Subject --Bangla

100 Marks

Unit-1

1. Galpa guchha-Rabindranath

Stories to be read-Kalduwala, chhuti, Post jnaste, atithi, jhanihara, Apariehta

2. Prabhat Kumarer Galpo-Prabhat kumar Mukhopodhya

Stories to be read- Devi, Kashilasini, Rasomayir, Posinata, Matrihin, Adarini

3. Sharatchandrer Chhto Galpo- Sharat Chandra

Stories to be read- Mahesh, Abhigir Swarage, Bilasi, Paresh, Sali, Panesh

Unit-2

Prabandha

Book

1. Banoim Chandrer Proloandhalali

Pieces to be read- Biral, Phooler Billsha, Barobazoarg Dinar Durgalosian

2. Bichitra Pralandha –Rabindranath

Pieces to be read- Pagal, panerouna, Sonar kath, Nalabursha, Kekadhdhari

3. Pralandhe Sangrah- Pramath Choudhary

Pieces to be read- Sabejpatra, Youbane dorajti, sahitrykhela, Tarjama, Chutki

Unit-3

Chhando and Alankar

Chhando- Portions to be read- Chhando ki, chhed, Jati, Parba, Parbanga, Matra, Charan, Chhander, pranarlined- Matraliritta chhando, Tanpradhan chaando, Payar, Aksharbritta chhando, charan chhando, Amritrakshar Chhando, Yainish Chhando, Balakar Chhando, Sorret

Alankar-

Portions to be read- Alankar and kave bade, Alankar kaluprakerer, Shabdalanakar, Arthalankar, Anuprass Janak, Shlesh, Bakround, upama, utpreksha, Byaterek, Samasokti, Byaj Stuti

Chhando Bishleshan and Alankar Bishleshan

Unit-4

Kavya & Kavitrī (Madhya Yug)

Book

1. Chainmya Bhagwat-Bridalian Day only adikanda
2. Chandimmgal-Muccundia chamvabary (Only anmetikhanda)
3. Mishnala Padliali:- Madhukari-Kalidas Roy
Padas- 6,8 (Dwifa Chanidas)
12,13 (Vidyapati)
19 (Ramananda Roy)
28,29 (yyandas)
32,35 (Govinda das)
43 (Balaman das)

Unit-5

Kalrita (Modern Period)

1. Meghnadleadh Kabya-Michel Madhusan Dutta (Only Fowrth Sangya)
2. Balakh-Rabindranath poetries to be read-1,6, 7, 8, 14, 16, 18
3. Kavya sanechya- Satyaendranath Dutta
Poetries- Yaksher Nivedan, Sagar Tarpan, Champa, Seva, Savny Manishi
jhangal, Ganga wridi Bangalikumni
4. Kavita Sankalan- Jatindra nath Sengukla
Poetries- Banhi stuti, Hat, Lohar leyalta, Dukkhaladi, chiro Baishakh

Unit-6

Bangla Natak

Book

1. Kulin-kul-Sarleshwa- Ram Narayan tarka Ratna
2. Krishna Kumari-Madhushudan Dutta
3. Profulla-Girish Chandra ghosh

Unit-7

Bangla Natak

Book

1. Achalayatan – Rabindranath
2. Chandragupta- D.L.Ray
3. Rajpuri – Manmath Roy

Unit-8

Novel

1. Chandra Shekhar- Bunker Chandra
2. Ghare Baire- Rabindranath
3. Datta- Sharat Chandra Chhatopudhay

Unit-9

Novel-2

Book-

1. Ganadevata-Tarashankar Bandyopudhay
2. Aranyak-Bibhytilekushan Bandyopudhay
3. Tunni Sandya Megh-Sharadindu Bandyopudhay

Unit-12

Michel

To be read

- 1- Chaltera lash padi kabita laili
Poetries- Uparoun, kriltilaws, kasha ram Das, Sree Panchami, Vijaydashami,
Kapotansha Nad
Natan- Sharmishtha, Padmalati

Unit-13

Banzimchandra chhdopadhaga

Novels- Kapalkundala, Arandhjhalh, Bishlerksha

Unit-14

Rabindranath

Poetry-Chitra to be read- Chitra, urvashi, Ratre&Prabhale, Swaragh Hote Bidai,
Sindhupur,

Natak- Dakyhan, Mautadhara

Chhto galpo- Kamal, Nishithe, Jubito-o-Mrita tyag

Novels- Chokker Bali, Bouthakidrani hat

Unit-15

Shurat Chandra

Novels-Charitra jha, Srikanto-1st part, Bardidi

Syllabus for Art of Teaching and Other Skills STET 2023

Unit II Art of Teaching, Other skills

Marks 50

(A) Art of Teaching

Marks 30

(B) Other skills

Marks 20

A. Art of Teaching

- B. Teaching & Learning:- Meaning, Process & Characteristics.
- C. Teaching Objectives and Instructional objectives: Meaning & Types, Blooms Taxonomy.
- D. Teaching Methods: - Types and its Characteristics, Merit, and demerits of Methods.
- E. Lesson Plan: - Types and Format & Various Model.
- F. Microteaching & Instructional analysis.
- G. Effective ecosystem of Classroom.
- H. Textbook and library
- I. Qualities of Teacher.
- J. Evaluation & Assessment for learning.
- K. Curriculum.
- L. Factors affecting teaching and learning.
- M. Teaching Aids and Hands on learning.

B. Other skills

1. General Knowledge,
2. Environmental Science
3. Mathematical aptitude,
4. logical Reasoning

Syllabus for Uchcha Madhyamic Paper II STET 2023

Unit I Subject Bhojpuri

100 Marks

1. भोजपुरी साहित्य के इतिहास
2. भोजपुरीतर अन्य क्षेत्रीय भाषा साहित्य के अध्ययन
3. भारतीय काव्यशास्त्र
4. भोजपुरी आलोचना साहित्य
5. प्रयोजन मूलक भोजपुरी (व्यावहारिक भोजपुरी)
6. भोजपुरी लोक साहित्य
7. भोजपुरी कहानी
8. भोजपुरी निबन्ध संग्रह
9. भोजपुरी भाषा के इतिहास
10. व्याकरण- संज्ञा, सर्वनाम, विशेषण, क्रिया, विशेषण, काल, अवयव, उपसर्ग, प्रत्यय, कहावत और मुहावरे, वाक्य शुद्धिकरण, छंद और अलंकार
11. भोजपुरी गद्य के अन्य प्रमुख विधायें
12. पाश्चात्य काव्यशास्त्र
13. आधुनिक भोजपुरी का काव्य
14. भोजपुरी उपन्यास
15. भोजपुरी नाटक

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Syllabus for Uchcha Madhyamic Paper II STET 2023

Unit I Subject Chemistry

100 Marks

Physical Chemistry

Unit-1 Gaseous State

- Van der Waals equation of state
- Relationship between critical constants and Van der Waals constants
- Root mean square
- Average and most probable velocities

Unit-2 Solid State

- Derivation of Bragg equation
- Determination of crystal structure of NaCl, KCl and CsCl

Unit-3 Chemical Kinetics and Catalysis

- Concentration dependence of rates
- Mathematical characteristics of zero order, first order, second order, pseudo order, half life and mean life.
- Effect of temperature on rate of reaction, Arrhenius equation
- Expression for the rate constant based on equilibrium constant and thermodynamics aspects.
- Classification of catalysis

Unit-4 Colligative properties of dilute solutions

- The thermodynamics derivations of Rault's law relative lowering vapour pressure, osmotic pressure, elevation in boiling point, depression in freezing point.

Unit-5 Thermodynamics

- Calculation of w , q , dU & dH for the expansion of ideal gases under isothermal and adiabatic conditions for reversible process.
- Hess's Law of heat summation, Heat of reaction at constant pressure and at constant volume.
- Enthalpy of neutralization, Bond dissociation energy
- Gibbs function (G) and Helmholtz function (A) as thermodynamic quantities
- Variation of G and A with P , V and T .

Unit-6 Chemical Equilibrium

- Equilibrium constant
- Le Chatelier's principle

Unit-7 Phase Equilibrium

- Degree of freedom

- Derivation of Gibbs phase rule, phase equilibria of one component system – Water

Unit-8 Electrochemistry

- Specific conductance and equivalent conductance
- Measurement of equivalent conductance, variation of equivalent and specific conductance with dilution.
- Arrhenius theory of electrolyte dissociation
- Ostwald's dilution law
- Nernst equation, derivation of cell E.M.F and single electrode potential
- Calculation of thermodynamic quantities and cell reactions(ΔG , ΔH and K)

Inorganic Chemistry

Unit-1 Atomic Structure

- Quantum numbers, shapes of s, p, d orbitals
- Aufbau and Pauli exclusion principles, Hund's multiplicity rule
- Electronic configuration of elements
- Schrodinger wave equation, significance of wave function

Unit-2 Periodic properties

- Atomic and ionic radii
- Ionization energy
- Electron affinity and electronegativity

Unit-3 Chemical Bonding

- Various types of hybridization and shapes of simple inorganic molecules and ions.
- Valence shell electron pair repulsion (VSEPR) theory of NH_3 , H_3O^+ , SF_4 , ClF_3
- Homonuclear and heteronuclear (CO and NO) diatomic molecules
- Radius ratio effect and coordination number
- Lattice defects
- Semiconductors
- Fajan's rule
- Hydrogen bonding, Van der Waals forces

Unit-4 S, P Block Elements and noble gases

- Comparative study, Salient features of hydrides of s block elements
- Hydrides, oxides, oxyacids and halides of groups 13-16, hydrides of boron- diborane, borazine, fullerenes, fluorocarbons, Interhalogens.

- Structure and bonding of xenon compounds.

Unit-5 Chemistry of Elements of Transition series

- Coordination numbers and geometry of first transition series
- Magnetic behaviour , spectral properties of second and third transition series.

Unit-6 Coordination compound

- Isomerism coordination compound
- Valence bond theory of transition metal complexes.
- Chelates
- Crystal field splitting in octahedral, tetrahedral and square planar complexes.
- Types of magnetic behaviour of transition metal complexes.
- Electronic spectrum of $[\text{Ti}(\text{H}_2\text{O})_6]^{3+}$ complex ion.

Unit-7 Acid and Bases

- Arrhenius, Bronsted-Lowry , Lewis concepts of acids and bases.

Unit-8 Environmental at bio inorganic chemistry

- Ozone Depletion, Green house effect, Acid rain, smog
- Haemoglobin, myoglobin and nitrogen fixation.

Organic Chemistry

Unit-1 Structure and Bonding

- Hybridisation , bond lengths and bond angles, bond energy , localized and delocalized chemical bond, Van der Waals interactions.
- Resonance, hyperconjugation, aromaticity, inductive and field effects, hydrogen bonding.

Unit-2 Mechanism of Organic Reactions

- Types of organic reactions, Reagents- electrophiles and nucleophiles
- Reactive intermediates- Carbocations, carbanions, free radicals, carbenes, arynes and nitrenes.

Unit-3 Stereochemistry

- Molecular chirality, optical activity, enantiomers, chiral and achiral molecules with two stereogenic centres, diastereomers, meso compounds.
- D & L and R & S system of nomenclature
- Geometrical isomerism in alicyclic compounds

Unit-4 Alkane and Cyclic molecules

- IUPAC nomenclature , Isomerism and alkane , Wurtz reaction, Kolbe reaction , free radical halogenation of alkanes

Unit-5 Alkenes, Cycloalkenes and Dienes and Alkynes

- Mechanism of dehydration of alcohols , dehydrohalogenation of alkyl halides, Saytzeff rule
- Electrophilic and free radical additions
- Markownikoff's rule, hydroboration-oxidation, Epoxidation, ozonolysis , hydration, hydroxylation and oxidation with KMnO_4 .
- Substitution of allylic and vinylic positions of alkenes.
- Polymerisation, Diels-Alder reaction.
- Reaction of alkynes, Hydroboration-oxidation, metal -ammonia reductions, oxidation and polymerization.

Unit-6 Arenes and Aromaticity

- Aromaticity and Huckel rule , Birch reduction

Unit-7 Alkyl and Aryl Halides

- $\text{S}_{\text{N}}2$ and $\text{S}_{\text{N}}1$ reaction, The addition elimination and the elimination addition mechanisms of nucleophilic aromatic substitution reactions.
- Synthesis and uses of DDT and BHC.

Unit-8 Oxygen containing molecules

- Classification and nomenclature of elements .
- Methods of formation of monohydric alcohols and their reaction
- Chemical reaction of vicinal glycols, oxidative cleavage [$\text{Pb}(\text{OAc})_4$ and HIO_4] and pinacol-pinacolone rearrangement.
- Comparative acidic strengths of alcohols and phenols.
- Electrophilic aromatic substitution, acylation and carboxylation.
- Fries rearrangement, Claisen rearrangement, Gatterman synthesis, Reimer-Tierman reaction.
- Nomenclature of ethers and their formation.
- Synthesis of aldehydes and ketones
- Mechanism of nucleophilic additions to carbonyl group, benzoin, aldol, perkin and knoevenagel condensations, wittig reaction , mannich reaction.
- Oxidation of aldehydes, Baeyer-villiger oxidation of ketones, Cannizzaro reaction, clemmensen, wolff-kishner, LiAlH_4 and NaBH_4 , Halogenation of enolizable ketones.
- Preparation and reaction carboxylic acids and their derivatives, mechanism of decarboxylation, reduction of carboxylic acids.
- Mechanism of esterification and hydrolysis

Unit-9 Organic compound and nitrogen

- Structure and nomenclature of amines , separation and mixture of primary , secondary and tertiary amines , basicity of amines.
- Reductive animation of aldehydic and ketonic compounds , Gabriel-phthalimide reaction , Hofmann bromamide reaction.
- Reaction of amines with nitrous acid , aryl diazonium salts and azo coupling.

Unit-10 Organometallic compounds

- Grignard reagents-formation , structure and chemical reactions

Unit-11 Heterocyclic compounds

- Pyrrole , furan thiophene and pyridine- methods of synthesis and chemical reaction , comparision of basicity
- Preparation and reactions of indole, quinolone and isoquinoline – Fisher indole synthesis, Skraup synthesis

Unit-12 Bio molecules

- Monosaccharides, osazone , Erythro and threo diastereomers, maltose, sucrose,lactose and starch
- Acid-base behaviour of amino acids , constituents of nucleic acids, double helical structure of DNA.

Unit-13 Fat, Oils and Detergents

- Glycerides, unsaturated oils , saponification value, iodine value, soap and synthetic detergents.

Unit-14 Synthetic Polymers and Dyes

- Natural and synthetic rubbers , polyeters, polyamides , phenol formaldehyde resins, urea formaldehyde resins and Zeigler-Natta polymerization.
- Chemistry and synthesis of methyl orange and phenolphthalein, Alizarin and indigo.

Syllabus for Art of Teaching and Other Skills STET 2023

Unit II Art of Teaching, Other skills	Marks 50
(A) Art of Teaching	Marks 30
(B) Other skills	Marks 20

A. Art of Teaching

1. Teaching & Learning:- Meaning, Process & Characteristics.
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12. Teaching Aids and Hands on learning.

B. Other skills

1. General Knowledge,
- 2.Environmental Science
3. Mathematical aptitude,
- 4.logical Reasoning

Syllabus For Uchcha Madhyamic Paper II STET 2023

UNIT I Subject ----- Home Science 100 Marks

Unit-1

• Food Science :-

- Food- Classification of food, Structure, Composition, Nutritive value of cereals, Pulse, Vegetable, Fruits, Milk Products, Fats and Oils, Meat, Fish, Eggs, beverages, Condiments and Spices.
 - Cooking method – their effect on nutritive value of foods.
 - Food storage
 - Food spoilage, food poisoning, food preservation
 - Food adulteration

Unit-2

• Nutrition :-

- Nutrients – Composition, classification, functions, deficiency symptoms, sources, daily allowance of carbohydrates, fats, proteins, vitamins, minerals and Water,
- Digestion, absorption and metabolism of carbohydrates, fats and proteins,
- Calorie – Definition, Factors affecting calorie requirements.

Unit-3

• Child Development :-1

- Child development – Introduction, nature and scope
- Fundamental concept of Child Development – concept of heredity, environment, maturation, learning, health and nutrition as factors determining development. Developmental areas, developmental milestones, developmental tasks.
- General Principles of Growth and Development, life in womb, birth process and neonatal period.
- Breast feeding and its importance for mother and baby.

Unit-4

• Child Development: -2

- Physical growth, Motor development and Health care
- Milestone in Motor development – Gross and Fine Muscles Skills.
- Prevention and Management of common Childhood Illness
- Immunization
- Language Development and factors affecting language development,

- Cognitive Development – Characteristics, cognitive development in childhood, factors affecting cognitive development.

Unit-5

- **DIETEICS: -1**

- Diet in Health and Disease – Concept of adequate diet.
- Balanced diet for adult men and women, pregnant women, lactating mothers, preschool, adolescents, old age.
- Modification of normal diet into liquid and soft diet, Principles involved in planning diets

. Unit-6

- **DIETEICS: -2**

- Low Calorie and High Calorie diets – Underweight and Overweight.
- Fever – Typhoid
- High Fibre Diet – Constipation
- Bland Diet – Peptic Ulcer
- Moderate Fat Diet – Hepatitis

Unit-7

- **Family Resource Management: -1**

- Management Process – Planning, controlling and Evaluation.
- Management of family resources – Definition, classification and Characteristics of Resources, Factors affecting the use of resources.
- Decision making – Decision making, group and individual decision making, steps of decision making.
- Energy Management – Definitions, Types of fatigue, Causes of fatigue, Removal of fatigue, Work simplification through principles of body mechanics, Mendel's laws of change.

Unit-8

- **Family Resource Management:-2**

- Time Management.
- Money Management – Money as a resource, Family income, Sources and types of Family Budget, Engle's Law, Account keeping.
- Interior Decoration – Elements and Principles, Introduction to colour, Colour Theory and Colour Schemes.

Unit-9

- **Clothing and Textile: -**

- Need of Textile in daily living for protection, comfort
- Yarn Construction – Simple, Complex and fancy yarn.
- Fabric construction weaving, knitting and felting.
- Finishes – Basic and special finishes – Mercerizing, Sanforizing, fleecing, shrinking, mothproof, fireproof, waterproof, crease resistant, types of dyes Methods of dying.
- Selecting fabrics for dress materials and household articles.
- Traditional textiles of India. Care and storage of clothes.

Unit-10

• Child Psychology: -1

- Definition, Scope and Objectives of Child Psychology
- Method of Child Study –Biographical method, Case History method, Clinical method, Observation method, Experimental method, longitudinal method and Cross Sectional method.
- Play –Importance and types of play, theories of play, work and play
- Learning – definition and importance of learning, factors affecting learning. Theories of learning-Trial and error, Conditioning, Social learning theory. Development of language, thinking and reasoning (Pavlov, Erikson, Albert, Bandura)

Unit-11

• Child Psychology: - Intellectual Development

- Intellectual Development – meaning and nature of Intelligence, factors affecting Intelligence, measurement of intelligence and values of intelligence Tests. Intellectual deviations- Subnormal, Normal and Subnormal, Normal and Superior
- Personality Development – Definition, types, Traits of personality, factors affecting personality development, Problems during adolescence. Counselling- Educational and vocational guidance for the development of right personality.
- Moral Development – Definition of morality, moral behaviours, factors affecting moral development, standard of moral development

Unit-12

• Communication & Extension Education :-1

- Extension Education- Meaning, scope, objectives, needs and importance. Philosophy and principles of Extension Education
- Extension Teaching Methods – classification, merits and limitations of Methods. Factors affecting choice and use of methods

- Introduction to Communication- Meaning, nature, process of Communication, types, barriers to Communication

Unit-13

• Communication & Extension Education:-2

- Audio-visual Aids- classification, detailed study of aids, factors affecting choice and use of various aids
- Rural Sociology and its importance for Extension Workers, Characteristics of Rural Life, Scope of Rural upliftment.
- Leadership- Qualities of a Leader, Identification of leaders, functions and role of a leader.

Unit-14

• Family Dynamics :-1

- Family as a basic social institution – Definition, types of family, Family in past and present, Functions and motives of the family. Joint and nuclear families
- Marriage- Mate selection, late marriage, types of marriage, advantages of arranged and self choice marriage, functions and motives of marriage.
- Marital adjustments, Husband- Wife relationship, Relation with other family members for harmonious life
- Parent child relation ship

Unit-15

• Family Dynamics :-2

- Old age- Developmental tasks, problems of the aged, Role of family member, government and non-governmental organizations in solving their problems
- Mental health – Meaning and importance, aetiology of mental health, ways of adjustment, role of psychotherapy and counselling to cure mental problems.
- Problems of Women – Violence against women, Separation and single motherhood and their coping strategies

Syllabus for Art of Teaching and Other Skills STET 2023

Unit II	Art of Teaching, Other skills	Marks 50
(A)	Art of Teaching	Marks 30
(B)	Other skills	Marks 20
A.	Art of Teaching	
	1. Teaching & Learning:- Meaning, Process & Characteristics.	
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B. Other skills

1. General Knowledge,
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3. Mathematical aptitude,
4. logical Reasoning

Syllabus for Uchcha Madhyamic Paper II STET-2023 Pali

Unit I Subject – पालि

100 Marks

इकाई— एक

1. पालि भाषा का सामान्य परिचय
2. पालि शब्द की उत्पत्ति
3. पालि भाषा का उत्पत्ति एवं विकास

इकाई— दो

1. पालि शब्द रूप— बुद्ध, फल, लता, मूनि
2. धातु रूप— भू, गम, पठ, च

इकाई— तीन

1. पालि पिटक साहित्य का उद्भव और विकास
2. विनय पिटक महावग्ग एवं चुल्लवग्ग

इकाई— चार

1. सुत्त पिटक का उद्भव और विकास
2. दीघ निकाय एवं मज्झिम निकाय

इकाई— पाँच

1. अभिधम्म पिटक का उद्भव एवं विकास
2. चित्त एवं चैत्तसिक धर्मों का सामान्य अध्ययन

इकाई— छः

1. पिटकेत्तर साहित्य का उद्भव एवं विकास
2. मिलिन्दप्रश्न, नेत्तिपक्करण एवं पेटकोपदेस

इकाई— सात

1. पालि काव्य साहित्य का उद्भव एवं विकास
2. जिनचरित्त, तेलकटाहगाथा

इकाई— आठ

1. पालि अट्ठकथा साहित्य का उद्भव एवं विकास
2. बुद्धदत्त, बुद्धघोष एवं धम्मपाल

इकाई— नौ

1. अशोक के 1 से 5 अभिलेखों (गिरनार पाठ) का अनुवाद
2. शिलालेखों पर सामान्य प्रश्न

इकाई— दस

1. पालि वंश साहित्य का उद्भव एवं विकास
2. दीपवंश, महावंश

इकाई— ग्यारह

1. संगीतियों का सामान्य ज्ञान
2. प्रथम, द्वितीय एवं तृतीय संगीति

इकाई— बारह

1. पालि में कारक विधान
2. पालि में कारकों का प्रयोग

इकाई- तेरह

1. धम्मपद- यमकवग्ग, अप्पमादवग्ग
2. सुत्तनिपात्त- पराभवसुत्त, ब्राह्मण धम्मिक सुत्त

इकाई- चौदह

1. उपोसथ, वर्षावास, पवारणा,
2. पवज्जा, उपसम्पदा, उपाध्याय, आचरिय

इकाई- पंद्रह

1. भिक्षुपातिमोक्ख
2. भिक्षुणीपातिमोक्ख

Syllabus for Art of Teaching and Other Skills STET 2023

Unit II Art of Teaching, Other skills

Marks 50

(A) Art of Teaching

Marks 30

(B) Other skills

Marks 20

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Syllabus for Uchcha Madhyamic Paper II STET 2023

Unit I Subject – PHILOSOPHY

100 Marks

A. Indian Philosophy

Unit-1 :

- (a) Salient Features of Indian Philosophy.
- (b) Charvaka- Epistemology, Metaphysics, Ethics.
- (c) Jainism- Substance, Jiva , Bondage and Liberation.
- (d) Buddhism- The Four Noble Truths, Anatmavada, Doctrine of Momentarianess.

Unit-2 :

- (a) Nyaya- Epistemology, Proofs for the Existence of God.
- (b) Vaishesika – Seven Padarthas.
- (c) Sankhya - Satkaryavada, Purusa, Prakrti, Theory of Evolution.
- (d) Yoga- Eightfold Path, Concept of God.

Unit-3 :

- (a) Mimamsa- Apurva.
- (b) Advaita Vedanta (Shankara) - Brahman, Maya, World, Self (Atman).
- (c) Visishtadvaita Vedanta (Ramanuja) - Refutation of Shankara's Mayavad, Brahman, Self(Atman)
- (d) Khayativada, Pramanyavada

Unit-4 : Contemporary Indian Philosophy

- (a) Vivekanand : Universal Religion, Practical Vedanta , The Four Yogas.
- (b) S. Radhakrishnan: Concept of Absolute and God, Intellect and Intuition.
- (c) Aurobindo: Sachidanand, Supermind, Integral Yoga, Theory of Evolution.
- (d) Gandhi: Ahimsa, Truth and God, Cardinal Virtues.
- (e) Ambedkar- Criticism of Caste System, Concept of Social Justice.

B. Western Philosophy

Unit-5 :

- (a) Basic Features of Modern Western Philosophy.
- (b) Descartes – Method of Doubt, *cogito ergo sum*, substance and God, Mind-Body relation.
- (c) Spinoza – Substance, Attributes, Modes, Mind-Body Relation.
- (d) Leibniz – Monads, Pre-established Harmony.

Unit-6 :

- (a) Locke – Refutation of Theory of Innate Ideas, Simple and Complex Ideas, Primary and Secondary Qualities, Substance.
- (b) Berkeley – Refutation of Matter, Idealism, *esse est percipi*.
- (c) Hume – Impressions and Ideas, Theory of Causation, Scepticism.

Unit-7 :

- (a) Kant – Criticism, Space and Time, Phenomena and Noumena.
- (b) Hegel – Absolute Idealism, Dialectical Method.
- (c) Bradley – Appearance and Reality, Degree of Reality.
- (d) Logical Positivism – Elimination of Metaphysics, Function of Philosophy, Verification Theory of Meaning.

C. General Concepts of Philosophy

Unit-8 :

- (a) Nature of Philosophy, It's Relation with Science and Religion.
- (b) Theories Related to Source of Knowledge – Rationalism, Empiricism and Criticism.
- (c) Relation Between Knower and Known – Realism, Epistemological Idealism.
- (d) Knowledge of Truth – Correspondence, Coherence, Pragmatic.

Unit-9 :

- (a) Nature and Number of Ultimate Reality – Materialism, Neutralism, Monism, Dualism, Pluralism, Idealism.
- (b) Relation Between God and World – Deism, Theism, Pantheism, Panentheism.
- (c) Creationism and Evolutionism – Darwin's Theory of Biological Evolution.
- (d) Causality – Aristotle, Mill, Hume.

(D) Ethics

Unit-10 :

- (a) Nature of Ethics – Normative Ethics, Meta Ethics and Applied Ethics.
- (b) Ethical concepts – Right, Good, Duty, Obligation.
- (c) Moral and Non-Moral Actions.
- (d) Analysis of Voluntary Actions.
- (e) Postulates of Morality.
- (f) Nature and Object of Moral Judgement .
- (g) Standards of Morality – External Law, Hedonism, Rigorism, Hedonism, Intuitionism, Perfectionism.
- (h) Theories of Punishment – Retributive, Preventive, Reformative.

Unit-11 :

- (a) Vedic Concepts of Rta and Rna.
- (b) Varnashrama Dharma.
- (c) Purusharthas.
- (d) Ethical Implication of Law of Karma.
- (e) Ethical Concept of Geeta – Lokasangraha, Svadharma, Karm yoga.

E. Philosophy of Religion

Unit-12 :

- (a) Nature of Religion, Relation of Religion to Science, Morality and Theology.
- (b) Religious Consciousness.
- (c) Foundation of Religious Belief – Reasons and Faith, Revelation and Mystic Experience.
- (d) Forms of Primitive Religion – Manaism, Totamism, Animism, Fetishism and Spritism.
- (e) Proof for the Existence of God – Cosmological, Ontological , Causal, Teleological and Moral.

Unit-13 :

- (a) God – Attributes and Personality.
- (b) Problem of Evil.
- (c) Unity of Religion and Religious Tolerance.
- (d) Religious Language and It's Meaning.
- (e) Proof for the Immortality of Soul.
- (f) Secularism.

F. Social and Political Philosophy

Unit-14 :

- (a) Nature of Social and Political Philosophy.
- (b) Relation Between Individual and Society.
- (c) Tradition and Modernity.
- (d) Caste and Class, Marriage and Divorce.
- (e) Private Property, Doctrine of Trusteeship.
- (f) Political Concepts – Rights and Duties, Liberty, Equality, Justice and Power, Political Obligation.
- (g) Political Ideologies – Democracy, Socialism, Marxism, Communism, Satyagrah, Sarvodaya.

G. Logic

Unit-15 :

- (a) Nature of Logic, Symbolic Logic – It's Characteristics and Utility, Nature of Arguments, Truth and Validity, Simple and Compound Statements, Conjunction, Disjunction, Implication, Negation.
- (b) Argument and Argument Forms, Determination of Validity and Invalidity with the Help of Truth Table.
- (c) Determination of Tautology, Contradiction and Contingent by Truth Table.

Syllabus for Art of Teaching and Other Skills STET 2023

Unit II Art of Teaching, Other skills

Marks 50

(A) Art of Teaching

Marks 30

(B) Other skills

Marks 20

A. Art of Teaching

1. Teaching & Learning:- Meaning, Process & Characteristics.
2. Teaching Objectives and Instructional objectives: Meaning & Types, Blooms Taxonomy.
3. Teaching Methods: - Types and its Characteristics, Merit, and demerits of Methods.

4. Lesson Plan: - Types and Format & Various Model.
5. Microteaching & Instructional analysis.
6. Effective ecosystem of Classroom.
7. Textbook and library
8. Qualities of Teacher.
9. Evaluation & Assessment for learning.
10. Curriculum.
11. Factors affecting teaching and learning.
12. Teaching Aids and Hands on learning.

B. Other skills

1. General Knowledge,
- 2.Environmental Science
3. Mathematical aptitude,
- 4.logical Reasoning

Syllabus Uchcha Madhyamic Paper II STET 2023

UNIT I Subject – प्राकृत 100 Marks

इकाई— एक

1. लीलावईकहा (कोऊहल) 1–50 गाथाएं सम्पा.— डॉ. ए. एन. उपाध्याय

इकाई— दो

1. पाणपंचमीकहा (महेश्वरसूरी) भविष्यदत्तकव्वं (गाथा 1 से 60) सम्पा. डॉ. राजाराम जैन

इकाई— तीन

1. प्राकृत काव्य साहित्य का संक्षिप्त परिचय तथा पठित ग्रन्थों पर सामान्य प्रश्न।

इकाई— चार

1. संज्ञा, सर्वनाम, क्रिया एवं कृदन्त के सामान्य नियम एवं प्रयोग।

इकाई— पाँच

1. प्राकृत से हिन्दी एवं हिन्दी से प्राकृत में सभी विभावित्तियों के सरल वाक्यों में अनुवाद एवं रचना करने का ज्ञान।

इकाई— छः

1. पायाधम्मकहा (4 एवं 6 अध्ययन)
2. उत्तराध्ययनसूत्र (विनयसुत्तं 1–17 गाथाएं)
(रहनेमिज्जं 1–49 गाथाएं)

इकाई— सात

1. वसुनंदिश्रावकाचार (गाथा 60 से 87 एवं 101 सं 111 तक)
सम्पा. पं. हीरालाल जैन, दिल्ली, अनुवाद एवं समीक्षा

इकाई— आठ

1. प्राकृत साहित्य समीक्षा (अर्धमागधी एवं शौरसेनी आगम साहित्य का संक्षिप्त परिचय एवं पठित ग्रन्थों की समीक्षा)

इकाई— नौ

1. अशोक के 1 से 5 अभिलेखों (गिरनार पाठ) का अनुवाद
2. शिलालेखों पर सामान्य प्रश्न

इकाई— दस

1. आर्ष प्राकृत व्याकरण (अर्धमागधी एवं शौरसेनी प्राकृत भाषा की सामान्य विशेषताएँ, संज्ञा, सर्वनाम, क्रिया एवं कृदन्त का सामान्य ज्ञान)

इकाई— ग्यारह

1. आख्यानमणिकोश (आम्रदेवसूरी) – शिक्षा विवेक, गाथा 1–17

2. सुरसुन्दरीचरियं (धनेश्वरसूरी)– नगर वर्णन, गाथा 1–16

इकाई– बारह

1. वज्जालग (जयवल्लभ) – सज्जन स्वरूप गाथा 1–11
2. गाहासत्तसई (हाल) – गाथामाधुरी, गाथा 1–16

इकाई– तेरह

1. प्राकृत भाषा का सामान्य परिचय, महत्ता एवं उसकी प्राचीनता के संदर्भ

इकाई– चौदह

1. भारतीय भाषाएँ वैदिक एवं आधुनिक और प्राकृत का अन्तः सम्बन्ध एवं वैशिष्ट्य, प्राकृत भाषा के विभिन्न रूपों के रूप गठन के नियम एवं वैशिष्ट्य

इकाई– पंद्रह

1. प्राकृत भाषा के भेद–प्रभेद, प्राकृत साहित्य की विधिता का परिचयात्मक विश्लेषण, प्राकृत शिला लेखों में प्रयुक्त प्राकृत भाषा–स्वरूप एवं वैशिष्ट्य

Syllabus for Art of Teaching and Other Skills STET 2023

Unit II Art of Teaching, Other skills	Marks 50
(A) Art of Teaching	Marks 30
(B) Other skills	Marks 20

A. Art of Teaching

1. Teaching & Learning:- Meaning, Process & Characteristics.
2. Teaching Objectives and Instructional objectives: Meaning & Types, Blooms Taxonomy.
3. Teaching Methods: - Types and its Characteristics, Merit, and demerits of Methods.
4. Lesson Plan: - Types and Format & Various Model.
5. Microteaching & Instructional analysis.
6. Effective ecosystem of Classroom.
7. Textbook and library
8. Qualities of Teacher.
9. Evaluation & Assessment for learning.
10. Curriculum.
11. Factors affecting teaching and learning.
12. Teaching Aids and Hands on learning.

B. Other skills

1. General Knowledge,
2. Environmental Science
3. Mathematical aptitude,
4. Logical Reasoning

Syllabus for UCHCHA Madhyamic Paper II STET 2024

Unit I Subject –Arabic

100 Marks

Content

Unit-1

- Kinds of Arabic Poetry and its definition
 - المدح
 - الهجاء
 - الرثاء
 - الوصف
 - الحماسة
 - الفخر
 - القصيدة

Unit-2

- Classical Arabic Poetry
 - معلقة إمرء القيس
 - حسان بن ثابت (يذكر الهجرة)
 - قالت خنساء (ترثي صخرًا)
 - قصيدة بانء سعاد

Unit-3

- Introduction of Arabic Prose its Brief History
 - الخطابة
 - الوصايا
 - الأمثال
 - الحكم
 - المقامة

Unit-4

- Prose of Islamic Period
 - سورة الكوثر
 - سورة القريش
 - سورة النصر
 - سورة الإخلاص
 - سورة الناس

- سورة الفلق
- خطبة ابي بكر
- خطبة علي

Unit-5

- Prose of Abbasid Period
 - كتاب زبيدة وجوابه (نخبة الادب)
 - اسلام ابي زر (نخبة الادب)
 - القضاء والقدر (نخبة الادب)
 - عاقبة الحسد (نخبة الادب)

Unit-6

- A Brief History of Arabic language and literature from Pre-Islamic to Umayyad Period
 - العهد الجاهلي
 - العهد الاسلامي
 - العهد الاموي

Unit-7

- A Brief History of Arabic language and literature from Abbasid to Modern Period.
 - العهد العباسي
 - العهد الحديث

Unit-8

- Contribution of Indian Scholars in the development of Arabic language and literature.
 - الاسلام في الهند
 - المؤسسات الاسلامية في الهند
 - مساهمة الهنود في النثر
 - مساهمة الهنود في الشعر

Unit-9

- Poetry of Abbasid Period.
 - غير انثى العقل والحب (المتنبي)
 - وله في صروف الدهر وكأس المنون (ابو العتاهية)
 - قصيدة البردة- الفصل الثالث والرابع (الامام البوصيري)

- قصيدته سينية-ما في وقوفك ساعة من الأس

Unit-10

- Poetry of Modern Period.
 - الغزال والكلب (احمد شوقي)
 - اللغة العربية (حافظ ابراهيم)
 - يذكر ايام الشباب (البارودي)
 - في رثاء نفسي (المازني)

Unit-11

- Modern Arabic Prose
 - الدفين الصغير (المنفلوطي)
 - الايام (طه حسين)
 - المجرم (جبران خليل جبران)
 - كنت شيخا في شبابي (العقاد)

Unit-12

- Arabic Grammar
 - المعرب والمبني
 - افعال الناقصة
 - الحروف المشبهة بالفعل
 - نواصب وجوازم المضارع
 - المفاعيل الخمسة
 - الجملة الاسمية والفعلية

Unit-13

- Rhetoric
 - علم البلاغة تعريفها واهميتها
 - تشبيهه واقسامه
 - استعارة واقسامها
 - المجاز والكناية واقسامهما

Unit-14

- A brief History of Islam from beginning to Caliphate age
 - السيرة النبوية
 - خلافة ابي بكر
 - خلافة عمر

- خلافة عثمان
- خلافة علي

Unit-15

- Terminologies and Translation from Arabic into English/Urdu and Vice-Versa
- قوة الأمن – الطيران المدني – رئيس الوزراء – كبير الوزراء - وزير الداخلية - المطار الدولي - المؤتمر الصحفي – الحساب الجاري – القلمة الحراء -- الأثار التاريخية
- الولد كبير – الطالب زكي – جواز السفر صالح -التأشـر غير صالح - تكتب الفاطمة على السبورة - هذا الجوال رخيص - فاز التلميـز في الاختبار -الطير يطير في الهواء -دهلي عاصمة الهند - الباب مفتوح –
- Political Party – News Agency – International Seminar – Department of Arabic – Personal Data – General Election – Supreme Court – High Court – Local Plaice – Senior Leader
- This book is new – The Pen is very cheap – Department of Arabic is very old – what is your father’s name? Fatima is beautiful – Khalid is laborious student – Prayer is the pallor of religion – Patna is the capital of Bihar – Red Fort is a historical place – Qutub Minar is located in Delhi

Syllabus for Art of Teaching and Other Skills STET 2023

Unit II Art of Teaching, Other skills	Marks 50
(A) Art of Teaching	Marks 30
(B) Other skills	Marks 20

- A. Art of Teaching
- B. Teaching & Learning:- Meaning, Process & Characteristics.
- C. Teaching Objectives and Instructional objectives: Meaning & Types, Blooms Taxonomy.
- D. Teaching Methods: - Types and its Characteristics, Merit, and demerits of Methods.
- E. Lesson Plan: - Types and Format & Various Model.
- F. Microteaching & Instructional analysis.

- G. Effective ecosystem of Classroom.
- H. Textbook and library
- I. Qualities of Teacher.
- J. Evaluation & Assessment for learning.
- K. Curriculum.
- L. Factors affecting teaching and learning.
- M. Teaching Aids and Hands on learning.

B. Other skills

1. General Knowledge,
- 2.Environmental Science
3. Mathematical aptitude,
- 4.logical Reasoning

Syllabus for Uchcha Madhyamic Paper II STET 2024

Syllabus UNIT I Subject -----Computer Science 100 Marks

Unit 1: Digital Logic

- Data and number systems; Binary, Octal and Hexa decimal representation and their conversions ;BCD,ASCII, EBDIC, Gray codes and their conversions; Signed binary number representation with 1's and 2's complement methods, Binary arithmetic. Venn diagram, Boolean algebra; Various Logic gates-their truth tables and circuits; Representation in SOP and POS forms;Minimization of logic expressions by algebraic method, Kmap method
- Combinational circuits-Adder and Subtractor circuits;Applications and circuits of Encoder ,Decoder, Comparator ,Multiplexer, De-Multiplexe rand Parity Generator. Memory Systems:RAM ,ROM, EPROM, EEROM, Design of combinational circuits-using ROM, Programming logic devices and gate arrays. (PLAs and PLDs)
- Sequential Circuits-Basic memory element-S-R, J-K,D and T Flip Flops, various types of Registers and counters and their design,Irregular counter, State table and state transition diagram,sequential circuits design methodology.
- Different types of A/D and D/A conversion techniques. Logic families-TTL,ECL,MOS and CMOS, their operation and specifications.

Unit 2:Computer Organization and Architecture

- Introduction to Data Representation and Number System: Introduction to Decimal, Binary, Octal, Hexadecimal number system, Conversation of number from one number system to another number system (like Decimal to Binary etc.), Binary Arithmetic: - Addition (Simple Method, Using 1's Complement, Using 2'sComplement method), Subtraction (Simple Method), Multiplication (Simple Method), Division (Simple Method)
- Different Codes Representation of Error Detection Codes: Parity Bit Method, Checksum Method, Representation of Error Correction Code: Hamming Code, Alphanumeric Codes: ASCII, EBCDIC, Excess – 3 Code, BCD Addition Method, Gray Code: Gray to Binary Conversion, Binary to Gray Conversion
- Introduction to Ideal Microcomputer, An Actual Microcomputer: CPU, Address Bus, Data Bus, Control Bus, Memory: RAM - SRAM, DRAM, ROM - PROM, EPROM, UVEPROM, EEPROM, History of Microprocessor, Microcontroller (Application Only), Addressing Techniques, Introduction To Digital Electronics, Logic Gates: Inverter, OR Gate, AND Gate, NOR Gate, NAND Gate, EX-OR Gate, EX-NOR Gate, De'Morgan's Theorems
- Universal Gates (Only for Logic Conversion), K-Map Simplifications, Pair, Quad, Octet (upto 4 variables) Don't Care Condition, Arithmetic Logic Unit: Half Adder, Full Adder, Binary Adder,2's Complement Adder Subtractor

Unit 3:Programming and data structure

- Data, Entity, Information, Difference between Data and Information, Data type , Build in data type, Abstract data type, Definition of data structures, Types of Data Structures: Linear and Non-Linear Data Structure, Introduction to Algorithms: Definition of Algorithms, Difference between algorithm and programs, properties of algorithm, Algorithm Design Techniques, Performance

Analysis of Algorithms, Complexity of various code structures, Order of Growth, Asymptotic Notations.

- Definition, Single and Multidimensional Arrays, Representation of Arrays: Row Major Order, and Column Major Order, Derivation of Index Formulae for 1-D,2-D Array Application of arrays, Sparse Matrices and their representations. Recursion: recursion in C, example of recursion, Tower of Hanoi Problem, simulating recursion, Backtracking,, recursive algorithms, principles of recursion.
- Array Implementation and Pointer Implementation of Singly Linked Lists, Doubly Linked List, Circularly Linked List, Operations on a Linked List. Insertion, Deletion, Traversal, Polynomial Representation and Addition Subtraction & Multiplications of Single variable.
- Abstract Data Type, Primitive Stack operations: Push & Pop, Array and Linked Implementation of Stack in C, Application of stack: Prefix and Postfix Expressions, Evaluation of postfix expression, Iteration and Recursion-Principles of recursion, Tail recursion, Removal of recursion Problem
- solving using iteration and recursion with examples such as binary search, Fibonacci numbers, and Hanoi towers.
- Operations on Queue: Create, Add, Delete, Full and Empty, Circular queues, Array and linked implementation of queues in C, Dequeue and Priority Queue.
- Concept of Searching, Sequential search, Index Sequential Search, Binary Search. Concept of Hashing & Collision resolution Techniques used in Hashing.
- Insertion Sort, Selection Sort, Bubble Sort, Heap Sort, Comparison of Sorting Algorithms, Sorting in Linear Time: Counting Sort and Bucket Sort.
- Terminology used with Graph, Data Structure for Graph Representations: Adjacency Matrices, Adjacency List, Adjacency. Graph Traversal: Depth First Search and Breadth First Search, Connected Component.
- Basic terminology used with Tree, Binary Trees, Binary Tree Representation: Array Representation and Pointer (Linked List) Representation, Binary Search Tree, Complete Binary Tree, A Extended Binary Trees, Tree Traversal algorithms: Inorder, Preorder and Postorder, Constructing Binary Tree from given Tree Traversal, Operation of Insertion, Deletion, Searching & Modification of data in Binary Search Tree. Threaded Binary trees, Huffman coding using Binary Tree, AVL Tree and B Tree

Unit 4:Algorithms

- Algorithm Analysis, Time Space Tradeoff, Asymptotic Notations, Conditional asymptotic notation, Removing condition from the conditional asymptotic notation, Properties of big-Oh notation.
- Recurrence equations, Solving recurrence equations, Analysis of linear search, Divide
- and Conquer: General Method, Binary Search, Finding Maximum and Minimum, Merge Sort.
- General Method, Multistage Graphs, All-Pair shortest paths, Optimal binary search trees.
- General Method, 8-Queens problem, Hamiltonian problem.
- Connected Components, Spanning Trees, Biconnected components, Introduction to NP Hard and NP-Completeness.

Unit 5:Operating System

- Introduction to OS – its functional behavior and responsibilities, Need for some of monitor / command interpreter, Types of operating systems, System structure, Hierarchical and layered organization of OS, I/O methods and interrupt structure.
- Process definition, Process states and state transitions, Parallel processes and constructs, Process interaction, Operating system kernel, Data structures for processes and resources, Context switching, Process control primitives, Process scheduling.
- The determinacy problem, Mutual exclusion, Semaphores, Process synchronization,
- Conditional critical regions and monitors, Inter-process communication, Deadlock problem and its solutions.
- Memory management concepts, Relocation, Linking, Multiprogramming with fixed
- partitions, Swapping, Variable partitions, Overlays, Virtual memory, Segmentation, Paging, Storage allocation strategies, Load control and thrashing
- Organization of file and I/O subsystems, Directory management, Basic file system, file descriptors, File manipulation, File organization methods, Management of auxiliary storage space, Command language and file system utilities, I/O subsystems, Programmed I/O, DMA, Interrupt driven I/O, Recovery procedures. Protection and Security: Safeguards, Penetration, Access and Information flow control, Protection problems, Formal models of protection.

Unit 6: Database Management System

- Introduction to Database, components and structure of DBMS – logical structure – the 3 level architecture and mapping among them. Comparison between traditional file based system and DBMS. Advantages and drawbacks of DBMS.
- Relational Model - What is relational model, Relational key constraints – candidate key, primary key, foreign key. ER Model – entities, attributes, relationship, and cardinality. Entity types, Entity sets Attributes and Keys Relationship types, Relationship Sets, converting ER diagram to relational tables. Database Schema
- Database Anomalies, CODD Rules and Normalization theory, 1 NF, 2 NF, 3 NF and BCNF.
- Introduction to transaction and concept of concurrency control. Transaction and system concepts, desirable properties of transactions, transaction support in SQL. Concurrency control techniques, the locking protocol, serializable schedules, locks, 2 phase commit. Techniques, concurrency control based on timestamp ordering

Unit 7: Computer Network

- Introduction to Data Communication and Computer Network, Network Topologies, classification of computer network, Parallel & Serial Transmission, Transmission Models, Transmission Channel, Data Rate, Bandwidth Signal Encoding Schemes, Data Compression, Transmission Impairments, Layering and Design Issues, OSI Model and TCP/ IP model.

- Data Link Layer: Need for Data Link Control, Frame Design Consideration, Flow Control & Error Control. MAC sublayer, contention based and polling based MAC protocols.
- Network Layer: Routing, Congestion control, Internetworking principles, Internet Protocols (IPv4, packet format, Hierarchical addressing sub netting, ARP, PPP), Bridges, Routers. Classless IP address.
- Datalink Layer: Process to process communication. Socket meaning and socket address. Upward and downwards multiplexing. UDP and TPDU.
- Application Layer: HTTP, FTP, Telnet, SMTP, SNMP

Unit 8: Software Engineering

- Introduction to Software Engineering: Characteristics, Emergence of Software Engineering, Software Metrics & Models, Process & Product Metrics. Software Life Cycle Models: Waterfall, Prototype and Spiral Models and their Comparison.
- Software Project Management: Size Estimation- LOC and FP Metrics, Cost Estimation-Delphi and Basic COCOMO, Introduction to Halstead's Software Science, Staffing Level Estimation- Putnam's Model. Software Requirements Specification: SRS Documents, their Characteristics and Organization.
- Software Design: Classification, Software Design Approaches, Function Oriented Software Design, Structured Analysis- Data flow Diagrams and Structured Design, Introduction to Object Oriented Design.
- Coding and Testing of Software: Unit Testing, Block Box Testing, White Box Testing, Debugging, Program Analysis Tools, System Testing. Software Reliability and Quality Assurance: Reliability Metric- Musa's Basic Model.
- Software Quality Assurance: ISO 9000 and SEI CMM and their Comparison. Software Maintenance: Maintenance Process Models and Reverse Engineering, Estimation of Maintenance Costs.

Unit 9: Object Oriented Programming

- Review of Fundamentals of Procedural Programming,
- Class and Objects,
- Data Abstraction,
- Information Hiding & Encapsulation,
- Constructors, destructors, and object creation,
- Name space and references ,
- Class Methods , Methods Overloading ,
- Inheritance ,
- Polymorphism ,
- Abstract Classes,
- Abstract Methods ,
- Exceptions , Exception Handling.

Unit 10: Web-Based Application Development

- Internet Basics,
- Introduction to Web Development,
- Node.js and Git,
- HTML, CSS, JQuery,
- JavaScript and HTTP (forms),
- Sessions and HTTP,

- Javascript & Document Object Model – DOM,
- Extensible Markup Language – XML,
- Document Type Definition - DTD Dreamweaver,
- PHP HyperText PreProcessor - PHP SQL & MySQL,
- Integrating PHP and MySQL, Database Interaction

Unit 11: Theory of Computatio

- Introduction; Alphabets, Strings and Languages; Automata and Grammars, Deterministic finite Automata (DFA)-Formal Definition, Simplified notation: State transition graph, Transition table, Language of DFA, Non-deterministic finite Automata (NFA), NFA with epsilon transition, Language of NFA, Equivalence of NFA and DFA, Minimization of Finite Automata, Distinguishing one string from other.
- Regular expression (RE) , Definition, Operators of regular expression and their precedence, Algebraic laws for Regular expressions, Kleen’s Theorem, Regular expression to FA, DFA to Regular expression, Arden Theorem, Non Regular Languages, Pumping Lemma for regular Languages . Application of Pumping Lemma, Closure properties of Regular Languages, Decision properties of Regular Languages, FA with output: Moore and Mealy machine, Equivalence of Moore and Mealy Machine, Applications and Limitation of FA.
- Context free grammar (CFG) and Context Free Languages (CFL): Definition, Examples, Derivation ,Derivation trees, Ambiguity in Grammer, Inherent ambiguity, Ambiguous to Unambiguous CFG, Useless symbols, Simplification of CFGs, Normal forms for CFGs: CNF and GNF, Closure properties of CFLs, Decision Properties of CFLs: Emptiness, Finiteness and Memership, Pumping lemma for CFLs.
- Push Down Automata (PDA): Description and definition, Instantaneous Description, Language of PDA, Acceptance by Final state, Acceptance by empty stack, Deterministic PDA, Equivalence of PDA and CFG, CFG to PDA and PDA to CFG, Two stack PDA
- Turing machines (TM): Basic model, definition and representation, Instantaneous Description, Language acceptance by TM, Variants of Turing Machine, TM as Computer of Integer functions, Universal TM, Church’s Thesis, Recursive and recursively enumerable languages, Halting problem, Introduction to Undecidability, Undecidable problems about TMs. Post correspondence problem (PCP), Modified PCP, Introduction to recursive function theory

Unit 12:Internet of Things

- Definitions and Functional Requirements - Motivation - Architecture - Web 3.0 View of IoT - Ubiquitous IoT Applications - Four Pillars of IoT - DNA of IoT -The Toolkit Approach for End-user Participation in the Internet of Things. Middleware for IoT: Overview -Communication middleware for IoT - IoT Information Security.
- Protocol Standardization for IoT - Efforts - M2M and WSN Protocols - SCADA and RFID Protocols- Issues with IoT Standardization - Unified Data Standards -Protocols -IEEE 802.15.4 - BACNet Protocol Modbus - KNX - Zigbee- Network layer - APS layer –Security.
- Web of Things versus Internet of Things - Two Pillars of the Web - Architecture standardization for WoT Platform Middleware for WoT - Unified Multitier WoT Architecture - WoT Portals and Business Intelligence. Cloud of Things:

Grid/SOA and Cloud Computing - Cloud Middleware - Cloud Standards - Cloud Providers and Systems - Mobile cloud Computing - The Cloud of Things Architecture.

- Industrial Internet of Things - Introduction to Industrial Internet of Things - Industrie 4.0 - Industrial Internet of Things (IIoT) - IIoT Architecture - Basic Technologies - Applications and Challenges - Security and Safety - Introduction to Security and Safety -Systems Security - Network Security - Generic Application Security - Application Process Security and Safety - Reliable-and-Secure-by-Design IoT Applications - Run-Time Monitoring - The ARMET Approach - Privacy and Dependability
- The Role of the Internet of Things for Increased Autonomy and Agility in Collaborative Production Environments -Resource Management in the Internet of Things: Clustering, Synchronization and Software Agents. Applications - Smart Grid -Electrical Vehicle charging

Unit 13:Artificial Intelligence

- INTRODUCTION TO AI AND PRODUCTION SYSTEMS: Introduction to AI-Problem formulation, Problem Definition -Production systems, Control strategies, Search strategies. Problem characteristics, Production system characteristics - Specialized productions system- Problem solving methods – Problem graphs, Matching, Indexing and Heuristic functions -Hill Climbing-Depth first and Breath first, Constraints satisfaction – Related algorithms, Measure of performance and analysis of search algorithms.
- REPRESENTATION OF KNOWLEDGE: Game playing – Knowledge representation, Knowledge representation using Predicate logic, Introduction to predicate calculus, Resolution, Use of predicate calculus, Knowledge representation using other logic-Structured representation of knowledge.
- KNOWLEDGE INFERENCE: Knowledge representation -Production based system, Frame based system. Inference – Backward chaining, Forward chaining, Rule value approach, Fuzzy reasoning – Certainty factors, Bayesian Theory-Bayesian Network-Dempster – Shafer theory.
- PLANNING AND MACHINE LEARNING: Basic plan generation systems – Strips -Advanced plan generation systems – K strips - Strategic explanations - Why, Why not and how explanations. Learning- Machine learning, adaptive Learning.
- EXPERT SYSTEMS: Expert systems – Architecture of expert systems, Roles of expert systems – Knowledge Acquisition – Meta knowledge, Heuristics. Typical expert systems – MYCIN, DART, XOON, Expert systems shells.

Unit 14: Fundamental of E-Commerce

- Introduction to Electronic Commerce: Introduction of commerce, Electronic commerce framework, electronic commerce and media convergence, the anatomy of e-commerce application.
- The Network for Electronic Commerce: Need of network, market forces influencing the I-way, components of I-way, network access equipment, and global information distribution network.
- The Internet as a Network Infrastructure: Introduction, the Internet terminology, NSFNET: Architecture and Components, Internet governance: The Internet Society.

- Network Security & Firewalls: Client-Server network security, security threats in client-server, firewalls and network security, data & message security, encrypted documents and electronic mail.
- Electronic Commerce & World Wide Web: Introduction, architectural framework for electronic commerce, WWW as an architecture, security in the web.
- Consumer Oriented Electronic Commerce: Introduction, consumer oriented application, mercantile process models, mercantile models from the consumer's perspective, mercantile models from the merchant's perspective.
- Electronic Payment Systems: Introduction, types of electronic payment system, digital token based electronic payment systems, smart cards and electronic payment systems, credit cards systems, Threat on electronic payment system.
- Inter-organizational Commerce & Electronic Data Interchange: Introduction, EDI application in business, EDI: legal, security, and privacy issues, EDI and electronic commerce.
- The Corporate Digital Library: Introduction, dimensions of electronic commerce systems, types of digital documents, Issues behind document infrastructure, corporate data warehouses.

Unit 15: Multimedia

- Definition - Classification - Multimedia application -Multimedia Hardware - Multimedia software - CDROM - DVD.
- Multimedia Audio: Digital medium - Digital audio technology - sound cards - recording - editing - MP3 - MIDI fundamentals - Working with MIDI - audio file formats - adding sound to Multimedia project.
- Multimedia Text: Text in Multimedia -Multimedia graphics: coloring - digital imaging fundamentals - development and editing - file formats - scanning and digital photography.
- Multimedia Animation: Computer animation fundamentals - Kinematics - morphing - animation s/w tools and techniques. Multimedia Video: How video works - broadcast video standards - digital video fundamentals – digital video production and editing techniques - file formats.
- Multimedia Project: stages of project - Multimedia skills - design concept - authoring - planning and costing –Multimedia Team. Multimedia-looking towards Future: Digital Communication and New Media, Interactive Television, Digital Broadcasting, Digital Radio, Multimedia Conferencing

Syllabus for Art of Teaching and Other Skills STET 2023

Unit II Art of Teaching, Other skills

Marks 50

(A) Art of Teaching

Marks 30

(B) Other skills

Marks 20

A. Art of Teaching

1. Teaching & Learning:- Meaning, Process & Characteristics.
2. Teaching Objectives and Instructional objectives: Meaning & Types, Blooms Taxonomy.
3. Teaching Methods: - Types and its Characteristics, Merit, and demerits of Methods.
4. Lesson Plan: - Types and Format & Various Model.
5. Microteaching & Instructional analysis.
6. Effective ecosystem of Classroom.

7. Textbook and library
8. Qualities of Teacher.
9. Evaluation & Assessment for learning.
10. Curriculum.
11. Factors affecting teaching and learning.
12. Teaching Aids and Hands on learning.

B. Other skills

1. General Knowledge,
- 2.Environmental Science
3. Mathematical aptitude,
- 4.logical Reasoning

Syllabus for Uchcha Madhyamic Paper II STET 2023

UNIT I Subject

Geography 100 Marks

Unit-1 : Physical Geography

- Origin of solar system: Theories of Kant and Laplace, Jeans & Jeffrey's & Big Bang theory
- Internal Structure of the Earth
- Isostasy : Pratt's and Airy's views
- Earthquake and Vulcanism
- Kober's and Holme's Theories of mountain building
- Wegener's theory of Continental Drift
- Plate Tectonics
- Folded Topography
- Faulted Topography
- Normal Cycle of Erosion
- Arid Topography
- Glacial Topography
- Karst Topography
- **Climatology and Oceanography:**
- Composition and Structure of Atmosphere
- Classification of Air masses
- Fronts
- Cyclones
- Koppen's and Thornthwaits's Scheme of classification of climate
- Climatic changes – causes and evidences
- Salinity of Ocean water
- Relief of Ocean Floor: Continental shelf, Slope and Deep Sea plain
- Relief of the Indian and Atlantic Ocean
- Ocean currents
- Tides

Unit-2 : Resource and Economic Geography

- Meaning, Concept and Classification of resources
- Soil, water and forest resources- their distribution, Utilization and Conservation
- Fisheries of the World
- Distribution and Production of the following resources:
 - Coal in USA and China
 - Petroleum in Middle East
 - Iron ore in Russia and Australia

- Manganese in Russia and USA
- **Agriculture:**
 - Subsistence farming
 - Commercial grain farming
 - Plantation Agriculture
 - Dairy Farming
 - Mediterranean Agriculture
- **Industries:**
 - Industrial Location Theory of Weber
 - Agricultural Location Theory of Von Thunen
 - Iron and Steel industry
 - Cotton Textile industry
 - Sugar Industry
- **Transport and Trade:**
 - International trade with reference to WTO
 - Globalisation and its impact on economy
 - Trade routes-Suez and Panama canals

Unit-3 : Human Geography

- Meaning, Definition and Scope of Human Geography
- Evolution of man
- Cultural realms of the world
- Human activities in Mountain environment, Monsoon Lands, Equatorial regions, Temperate Grasslands
- Growth and distribution of population
- Theories of Demographic Transition, Optimum Population
- Distribution, habitat and economy, mode of life and socio-cultural organisation of the following tribes – Eskimo, Bushmen, Santhal, Oraon
- Urbanisation and related problems
- Growth Pole Theory
- Christaller's Central Place Theory
- Migration – Internal and International

Unit-4 : Geographical Thought

- Meaning, and Definition of Geography
- Its relationship with other sciences
- Contribution of Ancient Geographers: Eratosthenes, Ptolemy
- Contributions made by Humboldt, Ritter, Ratzel, Vidal de la Blache and Mackinder in the field of Geography

- Dualism in Geography: Determinism Vs. Possibilism and Neo-determinism, Physical Vs. Human Geography, Systematic Vs. Regional Geography
- Quantitative Revolution in Geography
- Humanistic Geography, Gender Geography

Unit-5 : Environmental Geography

- Meaning, Concept, and scope of Environmental Geography
- Factors affecting environment
- Ecology and Ecosystems
- Major Eco systems of the world
- Ecological balance and imbalance
- Nature, scope and significance of Biogeography
- Bio-energy cycles
- Concept of Zoogeography
- Biodiversity and Hotspots
- Natural Disaster : Drought, Flood and Earthquakes – Causes, effects and Mitigation
- Rain water harvesting
- Watershed Management
- Sustainable Development
- Eco-Tourism

Unit-6 : Remote Sensing & GIS

- Meaning and Scope of Remote Sensing
- History of Remote Sensing
- Process and stages of Remote Sensing
- Properties of electromagnetic energy – wave length, frequency and velocity
- Difference between air photography and image
- Electro magnetic spectrum
- Interaction of electromagnetic energy in the atmosphere
- Interaction of electromagnetic energy with earth surface features
- Meaning, concept and objectives of GIS

Unit-7 : Population Geography

- Meaning and scope of population Geography
- Science of Demography
- Recent trend of Population growth with special reference to developed and developing countries

- Methods of population projections
- Fertility measures and determinants
- Mortality measures and determinants
- Internal and international migrations
- Malthusian Theory of population
- Growth patterns of world population
- Distribution of world population
- Problems caused by differential population pressure
- Population policies of Russia and China

Unit-8 : Geography of Asia

- Structure
- Physiography
- Drainage
- Climate
- Natural Vegetation
- Characteristics of Agriculture
- Mineral resources – Iron ore, Manganese, Tin and Bauxite
- Power resources – Coal, Petroleum and Hydel Power
- Population and its Problems
- **China:**
 - Physiography
 - Climate and Agricultural regions
 - Industrial Development
 - Industries – Iron and Steel, Cotton Textile
 - Population : Growth, Distribution and Density
- **Japan:**
 - Physiography
 - Fisheries
 - Industries-Iron & Steel and Automobile
 - Population : Growth, Distribution and Density

Unit-9 : Geography of India and Bihar

- Structure
- Physiography
- Drainage system – Himalayan and Peninsular
- Origin and Characteristics of Indian Monsoon
- Natural Vegetation
- Soil – types, erosion & conservation
- Characteristics of Agriculture

- Major Crops – Rice, Wheat, Sugarcane, Cotton
- Importance and means of irrigation
- Mineral Resources – Iron ore, Manganese, Mica
- Power Resources – Coal, Petroleum and Hydel Power
- Selected industries – Iron and steel, Cotton textile and Sugar
- Growth, Distribution and Density of Population
- Population composition in India: Occupational structure, Literacy, Age and Sex, Major religions, Languages
- Population Problems and policies
- Types and Patterns of rural settlements
- Urbanisation in India
- Problems of urbanisation
- Rural – urban Migration
- **Geography of Bihar:**
 - Structure & Physiography
 - Agricultural Crops : Rice, Wheat, Maize, Pulses
 - Agricultural regions
 - River Valley Projects : Gandak, Kosi, Son
 - Flood and Drought Problems
 - Population: Growth, Distribution and Density

Unit-10 : Cartographic and Statistical Techniques:

- Latitude, Longitude, Measurement of Time, Scale and its types, Map Projection – Cylindrical, Conical & Zenithal
- Topographical Maps of India, Cartograms, Rocks and Minerals, Surveying by Plane Table, Prismatic Compass and Levelling Instruments
- Mean, Median, Mode, Quartile Deviation and Standard Deviation

Syllabus for Art of Teaching and Other Skills STET 2023

Unit II Art of Teaching, Other skills	Marks 50
(A) Art of Teaching	Marks 30
(B) Other skills	Marks 20

A. Art of Teaching

1. Teaching & Learning:- Meaning, Process & Characteristics.
2. Teaching Objectives and Instructional objectives: Meaning & Types, Blooms Taxonomy.
3. Teaching Methods: - Types and its Characteristics, Merit, and demerits of Methods.
4. Lesson Plan: - Types and Format & Various Model.
5. Microteaching & Instructional analysis.
6. Effective ecosystem of Classroom.
7. Textbook and library

8. Qualities of Teacher.
9. Evaluation & Assessment for learning.
10. Curriculum.
11. Factors affecting teaching and learning.
12. Teaching Aids and Hands on learning.

B. Other skills

1. General Knowledge,
- 2.Environmental Science
3. Mathematical aptitude,
- 4.logical Reasoning

Syllabus for Uchcha Madhyamic Paper II STET 2024

UNIT I Subject – Mathematics

100 marks

1. Algebra

Polar representation of complex numbers, n th roots of unity, Complex argument, De-Moivre's theorem for integer and rational indices and its applications, Hyperbolic functions, Summation of series, Gregory series.

Fundamental theorem of algebra, Relation between roots and coefficients of a polynomial equation, Transformation of equation, Descartes rule of signs, Solution of Cubic equation (Cardon's method) and bi-quadratic equation (Euler's method).

Cartesian product of sets, Equivalence relations, Functions, Composition of functions, Invertible functions, Cardinality of a set, Countable and Uncountable sets, Cantor's theorem, Well-ordering principle, Division algorithm, Euclidean algorithm, Fundamental Theorem of Arithmetic, Modular arithmetic and basic properties of congruences, Principle of mathematical induction.

2. Number Theory:

Division algorithm, Euclidean algorithm and Greatest common Divisor (GCD or HCF), Prime and Composite numbers, Fundamental theorem of arithmetic, Co-primes, Divisor of composite numbers.

Linear Diophantine equation, Prime counting function, Prime number theorem, Fermat theorem. The order of an integer modulo n , Primitive roots for primes, Composite numbers having primitive roots; Definition of quadratic residue of an odd prime, and Euler's criterion.

Congruence relation and its properties, Linear congruence and Chinese remainder theorem, Fermat's little theorem, Wilson's theorem.

Number theoretic functions for sum and number of divisors, Multiplicative function, The Mobius inversion formula, The greatest integer function. Euler's phi-function and properties, Euler's theorem.

3. Calculus, Analytical Geometry of two and three dimensions:

Successive differentiation and Leibnitz's theorem, Expansion of functions, Tangent and Normal, Partial differentiation and Euler's theorem, Concavity and inflection points, Asymptotes, Curve tracing in Cartesian coordinates, Tracing in polar coordinates of standard curves, Curvature, L'Hospital's rule.

Evaluation of definite integrals, Reduction formulae, Volumes by Slicing, Disk and Washer methods, Volumes by cylindrical shells, parametric equations, rectification and quadrature, Volume and surface area of solids of revolution, Multiple integrals and change of order of integration, improper integrals, Beta and Gamma functions.

Transformation of rectangular axes, General equations of conic and its reduction to the normal form, Equation of the tangent and normal at a point of the Conic. Sphere, cone, cylinder, Central conicoid, Paraboloids, Plane section of conicoid, Generating lines, Tangent plane and normal to a conicoid.

4. Real Analysis and Real functions:

Dedekind theory of real numbers, Algebraic and order properties of \mathbb{R} , Archimedean Property, Completeness property of \mathbb{R} , Bounded sets, Supremum and Infimum. Neighbourhood of a point in \mathbb{R} , Open and closed sets, Limit points and isolated points of a set, Bolzano-Weierstrass theorem for a set.

Sequence and its convergence, Bounded sequence, Limit of a sequence. Limit Theorem, Monotone sequences, Subsequences, Bolzano-Weierstrass theorem for sequences, Limit superior and limit inferior for bounded sequence, Cauchy sequence, Cauchy's general principle of convergence.

Infinite series and their convergence, Cauchy Criterion, Tests for convergence: Comparison test, Ratio Test, Logarithmic ratio test, Cauchy's root test, Alternating series, Leibniz test, Absolute and Conditional convergence. Integral test for series of arbitrary terms, Euler's constant, Dirichlet's and Abel's test for series of arbitrary terms, Riemann and Pringsheim's method for rearrangement of terms of conditionally convergent series, Cauchy's Theorem, Infinite product and its convergence.

Limit, Continuity and Differentiability of a function, Rolle's, Mean-value theorem and its applications, Darboux's theorem, Taylor's theorem with Lagrange form of remainder, Application of Taylor's theorem in error estimation.

Riemann Integral, Riemann integrability of continuous functions, Monotonic function and function having finite number of discontinuities, Fundamental theorem of integral calculus, Mean value theorem. Improper integrals of Type-I, Type-II and mixed type, Convergence of Beta and Gamma functions and their properties.

5. **Ordinary Differential Equations:**

Differential equations and mathematical models, general, particular, explicit, implicit and singular solutions of a differential equation, Exact differential equations and integrating factors, special integrating factors and transformations, separable equations and equations reducible to this form, linear equation and Bernoulli equations. Differential equations of the first order but not of the first degree. Singular solutions, Clairaut's form, Orthogonal Trajectories of family of curves, Total differential equation in three variables, Simultaneous differential equations.

General solution of homogeneous equation of second order, Principle of super position for homogeneous equation, Wronskian: its properties and applications, Linear homogeneous and non-homogeneous equations of higher order with constant coefficients, Euler's equation, Method of undetermined coefficients, Method of variation of parameters.

Definition and Linearity of Laplace transform, Existence Theorem, Laplace transform of derivatives and integrals, shifting theorems and inverse Laplace transform, Solution of ordinary differential equation using Laplace transform. Fourier series for odd and even functions, Half range series, other forms of Fourier series.

6. **Partial Differential Equations:**

Partial differential equations - Basic concepts and definitions. Formation of PDE, Mathematical problems. First order equations: classification, construction and geometrical interpretation, Lagrange's and Charpit's method for solving PDE. Method of characteristics for obtaining general solution of quasi linear equations, Canonical forms of first-order linear equations, Method of separation of variables for solving first order partial differential equations.

Partial differential equation of second and higher order, Homogeneous and non-homogeneous equation with constant coefficients, Cauchy problem for second order PDE.

Partial differential equations reducible to equations with constant coefficients, Monge's Methods. Classification of second order linear equations as hyperbolic, parabolic or elliptic, Reduction of second order linear equations to canonical forms, Concept of the wave equation and heat equation.

7. **Abstract Algebra:**

Definition and examples of groups, Elementary properties of groups, Subgroups and examples of subgroups, Centralizer, Normalizer, Centre of a group, Product of two subgroups; Properties of cyclic groups, Classification of subgroups of cyclic groups.

Permutations Groups, Properties of permutations, Even and odd permutations, Properties of Cosets, Lagrange's theorem and consequences including Fermat's Little theorem; Normal subgroups, Quotient groups, Cauchy's theorem for finite abelian groups

Group homomorphisms, Properties of homomorphisms, Group isomorphisms, Cayley's theorem, Properties of isomorphisms, First, Second and Third isomorphism theorems for groups. Automorphism, Inner automorphism, Automorphism groups, Automorphism groups of finite and infinite cyclic groups.

Conjugacy classes, The class equation, p -groups, The Sylow theorems and consequences, Applications of Sylow theorems.

Definition and examples of rings, Properties of rings, Subrings, Integral domains and fields, Characteristic of a ring, Ideal, Ideal generated by a subset of a ring, Quotient rings, Operations on ideals, Prime and maximal ideals.

Ring homomorphisms, Properties of ring homomorphisms, Isomorphism theorems. Characteristics of ring, Field of quotient of an integral domain, Embedding of rings. Polynomial rings, Division algorithm, Principal ideal domains, Euclidean domains, Unique factorization domains.

8. Linear Algebra:

Matrices, Operation on Matrices, Matrix algebra, Kinds of matrices, Transpose, Adjoint and Inverse of a matrix, Solution of a system of linear equations by matrix methods, Row reduction and Echelon forms using elementary row operations, Rank of a matrix.

Vector spaces, Subspaces, Algebra of subspaces, Quotient spaces, Linear combination of vectors, Linear span, Linear independence, Basis and dimension, Dimension of subspaces.

Linear transformations, Rank-Nullity theorem, Matrix representation of a linear transformation, Algebra of linear transformation, Eigen values and Eigen vector, Characteristic equation of a matrix and Cayley-Hamilton theorem.

Eigen spaces of a linear operator, Diagonalizability, Invariant subspaces, The minimal polynomial for a linear operator. Inner product spaces and norms, Orthonormal basis, Gram-Schmidt orthogonalization process, Orthogonal complements, Bessel's inequality.

The adjoint of a linear operator, Least squares approximation, Minimal solutions to systems of linear equations, Normal, Self-adjoint, Unitary and orthogonal operators and their properties.

9. Multivariate Calculus:

Functions of several variables, Level curves and surfaces, Limits and continuity, Partial differentiation, Higher order partial derivative, Tangent planes, Total differential and differentiability, Chain rule, Directional derivatives, Gradient, Maximal and normal property of the gradient, Tangent planes and normal lines. Extrema of functions of two variables, Method of Lagrange multipliers, Constrained optimization problems.

Double integration over rectangular and nonrectangular regions, Double integrals in polar coordinates, Triple integral over a parallelepiped and solid regions, Volume by triple integrals, triple integration in cylindrical and spherical coordinates, Change of variables in double and triple integrals.

Line integrals, Applications of line integrals: Mass and Work, Fundamental theorem for line integrals, Definition of vector field, Conservative vector fields, Divergence and curl. Green's theorem, Area as a line integral, Surface integrals, Stokes' theorem, The Gauss divergence theorem.

10. Complex Analysis:

Functions of complex variable, Mappings; Mappings by the exponential function, Limits, Theorems on limits, Limits involving the point at infinity, Continuity, Derivatives, Differentiation formulae, Cauchy-Riemann equations, Sufficient conditions for differentiability; Analytic functions and their examples.

Exponential function, Logarithmic function, Branches and derivatives of logarithms, Trigonometric function, Derivatives of functions, Definite integrals of functions, Contours, Contour integrals and its examples, Upper bounds for moduli of contour integrals.

Antiderivatives, Proof of antiderivative theorem, Cauchy-Goursat theorem, Cauchy integral formula; An extension of Cauchy integral formula, Consequences of Cauchy integral formula, Liouville's theorem and the fundamental theorem of algebra.

Convergence of sequences and series, Taylor series and its examples; Laurent series and its examples, Absolute and uniform convergence of power series, Uniqueness of series representations of power series. Isolated singular points, Residues, Cauchy's residue theorem, Residue at infinity, Types of isolated singular points, Residues at poles and its examples.

11. Metric Space:

Metric spaces: Definition and examples, Notion of Open and closed ball, Neighbourhood, Open set, Interior of a set, Limit point of a set, Derived set, Closed set, Closure of a set, Diameter of a set, Dense set, Subspaces.

Sequences in metric spaces, Cauchy sequences, Complete metric space, Cantor's intersection theorem, Baire's category theorem, Contraction mapping, Banach fixed point theorem.

Continuous mappings, Sequential criterion and other characterizations of continuity, Uniform continuity, Homeomorphism. Connectedness, Connected subsets of \mathbb{R} , Connectedness and continuous mappings. Compactness, Compactness and boundedness, Continuous functions on compact spaces.

12. Mechanics & Vectors:

Reduction of a system of Co-planar forces, equation of the line of action of the resultant, Virtual work, Principle of virtual work for a system of particles, Forces in three dimensions.

General conditions of equilibrium, Stable and unstable equilibrium, Common catenary, Centre of gravity for different bodies.

Rectilinear motion in a non-resisting and a resisting medium, Harmonic oscillator, damped and free vibrations, elastic strings and springs, vertical and horizontal motion of a particle attached to an elastic string. Motion in a plane, velocities and accelerations in Cartesian, polar and intrinsic Co-ordinates, motion of a projectile in non-resisting and resisting medium, constrained motion in a smooth horizontal and vertical circle, simple pendulum.

Motion of a particle under a central force, differential equation of a central orbit in rectilinear, polar and pedal coordinates, Central orbits, Kepler's laws of motion deduced from Newton's law of Gravitation and vice-versa.

Degrees of freedom, Moments and products of inertia, Principal axes, D'Alembert's Principle. Motion about a fixed axis, Compound pendulum, Motion of a rigid body in two dimensions under finite and impulsive forces, Conservation of momentum and energy.

Scalar triple product and vector triple product, Product of four vectors, Introduction to vector functions, Operations with vector-valued functions, Limits and continuity of vector functions, Differentiation and integration of vector functions, Gradient of a scalar and Divergence and Curl of a vector function in Cartesian coordinate.

13. Numerical Methods:

Errors: Relative, Absolute, round off, Truncation, Finding roots of Transcendental and Polynomial equations: Bisection method, Secant method, Regula-Falsi method, Newton-Raphson method, Fixed point iteration method, Rate of convergence.

Solution of system of linear algebraic equations: Partial and scaled partial pivoting, LU decomposition and its applications, Gaussian Elimination and Gauss Jordan methods. Gauss Jacobi method, Gauss Seidel method and SOR methods and their convergence analysis.

Finite Central and divided differences, Interpolation, Inverse Interpolation, Numerical differentiation, Numerical Integration: Newton Cotes formula, Trapezoidal rule, Simpson's 1/3rd rule, Simpson's 3/8th rule, Gauss quadrature formula.

Solution of difference equation of the first order, General solution, Linear difference equation with constant co-efficient, Solution of ordinary differential equations one step method: Euler's modified, Picard's, Runge-Kutta methods.

14. Linear Programming Problem:

The Linear Programming Problem: Standard, Canonical and matrix forms, Graphical solution. Hyperplanes, Extreme points, Convex and polyhedral sets. Basic solutions; Basic Feasible Solutions; Reduction of any feasible solution to a basic feasible solution; Correspondence between basic feasible solutions and extreme points.

Simplex Method: Optimal solution, Termination criteria for optimal solution of the Linear Programming Problem, Unique and alternate optimal solutions, Unboundedness; Simplex Algorithm and its Tableau Format; Artificial variables, Two-phase method, Big-M method.

Motivation and Formulation of Dual problem; Primal-Dual relationships; Fundamental Theorem of Duality; Complimentary Slackness.

Assignment Problem: Mathematical formulation and Hungarian method of solving.

Transportation Problem: Definition and formulation; Methods of finding initial basic feasible solutions; North West corner rule. Least cost method; Vogel's Approximation method; Algorithm for solving Transportation Problem.

15. Attraction, Potential and Hydrostatics:

Attraction and Potential of rods, rectangles and circular discs, spherical shell, sphere, Laplace's and Poisson's equations, theorems on equipotential surfaces.

Perfect fluid. Pressure at a point. Pressure of heavy fluid. Pressure at any point of a fluid at rest is the same in every direction. Conditions of equilibrium for homogeneous, heterogeneous, and elastic fluid.

Lines of force. Surfaces of equal pressure and density. Pressure gradient, pressure function and equation of equilibrium. Homogeneous fluid at rest under gravity.

Definition of centre of pressure. Formula for the depth of the centre of pressure of a plane area. Position of centre of pressure.

Thrusts on plane and curved surfaces. Rotating fluid. Pressure at any point and surfaces of equi-pressure when a mass of homogeneous fluid contained in a vessel revolves uniformly about a vertical axis. Floating bodies. Stability of equilibrium of floating bodies.

16. Probability & Statistics:

Sample space, Probability set function, Real random variables - Discrete and continuous, Cumulative distribution function, Probability mass/density functions, Transformations, Mathematical expectation, Moments, Moment generating function, Characteristic function.

Discrete distributions: Uniform, Bernoulli, Binomial, Negative binomial, Geometric and Poisson; Continuous distributions: Uniform, Gamma, Exponential, Chi-square, Beta and normal; Normal approximation to the binomial distribution.

Joint cumulative distribution function and its properties, Joint probability density function, Marginal distributions, Expectation of function of two random variables, Joint moment generating function, Conditional distributions and expectations.

The Correlation coefficient, Covariance, Calculation of covariance from joint moment generating function, Independent random variables, Linear regression for two variables, The method of least squares, Bivariate normal distribution, Chebyshev's theorem, Strong law of large numbers, Central limit theorem and weak law of large numbers.

Syllabus for Art of Teaching and Other Skills STET 2023

Unit II Art of Teaching, Other skills	Marks 50
(A) Art of Teaching	Marks 30
(B) Other skills	Marks 20

A. Art of Teaching

1. Teaching & Learning:- Meaning, Process & Characteristics.
2. Teaching Objectives and Instructional objectives: Meaning & Types, Blooms Taxonomy.
3. Teaching Methods: - Types and its Characteristics, Merit, and demerits of Methods.
4. Lesson Plan: - Types and Format & Various Model.
5. Microteaching & Instructional analysis.
6. Effective ecosystem of Classroom.
7. Textbook and library
8. Qualities of Teacher.
9. Evaluation & Assessment for learning.
10. Curriculum.
11. Factors affecting teaching and learning.
12. Teaching Aids and Hands on learning.

B. Other skills

1. General Knowledge,
2. Environmental Science
3. Mathematical aptitude,
4. logical Reasoning

Syllabus for Uchchar Madhyamik Paper-2

(STET-2024)

UNIT-1

Subject: Music (संगीत)

Marks: 100

इर्काइ - 1

- * संगीत की उत्पत्ति
- * वैदिक कालीन संगीत
- * वैदिक कालीन स्वर
- * सामगान

इर्काइ - 2

- * हिंदुस्तानी संगीत एवं कर्नाटक संगीत का उद्भव एवं विकास
- * हिंदुस्तानी संगीत एवं कर्नाटक संगीत की विशेषताएँ
- * हिंदुस्तानी संगीत का स्वर एवं ताल
- * कर्नाटक संगीत का स्वर एवं ताल

इर्काइ - 3

- * भारतीय लोक संगीत
- * बिहार के लोक एवं पारंपरिक गायन शैलियाँ
- * बिहार के लोक संगीत कलाकार

इर्काइ - 4

- * बिहार में शास्त्रीय गायन का परिदृश्य
- * बिहार में शास्त्रीय गायन के घराने एवं उनकी विशेषताएँ
- * बिहार के शास्त्रीय संगीत कलाकार का परिचय

इर्काइ - 5

- * पाश्चात्य संगीत
- * पाश्चात्य स्वर
- * पाश्चात्य स्वरलिपि पद्धति
- * हार्मनी एवं मेलोडी
- * फ्र्यूज़न म्यूज़िक

इर्काइ - 6

- * वाद्ययंत्रों का वर्गीकरण
- * वाद्यवृन्द
- * हिंदुस्तानी संगीत में प्रयुक्त वाद्ययंत्रों का विस्तृत परिचय
- * बिहार के लोक वाद्ययंत्रों का परिचय

इर्काइ - 7

- * रागों का अध्ययन: जय-जयवंती, आशावरी, मियां की तोड़ी, दरबारी, कान्हड़ा, मालकोश, गौड़ सारंग, देसी, हमीर, पुरिया धनाश्री, शंकरा, कामोद, छायाण्ट, दुर्गा, पिलु, जोग, वृंदावनी सारंग
- * रागों का बड़ा ख्याल और छोटा ख्याल की स्वरलिपि

इर्काइ - 8

- * राग वर्गीकरण का विस्तृत अध्ययन

इर्काइ -9

- * हिंदुस्तानी संगीत के विभिन्न घराने
- * विभिन्न गायन शैलियाँ: ख्याल, ध्रुपद, धमार, ठुमरी, टप्पा, सादरा, दादरा, तराना, चतुरंग, त्रिवट
- * सुगम संगीत

इर्काइ -10

- * संगीत से जुड़े ग्रंथ: नाट्यशास्त्र, संगीत रत्नाकर, बृहदेशी, राग तरंगिणी, संगीत मकरंद, संगीत दर्पण, अभिनव गितांजलि
- * संगीत विषय से जुड़ी प्रमुख पुस्तकें एवं पत्रिकाएँ
- इर्काइ -11
- * ताल का विस्तृत अध्ययन
- * विभिन्न लयकारी का अध्ययन
- इर्काइ -12
- * गान, गीति, वाणी का विस्तृत अध्ययन
- इर्काइ -13
- * निम्नांकित संगीतज्ञों की जीवनी एवं सांगितिक योगदान: प. विष्णु नारायण भातखण्डे, प. विष्णु दिगम्बर पलुस्कर, प. ओंकार नाथ ठाकुर, उस्ताद अलाउद्दीन खाँ, प. राम चतुर मालिक, प. रामाश्रय झा, प. दामोदर, प. अहोबल, प. श्रीनिवास
- इर्काइ -14
- * नाद, श्रुति, स्वर, सप्तक, ग्राम, मुच्छना, जाति गायन
- इर्काइ -15
- * श्रुति स्वर व्यवस्था, थाट, स्वर संवाद, सारणा-चतुष्टयी, स्वरान्तर, गुणान्तर
- इर्काइ -16
- * संगीत से जुड़ी पारिभाषिक शब्दावली: गत, ठेका, कायदा, तान, जनक, आश्रय राग, परमेल प्रवेशक राग, संधि प्रकाश राग, मिंड, कण स्वर, गमक, मुर्की, खटका, पेशकार, परन, रेला, लग्गी, लड़ी, आविर्भाव, तिरोभाव, उपांग, भाषांग, काकु, कलावन्त, वाग्गेयकार, गायक के गुण-दोष
- इर्काइ -17
- * संगीत से जुड़े संस्थान, अकादमी, फ़ाउंडेशन
- * संगीत महोत्सव की जानकारी
- * हिंदुस्तानी संगीत के क्षेत्र में राष्ट्रीय पुरस्कार प्राप्त कलाकार

Syllabus for Art of Teaching and Other Skills STET 2023

Unit II Art of Teaching, Other skills	Marks 50
(A) Art of Teaching	Marks 30
(B) Other skills	Marks 20

A. Art of Teaching

- B. Teaching & Learning:- Meaning, Process & Characteristics.
- C. Teaching Objectives and Instructional objectives: Meaning & Types, Blooms Taxonomy.
- D. Teaching Methods: - Types and its Characteristics, Merit, and demerits of Methods.
- E. Lesson Plan: - Types and Format & Various Model.
- F. Microteaching & Instructional analysis.
- G. Effective ecosystem of Classroom.
- H. Textbook and library
- I. Qualities of Teacher.
- J. Evaluation & Assessment for learning.
- K. Curriculum.
- L. Factors affecting teaching and learning.
- M. Teaching Aids and Hands on learning.

B. Other skills

1. General Knowledge,
2. Environmental Science
3. Mathematical aptitude,
4. logical Reasoning

4. Lesson Plan: - Types and Format & Various Model.
5. Microteaching & Instructional analysis.
6. Effective ecosystem of Classroom.
7. Textbook and library
8. Qualities of Teacher.
9. Evaluation & Assessment for learning.
10. Curriculum.
11. Factors affecting teaching and learning.
12. Teaching Aids and Hands on learning.

B. Other skills

1. General Knowledge,
2. Environmental Science
3. Mathematical aptitude,
4. logical Reasoning