

## **Revision of Syllabus & Text Book**

As per NCF, 2023:

*"A syllabus should provide just enough content for a student to achieve the required learning outcomes, without overwhelming them. It must strike a balance between breadth and depth, enabling students to understand and engage with the material meaningfully, rather than simply memorizing information."*

### **Rationale of Reform:**

- The current syllabus for the two-year Intermediate courses has not undergone a revision over the past several years, with updates last made as follows:
  - **Sciences:** First year in 2012-13; Second year in 2013-14
  - **Arts Subjects:** First year in 2014-15; Second year in 2015-16
  - **Languages:** First year in 2018-19; Second year in 2019-20
- School Education Department has introduced NCERT Books at 10<sup>th</sup> class in 2024-25 so there is an imminent need to introduce NCERT books in Inter 1<sup>st</sup> year from Academic Year 2025-26 to ensure seamless transition.
- To ensure alignment with the syllabus being followed for Competitive Examinations (JEE, NEET).
- More than 15 states have adopted NCERT Books for their Intermediate Curriculum.

### **Proposed Syllabus Revision Plan:**

A Subject Committee for each of the 14 subjects was constituted on 1st October 2024, comprising University Professors, Degree College Lecturers, and Junior Lecturers. As per the subject Committee report, following changes are proposed:

- **Science (Mathematics, Physics, Chemistry, Botany, Zoology):**
  - 1st Year: Revised textbooks as per NCERT from AY 2025-26.
  - 2nd Year: Reduced the syllabus for AY 2025-26 as per NCERT Syllabus; full NCERT-based revision by AY 2026-27.
- **Arts & Humanities (Civics, Economics, History, Commerce):**
  - 1st Year: Revised textbooks as per BIE syllabus from AY 2025-26.
  - 2nd Year: No changes for AY 2025-26; Revised textbooks by AY 2026-27.
- **Languages (English, Telugu, Hindi Sanskrit, Urdu):**
  - 1st Year: New textbooks from AY 2025-26.
  - 2nd Year: No changes for AY 2025-26; revised textbooks by AY 2026-27.

Subject wise revised syllabus is shown below:

# **Proposed syllabus for First year Intermediate (to be implemented from 2025-26 Academic Year)**

## **1. Mathematics (Ist Year)**

### **1. Sets**

- 1.1 Introduction
- 1.2 Sets and their Representations
- 1.3 The Empty Set
- 1.4 Finite and Infinite Sets
- 1.5 Equal Sets
- 1.6 Subsets
- 1.7 Universal Set
- 1.8 Venn Diagrams
- 1.9 Operations on Sets
- 1.10 Complement of a Set

### **2. Relations and functions**

- 2.1 Introduction
- 2.2 Cartesian Product of Sets
- 2.3 Relations
- 2.4 Functions

### **3. Trigonometric functions**

- 3.1 Introduction
- 3.2 Angles
- 3.3 Trigonometric Functions
- 3.4 Trigonometric Functions of Sum and Difference of Two Angles

### **4. Complex number and quadratic equations**

- 4.1 Introduction
- 4.2 Complex Numbers
- 4.3 Algebra of Complex Numbers
- 4.4 The Modulus and the Conjugate of a Complex Number
- 4.5 Argand Plane and Polar Representation

### **5. Linear inequalities**

- 5.1 Introduction
- 5.2 Inequalities
- 5.3 Algebraic Solutions of Linear Inequalities in One Variable  
and their Graphical Representation

### **6. Permutations and combinations**

- 6.1 Introduction
- 6.2 Fundamental Principle of Counting

6.3 Permutations  
6.4 Combinations

## **7. Binomial theorem**

7.1 Introduction  
7.2 Binomial Theorem for Positive Integral Indices

## **8. Sequences and series**

8.1 Introduction  
8.2 Sequences  
8.3 Series  
8.4 Geometric Progression (GP.)  
8.5 Relationship Between A.M. and G. M

## **9. Straight lines**

9.1 Introduction  
9.2 Slope of a Line  
9.3 Various Forms of the Equation of a Line  
9.4 Distance of a Point from a Line

## **10. Conic sections**

10.1 Introduction  
10.2 Sections of a Cone  
10.3 Circle  
10.4 Parabola  
10.5 Ellipse  
10.6 Hyperbola

## **11. Introduction to three dimensional geometry**

11.1 Introduction  
11.2 Coordinate Axes and Coordinate Planes in Three Dimensional Space  
11.3 Coordinates of a Point in Space  
11.4 Distance between Two Points

## **12. Limits and derivatives**

12.1 Introduction  
12.2 Intuitive Idea of Derivatives  
12.3 Limits  
12.4 Limits of Trigonometric Functions  
12.5 Derivatives

## **13. Statistics**

13.1 Introduction  
13.2 Measures of Dispersion  
13.3 Range  
13.4 Mean Deviation

### 13.5 Variance and Standard Deviation

## **14. Probability**

### 14.1 Event

### 14.2 Axiomatic Approach to Probability

## **2. Physics (1st Year)**

### **1. UNITS AND MEASUREMENTS**

- 1.1 Introduction
- 1.2 The International system of units
- 1.3 Significant figures
- 1.4 Dimensions of Physical Quantities
- 1.5 Dimensional formulae and dimensional equations
- 1.6 Dimensional analysis and its applications

### **2. MOTION IN A STRAIGHT LINE**

- 2.1 Introduction
- 2.2 Instantaneous velocity and speed
- 2.3 Acceleration
- 2.4 Kinematic equations for uniformly accelerated motion

### **3. MOTION IN A PLANE**

- 3.1 Introduction
- 3.2 Scalars and vectors
- 3.3 Multiplication of vectors by real members
- 3.4 Addition and subtraction of vectors - graphical Method
- 3.5 Resolution of vectors
- 3.6 Vector addition - Analytical method
- 3.7 Motion in a plane
- 3.8 Motion in a plane with constant acceleration
- 3.9 Projectile motion
- 3.10 Uniform circular motion

### **4. LAWS OF MOTION**

- 4.1 Introduction
- 4.2 Aristotle's fallacy
- 4.3 The law of inertia
- 4.4 Newton's first law of motion
- 4.5 Newton's second law of motion
- 4.6 Newton's third law of motion
- 4.7 Conservation of momentum
- 4.8 Equilibrium of a particle
- 4.9 Common forces in mechanics, friction
- 4.10 Circular motion
- 4.11 Solving problems in mechanics.

## **5. WORK,ENERGY AND POWER**

- 5.1 Introduction
- 5.2 Notions of work and kinetic energy: The work-energy theorem.
- 5.3 Work
- 5.4 Kinetic Energy
- 5.5 Work done by a variable force
- 5.6 The work – energy theorem for a variable force
- 5.7 The concept of Potential energy
- 5.8 The conservation of mechanical energy
- 5.9 The Potential energy of a spring
- 5.10 Power
- 5.11 Collisions

## **6. SYSTEM OF PARTICLES AND ROTATIONAL MOTION**

- 6.1 Introduction
- 6.2 Centre of mass
- 6.3 Motion of Centre of mass
- 6.4 Linear momentum of a system of particles
- 6.5 Vector product of two vectors
- 6.6 Angular velocity and its relation with linear velocity
- 6.7 Torque and angular momentum
- 6.8 Equilibrium of a rigid body and centre of gravity
- 6.9 Moment of inertia
- 6.10 Kinematics of rotational motion about a fixed axis
- 6.11 Dynamics of rotational motion about a fixed axis.
- 6.12 Angular momentum in case of rotations about a fixed axis.

## **7. GRAVITATION**

- 7.1 Introduction
- 7.2 Kepler's laws
- 7.3 Universal law of gravitation
- 7.4 The gravitational constant
- 7.5 Acceleration due to gravity of the earth
- 7.6 Acceleration due to gravity below and above the surface of earth.
- 7.7 Gravitational potential energy
- 7.8 Escape speed
- 7.9 Earth Satellites
- 7.10 Energy of an orbiting satellite

## **8. MECHANICAL PROPERTIES OF SOLIDS**

- 8.1 Introduction
- 8.2 Stress and strain
- 8.3 Hooke's law

- 8.4 Stress – strain curve
- 8.5 Elastic moduli
- 8.6 Applications of elastic behavior of materials

## **9. MECHANICAL PROPERTIES OF FLUIDS**

- 9.1 Introduction
- 9.2 Pressure
- 9.3 Stream line flow
- 9.4 Bernoulli's principle
- 9.5 Viscosity
- 9.6 Surface tension

## **10. THERMAL PROPERTIES OF MATTER**

- 10.1 Introduction
- 10.2 Temperature and Heat
- 10.3 Measurement of temperature
- 10.4 Ideal – gas equation and absolute temperature
- 10.5 Thermal expansion
- 10.6 Specific Heat capacity
- 10.7 Calorimetry
- 10.8 Change of state
- 10.9 Heat transfer
- 10.10 Newton's law of cooling.

## **11.THERMODYNAMICS**

- 11.1 Introduction
- 11.2 Thermal equilibrium
- 11.3 Zeroth law of thermodynamics
- 11.4 Heat, internal energy and work
- 11.5 First law of thermodynamics
- 11.6 Specific heat capacity
- 11.7 Thermodynamic state variables and equation of state
- 11.8 Thermodynamic processes
- 11.9 Second law of thermodynamics
- 11.10 Reversible and irreversible processes
- 11.11 Carnot engine

## **12. KINETIC THEORY**

- 12.1 Introduction
- 12.2 Molecular nature of matter
- 12.3 Behavior of gases

- 12.4 Kinetic theory of an ideal gas
- 12.5 Laws of equipartition of energy
- 12.6 Specific heat capacity
- 12.7 Mean free path

### **13. OSCILLATIONS**

- 13.1 Introduction
- 13.2 Periodic and oscillatory motions
- 13.3 Simple Harmonic motion
- 13.4 Simple Harmonic motion and uniform circular motion
- 13.5 Velocity and acceleration in simple harmonic motion
- 13.6 Force law for simple harmonic motion
- 13.7 Energy in simple harmonic motion
- 13.8 The Simple Pendulum

### **14. WAVES**

- 14.1 Introduction
- 14.2 Transverse and longitudinal waves
- 14.3 Displacement relation in a progressive wave
- 14.4 The speed of a travelling wave
- 14.5 The principle of superposition of waves
- 14.6 Reflection of waves
- 14.7 Beats

### **3.Chemistry (Ist Year)**

#### **Unit 1 Some Basic Concepts of Chemistry**

- 1.1 Importance of Chemistry
- 1.2 Nature of Matter
- 1.3 Properties of Matter and their Measurement
- 1.4 Uncertainty in Measurement
- 1.5 Laws of Chemical Combinations
- 1.6 Dalton's Atomic Theory
- 1.7 Atomic and Molecular Masses
- 1.8 Mole Concept and Molar Masses
- 1.9 Percentage Composition
- 1.10 Stoichiometry and Stoichiometric Calculations

#### **Unit 2 Structure of Atom**

- 2.1 Discovery of Sub-atomic Particles
- 2.2 Atomic Models
- 2.3 Developments Leading to the Bohr's Model of Atom
- 2.4 Bohr's Model for Hydrogen Atom
- 2.5 Towards Quantum Mechanical Model of the Atom
- 2.6 Quantum Mechanical Model of Atom

#### **Unit 3 Classification of Elements and Periodicity in Properties**

- 3.1 Why do we Need to Classify Elements ?
- 3.2 Genesis of Periodic Classification
- 3.3 Modern Periodic Law and the Present Form of the Periodic Table
- 3.4 Nomenclature of Elements with Atomic Numbers  $> 100$
- 3.5 Electronic Configurations of Elements and the Periodic Table
- 3.6 Electronic Configurations and Types of Elements: s-, p-, d-, f- Blocks
- 3.7 Periodic Trends in Properties of Elements

## **Unit 4 Chemical Bonding and Molecular Structure**

- 4.1 Kössel-Lewis Approach to Chemical Bonding
- 4.2 Ionic or Electrovalent Bond 106 4.3 Bond Parameters
- 4.4 The Valence Shell Electron Pair Repulsion (VSEPR) Theory
- 4.5 Valence Bond Theory
- 4.6 Hybridisation
- 4.7 Molecular Orbital Theory
- 4.8 Bonding in Some Homonuclear Diatomic Molecules
- 4.9 Hydrogen Bonding

## **Unit 5 Thermodynamics**

- 5.1 Thermodynamic Terms
- 5.2 Applications
- 5.3 Measurement of  $\Delta U$  and  $\Delta H$ : Calorimetry
- 5.4 Enthalpy Change,  $\Delta_r H$  of a Reaction – Reaction Enthalpy
- 5.5 Enthalpies for Different Types of Reactions
- 5.6 Spontaneity
- 5.7 Gibbs Energy Change and Equilibrium

## **Unit 6 Equilibrium**

- 6.1 Equilibrium in Physical Processes
- 6.2 Equilibrium in Chemical Processes – Dynamic Equilibrium
- 6.3 Law of Chemical Equilibrium and Equilibrium Constant
- 6.4 Homogeneous Equilibria
- 6.5 Heterogeneous Equilibria
- 6.6 Applications of Equilibrium Constants
- 6.7 Relationship between Equilibrium Constant  $K$ , Reaction Quotient  $Q$  and Gibbs Energy  $G$
- 6.8 Factors Affecting Equilibria
- 6.9 Ionic Equilibrium in Solution
- 6.10 Acids, Bases and Salts
- 6.11 Ionization of Acids and Bases
- 6.12 Buffer Solutions
- 6.13 Solubility Equilibria of Sparingly Soluble Salts

### **Unit 7 Redox Reactions**

- 7.1 Classical Idea of Redox Reactions-Oxidation and Reduction Reactions
- 7.2 Redox Reactions in Terms of Electron Transfer Reactions
- 7.3 Oxidation Number
- 7.4 Redox Reactions and Electrode Processes

### **Unit 8 Organic Chemistry – Some Basic Principles and Techniques**

- 8.1 General Introduction
- 8.2 Tetravalence of Carbon: Shapes of Organic Compounds
- 8.3 Structural Representations of Organic Compounds
- 8.4 Classification of Organic Compounds
- 8.5 Nomenclature of Organic Compounds
- 8.6 Isomerism
- 8.7 Fundamental Concepts in Organic Reaction Mechanism
- 8.8 Methods of Purification of Organic Compounds
- 8.9 Qualitative Analysis of Organic Compounds
- 8.10 Quantitative Analysis

### **Unit 9 Hydrocarbons**

- 9.1 Classification
- 9.2 Alkanes
- 9.3 Alkenes
- 9.4 Alkynes
- 9.5 Aromatic Hydrocarbon
- 9.6 Carcinogenicity and Toxicity

## **4. Biology (Ist Year)**

### **A - BOTANY**

#### **UNIT I – DIVERSITY IN THE LIVING WORLD**

##### **Chapter 1 BIOLOGICAL CLASSIFICATION**

- 1.1 Kingdom monera
- 1.2 Kingdom Protista
- 1.3 Kingdom Fungi
- 1.4 Kingdom Plantae
- 1.5 Kingdom Animalia
- 1.6 Viruses, viroid and Lichens

##### **Chapter 2 PLANT KINGDOM**

- 2.1 Algae
- 2.2 Bryophytes
- 2.3 Pteridophytes
- 2.4 Gymnosperms
- 2.5 Angiosperms

#### **UNIT II STRUCTURAL ORGANISATION IN PLANTS**

##### **Chapter 3 MORPHOLOGY OF FLOWERING PLANTS**

- 3.1 The root
- 3.2 The stem
- 3.3 The leaf
- 3.4 The inflorescence
- 3.5 The flower
- 3.6 The fruit
- 3.7 The seed
- 3.8 Semi technical description of a typical flowering plant
- 3.9 Solanaceae

##### **Chapter 4 ANATOMY OF FLOWERING PLANTS**

- 4.1 The tissue system
- 4.2 Anatomy of Dicotyledonous and Monocotyledonous plants

#### **UNIT III CELL : THE STRUCTURE AND FUNCTIONS**

##### **Chapter 5 CELL – THE UNIT OF LIFE**

- 5.1 What is a cell?
- 5.2 Cell theory
- 5.3 An overview of cell
- 5.4 Prokaryotic cells
- 5.5 Eukaryotic cells

##### **Chapter 6 BIOMOLECULES**

- 6.1 How to analyse chemical composition?

- 6.2 Primary and Secondary metabolites
- 6.3 Bio Macro molecules
- 6.4 Proteins
- 6.5 Polysaccharides
- 6.6 Nucleic acids
- 6.7 Stucture of proteins
- 6.8 Enzymes

## **Chapter 7 CELL CYCLE AND CELL DIVISION**

- 7.1 Cell cycle
- 7.2 M phase
- 7.3 Significance of Mitosis
- 7.4 Meiosis
- 7.5 Significance of Meiosis

## **UNIT IV PLANT PHYSIOLOGY**

### **Chapter 8 PHOTOSYNTHESIS IN HIGHER PLANTS**

- 8.1 What do we know?
- 8.2 Early experiments
- 8.3 Where does photosynthesis takes place?
- 8.4 How many pigments are involved in Photosynthesis?
- 8.5 What is light Reaction?
- 8.6 The Electron Transport
- 8.7 Where are the ATP and NADPH used?
- 8.8 The C<sub>4</sub> Pathway
- 8.9 Photo respiration
- 8.10 Factors affecting photosynthesis

### **Chapter 9 RESPIRATION IN PLANTS**

- 9.1 Do plants breathe?
- 9.2 Glycolysis
- 9.3 Fermentation
- 9.4 Aerobic respiration
- 9.5 The respiratory balance sheet
- 9.6 Amphibolic pathway
- 9.7 Respiratory Quotient

### **Chapter 10 PLANT GROWTH AND DEVELOPMENT**

- 10.1 Growth
- 10.2 Differentiation, Dedifferentiation and Redifferentiation
- 10.3 Development
- 10.4 Plant growth regulators

## **B-ZOOLOGY**

### **UNIT I : DIVERSITY IN THE LIVING WORLD**

#### **Chapter-1: The Living World**

- 1.1. Diversity in the living world
- 1.2. Taxonomic categories

#### **Chapter-2 : Animal Kingdom**

- 2.1. Basis of classification
- 2.2. Classification of animals

### **UNIT II : STRUCTURAL ORGANISATION**

#### **Chapter -3 Structural Organization in Animals**

- 3.1 Organ and Organ Systems
- 3.2 Frog

### **UNIT III: HUMAN PHYSIOLOGY**

#### **Chapter-4: Breathing and Exchange of Gases**

- 4.1 Respiratory Organs
- 4.2 Mechanism of Breathing
- 4.3 Exchange of Gases
- 4.4 Transport of Gases
- 4.5 Regulation of Respiration
- 4.6 Disorders of Respiratory System

#### **Chapter-5: Body Fluids and Circulation**

- 5.1 Blood
- 5.2 Lymph (Tissue Fluid)
- 5.3 Circulatory Pathways
- 5.4 Double Circulation
- 5.5 Regulation of Cardiac Activity
- 5.6 Disorders of Circulatory System

## **Chapter 6: Excretory Products and their Elimination**

6.1 Human Excretory System

6.2 Urine Formation

6.3 Function of the Tubules

6.4 Mechanism of Concentration of the Filtrate

6.5 Regulation of Kidney Function

6.6 Micturition

6.7 Role of other Organs in Excretion

6.8 Disorders of the Excretory System

## **Chapter 7: Locomotion and Movement**

7.1 Types of Movement

7.2 Muscle

7.3 Skeletal System

7.4 Joints

7.5 Disorders of Muscular and Skeletal System

## **Chapter-8: Neural Control and Coordination**

8.1 Neural System

8.2 Human Neural System

8.3 Neuron as Structural and Functional Unit of Neural System

8.4 Central Neural System

## **Chapter-9: Chemical Coordination and Integration**

9.1 Endocrine Glands and Hormones

9.2 Human Endocrine System

9.3 Hormones of Heart, Kidney and Gastrointestinal Tract

9.4 Mechanism of Hormone Action

## **5.Commerce (Ist Year)**

### **UNIT I : Fundamental Aspects of Business**

#### **Chapter 1: Concept of Business**

- 1.1 Introduction to Business
- 1.2 Classification of Economic Activities
- 1.3 Meaning, Definition and Characteristics of Business
- 1.4 Objectives of Business

#### **Chapter 2: Business Activities**

- 2.1 Industry
- 2.2 Commerce
- 2.3 Hindrances involved in Commerce
- 2.4 Branches of Commerce

### **UNIT II: Forms of Business Organisations**

#### **Chapter 3 : Forms of Business Organisations**

- 3.1 Concept of Business Organisations
- 3.2 Forms of Business Organisations
  - Sole Proprietorship

#### **Chapter 4 : Joint Hindu Family Business & Co-operative Society**

- 4.1 Joint Hindu Family Form of Business Organisation
- 4.2 Co-operative Society

#### **Chapter 5 : Partnership**

- 5.1 Partnership – Meaning & Definition
- 5.2 Features
- 5.3 Types of Partners
- 5.4 Advantages & Disadvantages
- 5.5 Registration of Partnership
- 5.6 Partnership Deed

### **UNIT III : Joint Stock Company**

#### **Chapter 6 : Fundamental aspects of Joint Stock Company**

- 6.1 Joint Stock Company
- 6.2 Features,
- 6.3 Classification of Companies,
- 6.4 Distinction between Private & Public Company.
- 6.5 Advantages & Disadvantages of Company

#### **Chapter 7 : Formation of Joint Stock Company**

- 7.1 Steps in Formation of Company

- 7.2 Promotion
- 7.3 Types of Promoters
- 7.4 Incorporation of a Company or Registration
- 7.5 Capital Subscription
- 7.6 Commencement of Business.
- 7.7 Memorandum of Association (MOA)
- 7.8 Articles of Association (AOA)
- 7.9 Prospectus
- 7.10 Minimum Subscription
- 7.11 Certificate of Commencement of Business.

#### **UNIT IV : Sources of Business Finance**

##### **Chapter 8 : Basics of Business Finance**

- 8.1 Meaning of Business Finance.
- 8.2 Nature of Business Finance
- 8.3 Need and Significance of Business Finance
- 8.4 Classification of Sources of Funds
- 8.5 Factors determining the choice of Sources of Business Finance

#### **UNIT V : Emerging Trends in Business**

##### **Chapter 9 : Emerging Trends in Business**

- 9.1 Meaning and Definition of e-business.
- 9.2 Scope of e-business
- 9.3 Benefits of e-business.
- 9.4 Online Transactions
- 9.5 Security & Safety in online transactions

## **6.Accountancy (Ist Year)**

### **UNIT I**

#### **Chapter 1 : Book keeping and accounting**

- 1.1 Introduction.
- 1.2 Book Keeping
- 1.3 Accounting
- 1.4 Basic accounting terms

#### **Chapter 2: Accounting Principles**

- 2.1 Accounting principles
- 2.2 Accounting concepts
- 2.3 Accounting conventions
- 2.4 Accounting Standards

#### **Chapter 3: Double entry Book Keeping System**

- 3.1 Introduction
- 3.2 Meaning
- 3.3 Advantages
- 3.4 Account
- 3.5 Classification of accounts

### **UNIT -II**

#### **Chapter 4: Journal**

- 4.1 Meaning
- 4.2 Proforma
- 4.3 Illustrations

#### **Chapter 5: Ledger**

- 5.1 Meaning
- 5.2 Advantages
- 5.3 Posting

#### **Chapter 6: Subsidiary Books**

- 6.1 Meaning
- 6.2 The need/ advantages
- 6.3 Types of subsidiary books
- 6.4 Preparation of Subsidiary books

### **UNIT -III**

#### **Chapter 7: Journal Proper**

- 7.1 Meaning
- 7.2 Advantages
  - 7.2.1 Opening entries
  - 7.2.2 Purchase of assets on credit
  - 7.2.3 Sale of asset on credit
  - 7.2.4 Rectification entries
  - 7.2.5 Adjustment entries
  - 7.2.6 Closing entries
  - 7.2.7 Transfer entries
  - 7.2.8 Other entries

**Chapter 8: Cash Book**

- 8.1 Meaning
- 8.2 Characteristics and advantages
- 8.3 Importance
- 8.4 Various kinds of cash book and their preparation

**UNIT IV****Chapter 9: Bank Reconciliation Statement**

- 9.1 Introduction
- 9.2 Nature of the cash book and bank pass book
- 9.3 Meaning and advantages of BRS
- 9.4 Procedure for preparation of BRS
- 9.5 Reasons for difference
- 9.6 Preparation of BRS

**Chapter 10: Trial Balance**

- 10.1 Meaning
- 10.2 Features / Characteristics
- 10.3 Merits
- 10.4 Limitations
- 10.5 Types of Preparation
- 10.6 Proforma
- 10.7 Key points

**UNIT:V****Chapter 11: Final Accounts**

- 11.1 Meaning
- 11.2 Objectives
- 11.3 Advantages and Limitations
- 11.4 Capital and Revenue items
- 11.5 Preparation of Trading Account
- 11.6 Preparation of Profit&Loss account
- 11.7 Balance Sheet

**Chapter 12: Final Accounts with adjustments**

- 12.1 Meaning
- 12.2 Types of Adjustments
- 12.3 Summary of Adjustments
- 12.4 Accounting Treatment to the adjustments given in Trial Balance

## **7. ECONOMICS (Ist Year)**

### **UNIT-I : INTRODUCTION**

- 1.0 Origin and Meaning of Economics
- 1.1 Definitions of Economics
  - 1.1.1 Wealth Definition
  - 1.1.2 Welfare Definition
  - 1.1.3 Scarcity Definition
  - 1.1.4 Growth Definition
  - 1.1.5 Jacob Viner's Definition
- 1.2 Central problems of an Economy
- 1.3 Production Possibility Frontier
- 1.4 Organisation of Economic Activities
  - 1.4.1 The Centrally Planned Economy
  - 1.4.2 The Market Economy
  - 1.4.3 Mixed Economy
- 1.5 Division of Economics
  - 1.5.1 Micro Economics
  - 1.5.2 Macro Economics
- 1.6 Deductive and Inductive Methods
  - 1.6.1 Deductive method
  - 1.6.2 Inductive method
- 1.7 Positive and Normative Economics
  - 1.7.1 Positive Economics
- 1.8 Basic Economics concepts
  - 1.8.1 Goods & Services
  - 1.8.2 Types of Goods
  - 1.8.3 Wants
  - 1.8.4 Classification of Human wants
  - 1.8.5 Utility
  - 1.8.6 Other basic terms
- 1.9 Summary
- 1.10 Model Questions
- 1.11 Glossary
- 1.12 References

## **UNIT-II : THEORY OF CONSUMER'S BEHAVIOUR**

- 2.0 Introduction
- 2.1 What is Utility?
- 2.2 Marginal utility Analysis
  - 2.2.1 Law of Diminishing Marginal Utility
  - 2.2.2 Law of Equi-Marginal Utility
- 2.3 Indifference Curve Analysis
  - 2.3.1 Indifference Map
  - 2.3.2 properties of indifference curves
  - 2.3.3 Budget Line / Price Line
- 2.4 Consumer's Equilibrium
- 2.5 Summary
- 2.6 Model Questions
- 2.7 Glossary
- 2.8 References

## **UNIT-III : THEORY OF DEMAND**

- 3.0 Introduction
- 3.1 Meaning of Demand
- 3.2 Demand Function
- 3.3 Factors that Determine Demand
- 3.4 Types of Demand
  - 3.4.1 Price Demand – Law of Demand
    - 3.4.4.1 Exceptions to the Law of Demand
    - 3.4.4.2 Reasons for the Downward (or) Negative Slope of Demand Curve
    - 3.4.4.3 Change in Quantity Demanded and Change in Demand
  - 3.4.2 Income Demand
  - 3.4.3 Cross Demand
- 3.5 Meaning of Elasticity of Demand
- 3.6 Types of Elasticity of Demand
  - 3.6.1 Price Elasticity of Demand
    - 3.6.1.1 Types of Price Elasticity of Demand
    - 3.6.1.2 Methods of Measurement of Price Elasticity of Demand
    - 3.6.1.3 Determinants of Price Elasticity of Demand
    - 3.6.1.4 Importance of Price Elasticity Demand
- 3.7 Income Elasticity of Demand

3.8 Cross elasticity of Demand

3.9 Summary

3.10 Model Questions

3.11 Glossary

3.12 References

#### **UNIT-IV : PRODUCTION ANALYSIS**

4.1 Introduction

4.2 Production

4.3 Factors of Production

4.4 Production Function

4.4.1 Cobb-Douglas Production Function

4.5 Types of Production functions

4.5.1 Short-run Production function (The Law of Variable Proportions)

4.5.2 long-run production function (The law of Returns to scale)

4.5.3 Economies of large-scale production (Internal and External Economies)

4.6 Isoquant

4.7 Supply

4.7.1 Price Elasticity of Supply

4.8 Summary

4.9 Model Questions

4.8 Glossary

4.10 References

#### **UNIT-V : COST AND REVENUE ANALYSIS**

5.0 Introduction

5.1 Cost analysis

5.1.1 Cost Function

5.1.2 Concepts of Costs

5.1.3 Short Run Costs – Cost Curves

5.1.4 Shapes of the Short Run Cost Curves

5.1.5 Relationship between Average cost and Marginal Cost

5.1.6 Long-run Cost Curves

5.2 Revenue Analysis

5.2.1 Revenue Curves in Perfect competition

5.2.2 Revenue Curves in Imperfect competition

5.3 Summary

5.4 Model Questions

- 5.5 Glossary
- 5.6 References

#### **UNIT-VI : MARKET STRUCTURE**

- 6.0 Introduction
- 6.1 Meaning
- 6.2 Classification of Markets
- 6.3 Market Equilibrium
  - 6.3.1 Shift in Demand & Supply (Change in Demand and Supply)
- 6.4 Price Ceiling
- 6.5 Price Floor
- 6.6 Perfect Competition
  - 6.6.1 Features of perfect competition
  - 6.6.2 Price and Output determination under Perfect Competition (Short-run)
  - 6.6.3 Price and output determination under perfect competition (Long-run)
- 6.7 Imperfect Competition
  - 6.7.1 Monopoly
  - 6.7.2 Monopolistic Competition
  - 6.7.3 Oligopoly
  - 6.7.4 Duopoly
- 6.8 Comparison between perfect competition and monopoly
- 6.9 Summary
- 6.10 Model Questions
- 6.10 Glossary
- 6.11 Reference

#### **UNIT-VII : THEORY OF DISTRIBUTION**

- 7.0 Introduction
- 7.1 Distribution of Incomes
- 7.2 Determination of Factor price
- 7.3 Marginal Productivity Theory
- 7.4 Rent
  - 7.4.1 Contract Rent
  - 7.4.2 Economic Rent
  - 7.4.3 Ricardian Theory of Rent
  - 7.4.4 Modern theories of rent
- 7.5 Wages

- 7.5.1 Types of Wages
- 7.5.2 Factors Determining Real Wages
- 7.5.3 Theories of Wages
- 7.6 Interest
  - 7.6.1 Concepts of Interest
  - 7.6.2 Theories of Interest
- 7.7 Profits
  - 7.7.1 Concepts of Profit
  - 7.7.2 Theories of Profit
- 7.8 Summary
- 7.9 Model Questions
- 7.10 Glossary
- 7.11 References

## **UNIT-VIII : NATIONAL INCOME ACCOUNTING**

- 8.0 Introduction
- 8.1 Definitions of National Income
- 8.2 Factors that determine the size of National Income
- 8.3 Components of Nation Income
- 8.4 Important terms used in National Income Accounting
- 8.5 National Income Aggregates (Basic concepts of National Income)
- 8.6 Relationship between per capita income and population BIEAP
- 8.7 Relationship between Real GDP & Nominal GDP
- 8.8. Comparison between GDP & GNP
- 8.9 Factor Cost, Basic Prices and Market Prices
- 8.10 Circular Flow of Income
- 8.11 Methods of calculating National Income
- 8.12 Importance of National Income estimates
- 8.13 Difficulties related to the measurement of National Income
- 8.14 Relationship between National Income Aggregates
- 8.15 Summary
- 8.16 Model Questions
- 8.17 Glossary
- 8.18 References

## **UNIT-IX : THEORY OF EMPLOYMENT & PUBLIC FINANCE**

- 9.0 Introduction
- 9.1 Classical Theory of Employment
- 9.2 Keynesian Theory of Income and Employment

- 9.3 Investment multiplier (k)
- 9.4 Paradox of Thrift
- 9.5 Public Economics
  - 9.5.1 Public Revenue
  - 9.5.2 Goods and Service Tax (GST)
  - 9.5.3 Public Expenditure
  - 9.5.4 Public Debt
- 9.6 Budget
  - 9.6.1 Objectives of Government Budget
  - 9.6.2 Structure of the budget
  - 9.6.3 Components of Budget
  - 9.6.4 Types of budget
  - 9.6.5 Types of Deficit
  - 9.6.6 Fiscal Responsibility and Budget Management Act, 2003. (FRBMA)
- 9.7 Balance of Payments
  - 9.7.1 Foreign Exchange Market
- 9.8 Summary
- 9.8 Model Questions
- 9.9 Glossary
- 9.10 Reference

## **UNIT-X: MONEY, BANKING AND INFLATION**

- 10.0 Introduction
- 10.1 Evolution of money
  - 10.1.1 Definitions of Money
  - 10.1.2 Functions of money
  - 10.1.3 Static and dynamic functions of money
  - 10.1.4 Money and related concepts
  - 10.1.5 Demand for Money and Supply of Money
  - 10.1.6 Monetary aggregates (Measurement of Money Supply)
  - 10.1.7 Money multiplier
- 10.2 Banking
  - 10.2.1 Commercial Banks
  - 10.2.2 Banking Related Concepts
  - 10.2.3 Central Bank / Reserve Bank of India
  - 10.2.4 Objectives of the RBI
  - 10.2.5 Functions of the RBI

- 10.2.6 Policy tools to control money supply (Monetary Policy)
  - 10.2.7 Demonetisation
- 10.3 Inflation
  - 10.3.1 Definitions of inflation
  - 10.3.2 Methods of measuring Inflation in India
  - 10.3.3 Types of Inflation
  - 10.3.4 Effects of inflation
  - 10.3.5 Causes of Inflation
  - 10.3.6 Measures to Control inflation
- 10.4 Summary
- 10.5 Model Questions
- 10.6 Glossary
- 10.7 References

## **8. Civics (Ist Year)**

### **Chapter 1: Scope and Significance of Political Science**

- 1.0 Introduction
- 1.1. Origin of Political Science
  - 1.1.1 Definitions of Political Science
  - 1.1.2 Traditional definitions of Political Science
  - 1.1.3 Modern definitions of Political Science:
- 1.2 Scope of Political Science
- 1.3 Significance of Political Science

### **Chapter 2: State**

- 2.0 Introduction
- 2.1 Definitions of State
- 2.2. Theories of Origin of the State.
- 2.3 Essential elements of State
- 2.4 Other elements of State
- 2.5 State Vs Society, Association and Government
  - 2.5.1 State and Society
  - 2.5.2 State and Association
  - 2.5.3 State and Government

### **Chapter 3: Nationalism**

- 3.0 Introduction
- 3.1 Nation
  - 3.1.1 Meaning
  - 3.1.2 Definitions
  - 3.1.3 Differences between Nation and State.
- 3.2 Nationality
  - 3.2.1 Connotations of Nationality
  - 3.2.2 Essential elements of Nationality
  - 3.2.3 Importance of Nation and Nationality
  - 3.2.4 Differences between Nation and Nationality.
- 3.3 Nationalism
  - 3.3.1 Importance of Nationalism
- 3.4 National Self-Determination.
  - 3.4.1 Demand for National Self-Determination

## **Chapter 4: Law**

- 4.0 Introduction
- 4.1 Meaning of Law
  - 4.1.1 Definitions
- 4.2 Features of Law
- 4.3 Sources of Law
- 4.4 Classification of Law
- 4.5 Law and Morality
  - 4.5.1 Differences between Law and Morality
- 4.6 Law and Liberty
  - 4.6.1 Law and Liberty are antithetical
  - 4.6.2 Law and Liberty are complimentary
- 4.7 Rule of Law

## **Chapter 5: Liberty and Equality**

- 5.0 Introduction
- 5.1 Meaning of Liberty
- 5.2 Definitions of Liberty
- 5.3 Characteristics of Liberty
- 5.4 Types of Liberty
- 5.5 Safeguards of Liberty
- 5.6 Elements threatening individuals Liberty
- 5.7 Introduction of Equality
- 5.8 Meaning of Equality
- 5.9 Essential features of Equality
- 5.10 Types of Equality
- 5.11 Obstacles to Equality
- 5.12 Measures to promote Equality

## **Chapter 6: Rights and Responsibilities**

- 6.0 Introduction
- 6.1 Meaning of Rights
- 6.2 Definitions of Rights
- 6.3 Theories of Rights
- 6.4 Features of Rights
- 6.5 Classification of Rights
- 6.6 Important Civil Rights
- 6.7 Important Political Rights
- 6.8 Important Economic Rights
- 6.9 Fundamental Rights
- 6.10 Safeguards of Rights
- 6.11 Human rights

- 6.11.1 Origin of the Human Rights
- 6.11.2 Objectives of Human Rights
- 6.11.3 Features of Human Rights
- 6.11.4 Classification of Human Rights
- 6.12 Responsibilities
- 6.12.1 Types of Responsibilities
- 6.12.2 Important Responsibilities of a Citizen
- 6.13 Relationship between Rights and Responsibilities.

## **Chapter 7: Justice**

- 7.0 Introduction
- 7.1 Definitions
- 7.2 Major concepts of Justice
- 7.3 Connotations of Justice
- 7.4 Aspects of Justice
- 7.5 Sources of Justice
- 7.6 Types of Justice
- 7.7 Social Justice
- 7.8 Achievement of Social Justice

## **Chapter 8: Citizenship**

- 8.0 Introduction
- 8.1 Definitions
- 8.2 Aliens
- 8.3 Methods of acquiring Citizenship
- 8.4 Loss of Citizenship
- 8.5 Qualities of a Good Citizen
- 8.6 Hindrances to Good Citizenship
- 8.7 Ways for overcoming the Hindrances to Good Citizenship
- 8.8 Types of Citizenship
- 8.9 Citizenship in India
- 8.10 Significance of Citizenship

## **Chapter 9: Democracy**

- 9.0 Introduction
- 9.1 Origin
- 9.2 Definitions
- 9.3 Evolution and Growth of Democracy
- 9.4 Features of Democracy
- 9.5 Types of Democracy
- 9.6 Merits of Democracy
- 9.7 Demerits of Democracy

- 9.8 Conditions essential to the success of Democracy
- 9.9 Importance of Democracy
- 9.10 Devices of Direct Democracy

## **Chapter 10: Secularism**

- 10.0 Introduction
- 10.1 Origin of Secularism
- 10.2 Meaning and Definitions of Secularism
- 10.3 Interpretations on Secularism
- 10.4 Types of Secularism
- 10.5 Factors that led to the spread of Secularism
- 10.6 Secularism Vs Theocracy
- 10.7 Meaning of Theocracy
- 10.8 Differences between Secular State and Theocratic State
- 10.9 Merits of Secularism
- 10.10 Meaning of Atheistic State
- 10.11 Meaning of Secular State
- 10.12 Features of Secular State
- 10.13 Importance of Secular State
- 10.14 Dimensions of secularism
- 10.15 The models of secularism.

## **Chapter 11: Constitution**

- 11.0 Introduction
- 11.1 Definitions of the Constitution
- 11.2 Essential features of the Constitution
- 11.3 Classification of Constitutions
- 11.4 Evolution of Constitution
  - 11.4.1 Evolved Constitution
  - 11.4.2 Enacted Constitution
- 11.5 Nature of Constitution
  - 11.5.1 Written Constitution
  - 11.5.2 Unwritten Constitution
- 11.6 Differences between Written and Unwritten Constitutions
- 11.7 Rigid Constitution
- 11.8 Flexible Constitution
- 11.9 Differences between Rigid and Flexible Constitutions

## **Chapter 12: Government**

- 12.0 Introduction
- 12.1 Meaning of Government

- 12.2 Classification of Governments
  - 12.2.1 Traditional Classification
  - 12.2.2 Modern Classification
- 12.3 Unitary Government
  - 12.3.1 Definitions of Unitary Government
  - 12.3.2 Features of Unitary Government
  - 12.3.3 Merits of Unitary Government
  - 12.3.4 Demerits of Unitary Government
- 12.4 Federal Government
  - 12.4.1 Definitions of Federal Government
  - 12.4.2 Features of Federal Government
  - 12.4.3 Merits of Federal Government
  - 12.4.4 Demerits of Federal Government
- 12.5 Distinction between Unitary and Federal Governments
- 12.6 Parliamentary Government
  - 12.6.1 Features of Parliamentary Government
  - 12.6.2 Merits of Parliamentary Government
  - 12.6.3 Demerits of Parliamentary Government
- 12.7 Presidential Government
  - 12.7.1 Features of the Presidential Government
  - 12.7.2 Merits of Presidential Government
  - 12.7.3 Demerits of Presidential Government
- 12.8 Differences between Parliamentary and Presidential Governments
- 12.9 Theory of Separation of Powers
- 12.10 Organs of Government
- 12.11 Legislature
- 12.12 Executive
- 12.13 Judiciary

## **9.History (Ist Year)**

### **Chapter 1 INTRODUCTION OF HISTORY AND GEOGRAPHICAL INFLUENCE ON INDIAN HISTORY**

- 1.0 Introduction
- 1.1 Definition of History
- 1.2 Scope of History
- 1.3 Relation with other disciplines
- 1.4 Sources of History
- 1.5 Geographical influence on Indian History
- 1.6 India – A Land of Unity in Diversity
- 1.7 Summary

### **Chapter 2 ANCIENT CIVILIZATIONS AND CULTURES: THE HARAPPAN AND VEDIC PERIOD**

- 2.0 Introduction
- 2.1 Pre Harappan-Cultures
- 2.2 Harappan Civilization
- 2.3 The Harappan Script
- 2.4 Town Planning
- 2.5 Political Organization
- 2.6 Society and Economy
- 2.7 Art-crafts-industries
- 2.8 Religious Beliefs and Practices
- 2.9 Decline of the Harappan Civilization
- 2.10 Vedic Age, Polity, Society, Economy and Culture
- 2.11 Vedic Literature
- 2.12 The Early Vedic Period or Rig Vedic Period 1500BCE - 1000BCE
- 2.13 Post Vedic Period
- 2.14 Summary

### **Chapter 3 Early States, Empires and Economy**

- 3.0 Introduction
- 3.1 Early States
- 3.2 Sixteen Mahajanapadas
- 3.3 Rise and growth of Magadha.
- 3.4 Rural Life and Economy
- 3.5 Urbanization and Trade
- 3.6 Summary

## **Chapter 4 Early Societies and Religious Movements**

- 4.1 Early Societies
- 4.2 Kinship and Marriages
- 4.3 Social Differences
  - 4.3.1 Jati and Social mobility
  - 4.3.2 Women in society
- 4.4 Religious Movements
- 4.5 Ajivikas
- 4.6 Lokayats or Charvakas
- 4.7 Jainism
- 4.8 Buddhism
- 4.9 Summary

## **Chapter-5 Maurya to Harsha**

- 5.0 Introduction
- 5.1 The Mauryan Empire
- 5.2 The Kushans
- 5.3 The Gupta Empire
- 5.4 The Harshavardhana
- 5.5 Summary

## **Chapter 6 Deccan and South India upto 10th Century CE**

- 6.0 Introduction
- 6.1 Sources
- 6.2 The Sangam Age
- 6.3 The Satavahanas
- 6.4 The Ikshvakus
- 6.5 The Vishnukundins
- 6.6 The Pallavas of Kanchipuram
- 6.7 The Chalukyas
- 6.8 The Rastrakutas
- 6.9 The Cholas of Tanjore
- 6.10 Summary

## **Chapter 7 Muslim Invasions and Delhi Sultanate**

- 7.0 Introduction
- 7.1 Sources
- 7.2 Arab Invasion on Sind
- 7.3 Turkish invasions
- 7.4 Delhi Sultanate Dynasties
- 7.5 Important Sultans and Their Achievements
- 7.6 Downfall of Delhi Sultanate

7.7 Administration of Delhi Sultanate

7.8 summary

### **Chapter 8 The Mughals and Marathas**

8.0 Introduction

8.1 Sources

8.2 Why was Babur attracted to India

8.3 Imperial Mughals

8.4 Shar shah

8.5 Disintegration of Mughal Empire

8.6 Mughal Administration

8.7 Religious policy of Mughals

8.8 The Marathas

8.9 Shivaji Administration

8.10 The Peshwas

8.11 summary

### **Chapter 9 BHAKTI AND SUFI TRADITIONS 8TH CE – 16TH CENTURY CE**

9.0-Introduction

9.1-Meaning of Bhakti

9.2- Doctrines of Bhakti Cult

9.3-Prominent Bhakti Saints and their Preachings

9.4- Bhakti Poets

9.5- Bhakti Movement in Maharashtra

9.6- Sufism – Meaning, Origin and Main Characters

9.7-Prominent Sufi Orders and Sufi Saints

9.8-Impact of Bhakti and Sufi Movements on Society

9.9- Summary

### **Chapter 10 DECCAN AND SOUTH INDIA FROM 10th CENTURY TO 19th CENTURY C.E.**

10.0 Introduction

10.1 Sources

10.2 The Kakatiya

10.3 The Vijayanagar Rulers

10.4 The Bahmani of Gulbarga

10.5 The Qutb Shahi of Golconda

10.6 The Asaf Jahi of Hyderabad

10.7 Summary

### **Chapter 11 India under the Colonial Rule**

11.0 Introduction

11.1 Advent of European Companies in India and conflict

- 11.2 Expansion of East India Company's authority
- 11.3 Prominent Governor Generals and their policies
- 11.4 1857 Revolt
- 11.5 Summary

## **Chapter 12 Indian National Movement**

- 12.0 Introduction
- 12.1 Background to Indian National Movement
- 12.2 Foundation of Indian National Congress
- 12.3 Phases of Indian National Movement
- 12.4 Vande Mataram Movement
- 12.5 The role of Revolutionaries - Early Phase
- 12.6 Home Rule movement
- 12.7 Gandhiji-Early Struggles
- 12.8 Non-Cooperation Movement
- 12.9 Second Phase of Revolutionary Movement
- 12.10 Civil Disobedience Movement
- 12.11 Quit India Movement
- 12.12 Constitutional Reforms
- 12.13 Role of Women in National Movement
- 12.14 Towards Freedom
- 12.15 Indian Constitution
- 12.16 Summary

## **10. English (1st Year)**

### **Prose:**

1. The Malady of Overthinking – Jerome K. Jerome
2. Chief Seattle – Chief Seattle
3. You've got to Find What You Love – Steve Jobs
4. Reasons to Stay Alive – Matt Haig

### **Poetry:**

1. Invictus – William Earnest Henley
2. The Lamb and the Tyger – William Blake
3. Stares – Jaya Prabha
4. Refugees – Brian Bilston

### **Extensive Reading:**

1. Julius Caesar – William Shakespeare
2. The Blind Dog – R.K. Narayan
3. The Sound of Thunder – Ray Bradbury
4. A Retrieved Reformation – O. Henry

### **Grammar:**

#### **a. Reading and Writing**

1. Comprehension passages
2. Text to Diagram
3. Creative Writing

#### **b. Fundamental grammar:**

1. Parts of Speech
2. Articles
3. Prepositions
4. Tenses
5. Voice
6. Reported speech
7. Degrees of Comparison
8. Synthesis of Sentences
9. Question Tags
10. Correction of Sentences
11. Word Power

#### **c. Communication skills:**

1. Phonetic Transcription
2. Odd Sounds
3. Dialogue Writing

## **11. Sanskrit (Ist Year)**

### **पद्यभागः**

- |                 |                            |
|-----------------|----------------------------|
| १. हनुमदुपदेशः  | - वाल्मीकिमहर्षिः          |
| २. रघोः शौर्यम् | - कालिदासमहाकविः           |
| ३. नीतिश्लोकाः  | - विविधकवयः                |
| ४. जनादरः       | - श्री पि. पट्टाभिरामारावु |
| ५. प्रतिश्रुतिः | - डा. डि.यन्. दीक्षितः     |

### **गद्यभागः**

- |                          |                                |
|--------------------------|--------------------------------|
| १. अज्ञातस्य वासो न देयः | - नारायणपण्डितः                |
| २. शूद्रक - वीरवरकथा     | - जम्भालदत्तः                  |
| ३. मूर्खपण्डितकथा        | - विष्णुशर्मा                  |
| ४. दयावान् राक्षसः       | - आचार्य हर्षदेवमाधवः          |
| ५. जीर्णच्छत्रम्         | - म.म.पुल्लेल श्रीरामचन्द्रुडु |

### **उपवाचकम्**

- |                    |                      |
|--------------------|----------------------|
| १. विनयः विधेयता च | - श्री जनार्दन हेगडे |
| २. मित्ररत्नम्     | - डा. पूजा उपाध्याया |
| ३. पापस्य फलम्     | - डा. सञ्जीवः        |
| ४. दानशूरः शिबिः   | - डा. उदयन हेगडे     |
| ५. मैत्री          | - सुगन्धः            |

### **व्याकरणम्**

१. शब्दाः
२. धातुरूपाणि
३. सन्धयः
४. पत्रलेखनम्
५. अनुवादाभ्यासः

### **अनुबन्धः**

सङ्ख्याः

सरलवाक्यानि

नैव क्लिष्टा न च कठिना

समयः

## **12.Hindi (Ist Year)**

### **पद्यभाग**

- |                      |   |                        |
|----------------------|---|------------------------|
| 1 कबीर के दोहे       | - | महात्मा कबीरदास        |
| 2 रैदास के दोहे      | - | महात्मा रैदास          |
| 3 मुरझाया फूल        | - | श्रीमती महादेवी वर्मा  |
| 4 वह देश कौन सा है ? | - | श्री रामनरेश त्रिपाठी  |
| 5 समय                | - | श्री सियाराम शरण गुप्त |

### **गद्यभाग**

- |                    |   |                       |
|--------------------|---|-----------------------|
| 1. परीक्षा         | - | मुंशी प्रेमचंद        |
| 2. हार की जीत      | - | श्री सुदर्शन          |
| 3. मित्रता         | - | आचार्य रामचंद्र शुक्ल |
| 4. काबुलीवाला      | - | रवीन्द्रनाथ ठाकुर     |
| 5. इतिहास बदलता है | - | देवेन्द्र सत्यार्थी   |

### **एकांकी**

- |                |   |                       |
|----------------|---|-----------------------|
| 1. बहु की विदा | - | विनोद रस्तोगी         |
| 2. सच्चा धर्म  | - | सेठ गोविंद दास        |
| 3. विष कन्या   | - | श्री गोविंद वल्लभ पंत |

### **व्याकरण**

1. शब्द विचार
2. लिंग
3. वचन
4. पर्यायवाची शब्द
5. विलोम शब्द
6. शुद्ध वर्तनी
7. अनुवाद
8. पत्र लेखन

### 13.Urdu (Ist Year)

| مصنف / شاعر              | مضمون/نظم                                    | صنف | سلسلہ نمبر |
|--------------------------|----------------------------------------------|-----|------------|
| <b>I</b>                 |                                              |     |            |
| حصہ شاعری                |                                              |     |            |
| از خلیل الرحمن اعظمی     | غزل                                          | 1   |            |
| از نظیر اکبر آبادی       | مفلسی                                        | 2   |            |
| از دیا سنکر نسیم         | گلزار نسیم                                   | 3   |            |
| از میر ببر علی انیس      | میر انیس "جب کربلہ میں داخلہ<br>شاہ دین ہوا" | 4   |            |
| از امجد حیدر آبادی       | رباعیات<br>امجد                              | 5   |            |
| <b>II</b>                |                                              |     |            |
| حصہ نثر                  |                                              |     |            |
| از میر امن دہلوی         | "باغ و بہار" (سیر تیسرے<br>درویش کی)         | 1   | داستان     |
| از ڈپٹی وزیر احمد        | "مرآة العروس"                                | 2   | ناول       |
| از منشی پریم چند         | "بد نصیب ماں"                                | 3   | افسانہ     |
| از خواجہ حسن نظامی       | "لمپ"                                        | 4   | انشائیہ    |
| از رشید احمد صدیقی       | "عبدالحق"                                    | 5   | خاکہ       |
| <b>III</b>               |                                              |     |            |
| حصہ قواعد                |                                              |     |            |
|                          | صرف کی تعریف                                 | 1   |            |
|                          | اسم اور اس کی قسمیں                          | 2   |            |
|                          | ضمیر اور اس کی قسمیں                         | 3   |            |
|                          | صفت اور اس کی قسمیں                          | 4   |            |
|                          | فعل اور اس کی قسمیں                          | 5   |            |
|                          | (1) لازم                                     |     |            |
|                          | (2) متعدی                                    |     |            |
|                          | (3) ناقص                                     |     |            |
| (انگریزی الفاظ کا اردو   | ضمن ترجمہ                                    |     |            |
|                          | ترجمہ)                                       |     |            |
| <b>IV</b>                |                                              |     |            |
| حصہ سرسری مطالعہ         |                                              |     |            |
| از سرسید احمد خان        | "عزت"                                        | 1   | مضمون      |
| از مولانا ابوالکلام آزاد | "زندگی اور وجود"                             | 2   | مضمون      |

|                    |                     |       |   |
|--------------------|---------------------|-------|---|
| از ڈاکٹر ذاکر حسین | "تعلیم"             | مضمون | 3 |
| از کنہلال کپور     | "اپنی یادیں"        | مضمون | 4 |
| از وحید کوثر       | "امیر علی خاں یسیر" | مضمون | 5 |

## 14.Telugu (Ist Year)

బోర్డ్ ఆఫ్ ఇంటర్మీడియట్ ఎడ్యుకేషన్

తెలుగు-ప్రథమ సంవత్సరం

ప్రతిపాదిత పాఠ్యాంశ ప్రణాళిక

### **పద్యభాగం**

- 1.భీమసేనుడి గర్వభంగం-నన్నయ
- 2.రుద్ర పశుపతి కథ- పాల్కురికి సోమనాథుడు
3. నీతి పద్య రత్నాలు-వివిధ కవులు
- 4.ఆంధ్రుడను-జాషువా
- 5.బాటసారి- శ్రీశ్రీ

### **గద్యభాగం**

- 1.జాయపసేనాని-రాళ్లపల్లి అనంత కృష్ణ శర్మ
- 2.మహాత్మా జ్యోతిబాపూలే- డాక్టర్.బి. విజయభారతి
- 3.లోకోక్తులు ప్రయోగాలు-తాపీ ధర్మారావు
4. సిపి బ్రౌన్-జానుమద్ది హనుమద్వాస్తీ
- 5.జానపద కళలు-మిక్కిలినేని రాధాకృష్ణ మూర్తి

### **ఉపవాచకం**

1. రతన్ టాటా -సంపాదకమండలి
2. గాలి వాన-అడవి బాపిరాజు
3. ఉరి-విశ్వనాథ సత్యనారాయణ
4. గౌరవ స్థానం-కనుపర్తి వరలక్ష్మమ్మ
5. వాన కురిస్తే- కేతు విశ్వనాథరెడ్డి

### **వ్యాకరణం**

1. సంధులు
2. సమాసాలు
3. పద దోషాలు
4. లేఖలు
5. స్థూల అవగాహన
6. అనువాదాలు



# **Revised syllabus for Second year Intermediate (for the Academic Year 2025-26 as per NCERT)**

## **1. Mathematics IIA (2<sup>nd</sup> Year)**

### **1. Complex Numbers**

Introduction

1.1. Complex number as an ordered pair of real numbers Fundamental operations

1.2 Representation of complex number in the form  $a + ib$

1.3 Modulus and Amplitude of a complex number-Illustrations

1.4. Geometrical and Polar representation of complex number in Argand plane -  
Argand diagram

### **2. Quadratic Expressions**

Introduction

2.1 Quadratic Expressions, Equations in one Variable

2.2 Sign of quadratic expressions - Change in signs and Maximum and Minimum values

### **3. Permutations and Combinations**

Introduction

3.1 Fundamental Principle of Counting - Linear and Circular permutations

3.2 Permutations of  $n$  dissimilar things taken  $r$  at a time

3.3 Permutations when repetitions are allowed

3.4 Circular Permutations

3.5 Permutations with Constraint repetitions

3.6 Combinations - Definitions and Certain Theorems

### **4. Binomial Theorem**

Introduction

4.1 Binomial Theorem for positive integral index

### **5. Partial Fractions**

Introduction

## 5.0 Rational Fractions

5.1 Partial Fractions of  $f(x)/g(x)$ , when  $g(x)$  contains non-repeated linear factors

5.2 Partial Fractions of  $f(x)/g(x)$ , when  $g(x)$  contains repeated and I or non-repeated linear factors

5.3 Partial Fractions of  $f(x)/g(x)$ , when  $g(x)$  contains irreducible factors

## 6. Measure of Dispersion

Introduction

6.1 Range

6.2 Mean Deviation

6.3 Variance and Standard Deviation of ungrouped/grouped data

6.4 Coefficient of Variation and analysis of frequency distributions with equal means but different variances

## 7. Probability

Introduction

7.1 Random Experiments and Events

7.2 Classical definition of probability, Axiomatic approach and addition theorem of probability

7.3 Independent and Dependent events, Conditional Probability. Multiplication Theorem and Baye's Theorem

## **2.Mathematics IIB (2<sup>nd</sup> Year)**

### **1. Circle**

Introduction

1.1 Equation of a circle, standard form, centre and radius

1.2 Position of a point in the plane of a circle - Definition of a tangent

1.3 Position of a straight line in the plane of a circle

Condition for a line to be tangent

1.4 Chord of contact and polar

### **2. Parabola**

Introduction

2.1 Conic Sections

### **3. Ellipse**

Introduction

3.1 Equation of ellipse in standard form, Parametric equations

### **4. Hyperbola**

Introduction

4.1 Equation of hyperbola in standard form- Parametric equations

### **5. Integration**

Introduction

5.1 Integration as the inverse process of differentiation, standard forms and properties of integrals

5.2 Method of substitution - Integration of algebraic, exponential, logarithmic, trigonometric and inverse trigonometric functions - Integration by parts.

5.3 Integration - Partial fractions method

### **6. Definite Integrals**

Introduction

6.1 The Fundamental Theorem of Integral Calculus

6.2 Properties

6.3 Applications of definite integral to areas

## **7. Differential Equations**

Introduction

7.1 Formation of differential equations - Degree and order of an ordinary differential equation

7.2 Solving Differential Equations

7.2(a) Variables separable method

7.2(b) Homogeneous Differential Equation

7.2(c) Linear Differential Equations

## **Chemistry (2<sup>nd</sup> Year)**

### **Unit I: Solutions**

- 1.1 Types of solutions
- 1.2 Expression of concentration of solutions of solids in liquids,
- 1.3 Solubility of gases in liquids, solid solutions
- 1.4 Raoult's law
- 1.5 Colligative properties - relative lowering of vapour pressure, elevation of boiling point, depression of freezing point, osmotic pressure, determination of molecular masses using colligative properties
- 1.6 Abnormal molecular mass, Van't Hoff factor.

### **Unit II: Electrochemistry**

- 2.1 Redox reactions,
- 2.2 EMF of a cell
- 2.3 Standard electrode potential
- 2.4 Nernst equation and its application to chemical cells
- 2.5 Relation between Gibbs energy change and EMF of a cell,
- 2.6 Conductance in electrolytic solutions, specific and molar conductivity, variations of conductivity with concentration
- 2.7 Kohlrausch's Law,
- 2.8 electrolysis and law of electrolysis (elementary idea),
- 2.9 Drycell-electrolytic cells and Galvanic cells, lead accumulator, fuel cells, corrosion.

### **Unit III: Chemical Kinetics**

- 3.1 Rate of a reaction (Average and instantaneous),
- 3.2 factors affecting rate of reaction: concentration, temperature, catalyst;
- 3.3 order and molecularity of a reaction,
- 3.4 rate law and specific rate constant,
- 3.5 integrated rate equations and half-life (only for zero and first order

reactions),

3.6 concept of collision theory (elementary idea, no mathematical treatment),

3.7 activation energy,

3.8 Arrhenius equation.

#### **Unit IV: d and f Block Elements**

4.1 General introduction, electronic configuration, occurrence and characteristics of transition metals, general trends in properties of the first row transition metals-metallic character, ionization enthalpy, oxidation states, ionic radii, colour, catalytic property, magnetic properties, interstitial compounds, alloy formation, preparation and properties of  $K_2Cr_2O_7$  and  $KMnO_4$ .

4.2 Lanthanoids - Electronic configuration, oxidation states, chemical reactivity and lanthanoid contraction and its consequences.

4.3 Actinoids- Electronic configuration, oxidation states and comparison with lanthanoids.

#### **Unit V: Coordination Compounds**

5.1 Coordination compounds - Introduction,

5.2 ligands, coordination number, colour, magnetic properties and shapes,

5.3 IUPAC nomenclature of mononuclear coordination compounds.

5.4 Bonding, Werner's theory, VBT, and CFT;

5.5 structure and stereoisomerism,

5.6 importance of coordination compounds (in qualitative analysis, extraction of metals and biological system).

#### **Unit VI: Haloalkanes and Haloarenes.**

6.1 Haloalkanes: Nomenclature, nature of C-X bond, physical and chemical properties, optical rotation mechanism of substitution reactions.

6.2 Haloarenes: Nature of C-X bond, substitution reactions (Directive influence of halogen in monosubstituted compounds only).

6.3 Uses and environmental effects of - dichloromethane, trichloromethane, tetrachloromethane, iodoform, freons, DDT.

## **Unit VII: Alcohols, Phenols and Ethers**

7.1 Alcohols: Nomenclature, methods of preparation, physical and chemical properties (of primary alcohols only), identification of primary, secondary and tertiary alcohols, mechanism of dehydration, uses with special reference to methanol and ethanol.

7.2 Phenols: Nomenclature, methods of preparation, physical and chemical properties, acidic nature of phenol, electrophilic substitution reactions, uses of phenols.

7.3 Ethers: Nomenclature, methods of preparation, physical and chemical properties, uses.

## **Unit VIII: Aldehydes, Ketones and Carboxylic Acids**

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

8.2 Carboxylic Acids: Nomenclature, acidic nature, methods of preparation, physical and chemical properties; uses.

## **Unit IX: Amines**

9.1 Amines: Nomenclature, classification, structure, methods of preparation, physical and chemical properties, uses, identification of primary, secondary and tertiary amines.

9.2 Diazonium salts: Preparation, chemical reactions and importance in synthetic organic chemistry.

## **Unit X: Biomolecules**

10.1 Carbohydrates - Classification (aldoses and ketoses), monosaccharides (glucose and fructose), D-L configuration oligosaccharides (sucrose, lactose, maltose), polysaccharides (starch, cellulose, glycogen); Importance of carbohydrates.

10.2 Proteins-Elementary idea of- aminoacids, peptide bond, polypeptides, proteins, structure of proteins  
-primary, secondary, tertiary structure and quaternary structures (qualitative idea only), denaturation of proteins; enzymes. Hormones - Elementary idea excluding structure.

10.3 Vitamins-Classification and functions.

10.4 Nucleic Acids: DNA and RNA.

## **4. Physics (2<sup>nd</sup> Year)**

### **1. WAVES**

- 1.1 Introduction
- 1.2 Transverse and longitudinal waves
- 1.3 Displacement relation in a progressive wave
- 1.4 The speed of a travelling wave
- 1.5 The principle of superposition of waves
- 1.6 Reflection of waves
- 1.7 Beats

### **2. RAY OPTICS AND OPTICAL INSTRUMENTS**

- 2.1 Introduction
- 2.2 Reflection of Light by Spherical Mirrors
- 2.3 Refraction
- 2.4 Total Internal Reflection
- 2.5 Refraction at Spherical Surfaces and by Lenses
- 2.6 Refraction through a Prism
- 2.7 Optical Instruments

### **3. WAVE OPTICS**

- 3.1 Introduction
- 3.2 Huygens Principle
- 3.3 Refraction and Reflection of Plane Waves using Huygens Principle
- 3.4 Coherent and Incoherent Addition of Waves
- 3.5 Interference of Light Waves and Young's Experiment
- 3.6 Diffraction
- 3.7 Polarisation

### **4. ELECTRIC CHARGES AND FIELDS**

- 4.1 Introduction
- 4.2 Electric Charge
- 4.3 Conductors and Insulators
- 4.4 Basic Properties of Electric Charge
- 4.5 Coulomb's Law
- 4.6 Forces between Multiple Charges
- 4.7 Electric Field
- 4.8 Electric Field Lines
- 4.9 Electric Flux
- 4.10 Electric Dipole
- 4.11 Dipole in a Uniform External Field
- 4.12 Continuous Charge Distribution
- 4.13 Gauss's Law
- 4.14 Applications of Gauss's Law

### **5. ELECTROSTATIC POTENTIAL AND CAPACITANCE**

- 5.1 Introduction
- 5.2 Electrostatic Potential
- 5.3 Potential due to a Point Charge
- 5.4 Potential due to an Electric Dipole
- 5.5 Potential due to a System of Charges
- 5.6 Equipotential Surfaces
- 5.7 Potential Energy of a System of Charges
- 5.8 Potential Energy in an External Field
- 5.9 Electrostatics of Conductors
- 5.10 Dielectrics and Polarization
- 5.11 Capacitors and Capacitance
- 5.12 The Parallel Plate Capacitor
- 5.13 Effect of Dielectric on Capacitance
- 5.14 Combination of Capacitors
- 5.15 Energy Stored in a Capacitor

## **6. CURRENT ELECTRICITY**

- 6.1 Introduction
- 6.2 Electric Current
- 6.3 Electric Currents in Conductors
- 6.4 Ohm's law
- 6.5 Drift of Electrons and the Origin of Resistivity
- 6.6 Limitations of Ohm's Law
- 6.7 Resistivity of Various Materials
- 6.8 Temperature Dependence of Resistivity
- 6.9 Electrical Energy, Power
- 6.10 Cells, emf, Internal Resistance
- 6.11 Cells in Series and in Parallel
- 6.12 Kirchhoff's Rules
- 6.13 Wheatstone Bridge

## **7. MOVING CHARGES AND MAGNETISM**

- 7.1 Introduction
- 7.2 Magnetic Force
- 7.3 Motion in a Magnetic Field
- 7.4 Magnetic Field due to a Current Element, Biot-Savart Law
- 7.5 Magnetic Field on the Axis of a Circular Current Loop
- 7.6 Ampere's Circuital Law
- 7.7 The Solenoid
- 7.8 Force between Two Parallel Currents, the Ampere
- 7.9 Torque on Current Loop, Magnetic Dipole
- 7.10 The Moving Coil Galvanometer

## **8. MAGNETISM AND MATTER**

- 8.1 Introduction

- 8.2 The Bar Magnet
- 8.3 Magnetism and Gauss's Law
- 8.4 Magnetization and Magnetic Intensity
- 8.5 Magnetic Properties of Materials

## **9. ELECTROMAGNETIC INDUCTION**

- 9.1 Introduction
- 9.2 The Experiments of Faraday and Henry
- 9.3 Magnetic Flux
- 9.4 Faraday's Law of Induction
- 9.5 Lenz's Law and Conservation of Energy
- 9.6 Motional Electromotive Force
- 9.7 Inductance
- 9.8 AC Generator

## **10. ALTERNATING CURRENT**

- 10.1 Introduction
- 10.2 AC Voltage Applied to a Resistor
- 10.3 Representation of AC Current and Voltage by Rotating Vectors — Phasors
- 10.4 AC Voltage Applied to an Inductor
- 10.5 AC Voltage Applied to a Capacitor
- 10.6 AC Voltage Applied to a Series LCR Circuit
- 10.7 Power in AC Circuit: The Power Factor
- 10.8 Transformers

## **11. ELECTROMAGNETIC WAVES**

- 11.1 Introduction
- 11.2 Displacement Current
- 11.3 Electromagnetic Waves
- 11.4 Electromagnetic Spectrum

## **12. DUAL NATURE OF RADIATION AND MATTER**

- 12.1 Introduction
- 12.2 Electron Emission
- 12.3 Photoelectric Effect
- 12.4 Experimental Study of Photoelectric Effect
- 12.5 Photoelectric Effect and Wave Theory of Light
- 12.6 Einstein's Photoelectric Equation: Energy Quantum of Radiation
- 12.7 Particle Nature of Light: The Photon
- 12.8 Wave Nature of Matter

## **13. ATOMS**

- 13.1 Introduction
- 13.2 Alpha-particle Scattering and Rutherford's Nuclear Model of Atom
- 13.3 Atomic Spectra
- 13.4 Bohr Model of the Hydrogen Atom

- 13.5 The Line Spectra of the Hydrogen Atom
- 13.6 De Broglie's Explanation of Bohr's Second Postulate of Quantisation

#### **14. NUCLEI**

- 14.1 Introduction
- 14.2 Atomic Masses and Composition of Nucleus
- 14.3 Size of the Nucleus
- 14.4 Mass-Energy and Nuclear Binding Energy
- 14.5 Nuclear Force
- 14.6 Radioactivity
- 14.7 Nuclear Energy

#### **15. SEMICONDUCTOR ELECTRONICS: MATERIALS, DEVICES AND SIMPLE CIRCUITS**

- 15.1 Introduction
- 15.2 Classification of Metals, Conductors and Semiconductors
- 15.3 Intrinsic Semiconductor
- 15.4 Extrinsic Semiconductor
- 15.5 p-n Junction
- 15.6 Semiconductor Diode
- 15.7 Application of Junction Diode as a Rectifier

## **5.Botany (2<sup>nd</sup> Year)**

### **Unit-I Plant physiology**

- Chapter-1 Enzymes
- Chapter-2 Photosynthesis in higher plants
- Chapter- 3 Respiration in plants
- Chapter- 4 Plant growth and development

### **Unit- II Genetics**

- Chapter - 5 Principles of Inheritance and variation

### **Unit- III Molecular Biology**

- Chapter - 6 Molecular Basis of Inheritance

### **Unit- IV Biotechnology**

- Chapter- 7 Biotechnology: Principles and Processes
- Chapter- 8 Biotechnology and it's applications

### **Unit-V Plants, Microbes and Human welfare**

- Chapter- 9 Strategies for Enhancement in Food Production
- Chapter- 10 Microbes in Human Welfare

## **6.Zoology (2<sup>nd</sup> Year)**

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### **Unit I: Human Anatomy and Physiology-I**

#### **Unit I B: Breathing and Respiration**

Respiratory organs in animals; Respiratory system in humans; Mechanism of breathing and its regulation in humans - Exchange of gases, transport of gases and regulation of respiration; Respiratory volumes: Respiratory disorders: Asthma, Emphysema. Occupational respiratory disorders - Asbestosis, Silicosis, Siderosis, Black Lung Disease in coal miners.

### **Unit II: Human Anatomy and**

#### **Physiology-II Unit IIA Body Fluids and**

##### **Circulation**

Lymphatic system, composition of lymph and functions: Clotting of blood; Human circulatory system-structure of human heart and blood vessels; Cardiac cycle, cardiac output, double circulation; regulation of cardiac activity; Disorders of circulatory system: Hypertension, coronary artery disease, angina pectoris, heart failure.

#### **Unit IIB: Excretory products and their elimination**

Modes of excretion - Ammonotelism. Ureotelism, Uricotelism; Human excretory system - structure of kidney and nephron: Urine formation, osmoregulation; Regulation of kidney function -Renin-Angiotensin - Aldosterone system. Atrial Natriuretic Factor, ADH and diabetes insipidus: Role of other organs in excretion; Disorders: Uraemia, renal failure. renal calculi, nephritis, dialysis using artificial kidney.

### **Unit III: Human Anatomy and Physiology-III**

#### **Unit IIIA: Muscular and Skeletal system**

Skeletal muscle - ultra structure; Contractile proteins & muscle contraction; Skeletal system and its functions; Joints. (to be dealt with relevance to practical syllabus); Disorders of the muscular and skeletal system: myasthenia gravis, tetany, muscular dystrophy, arthritis, osteoporosis, gout, rigor mortis.

#### **Unit III B: Neural control and coordination.**

Nervous system in human beings - Central nervous system, Peripheral nervous system

and Visceral nervous system; Generation and conduction of nerve impulse.

#### **Unit IV: Human Anatomy and Physiology-IV**

##### **Unit IVA: Endocrine system and chemical co-ordination**

Endocrine glands and hormones; Human endocrine system - Hypothalamus, Pituitary, Pineal, Thyroid, Parathyroid, Adrenal, Pancreas, Gonads; Mechanism of hormone action (Elementary idea only); Role of hormones as messengers and regulators; Hypo and Hyper activity and related disorders: Common disorders -Dwarfism, acromegaly, cretinism, goiter, exophthalmic goiter, diabetes, Addison's disease, Cushing syndrome (Diseases & disorders to be dealt in brief).

##### **Unit IVB: Immune system**

Basic concepts of Immunology - Types of Immunity - Innate Immunity, Acquired Immunity. Active and Passive Immunity, Interferon. HIV and AIDS.

#### **Unit V: Human Reproduction**

##### **Unit VA: Human Reproductive System**

Male and female reproductive systems; Microscopic anatomy of testis & ovary: Gametogenesis "Spermatogenesis & Oogenesis; Menstrual cycle; Fertilization, Embryo development up to blastocyst formation, Implantation; Pregnancy, placenta formation. Parturition, Lactation (elementary idea).

##### **Unit VB: Reproductive Health**

Need for reproductive health and prevention of sexually transmitted diseases (STD); Birth control - Need and methods, contraception and medical termination of pregnancy (MTP); Amniocentesis; infertility and assisted reproductive technologies - IVF-ET, ZIFT, GIFT (elementary idea for general awareness).

#### **Unit VI: Genetics**

Pleiotropy; Multiple alleles: Inheritance of blood groups and Rh-factor; Co-dominance (Blood groups as example); Elementary idea of polygenic inheritance; Skin colour in humans (refer Sinnott. Dunn and Dobzhansky); Sex determination - in humans, birds, Fumea moth, Honey bees; Sex linked inheritance - Haemophilia, Colour blindness; Mendelian disorders in humans: Alkaptonuria, Thalassemia, Haemophilia, Sickle cell

anemia, cystic fibrosis PKU,; Chromosomal disorders

-Down's syndrome, Turner's syndrome and Klinefelter syndrome; Genome, Human Genome Project and DNA Fingerprinting.

### **Unit VII: Organic Evolution**

Origin of Life, Biological evolution and Evidences for biological evolution (palaeontological, comparative anatomical, embryological and molecular evidences); Theories of evolution: Lamarckism (in brief), Darwin's theory of Evolution -Natural Selection with example (Kettlewell's experiments on Biston bitularia), Mutation Theory of Hugo De Vries; Modern synthetic theory of Evolution Hardy-Weinberg law; Types of Natural Selection; Gene flow and genetic drift: Variations (mutations and genetic recombination); Adaptive radiation viz., Darwin's finches and adaptive radiation in marsupials; Human evolution; Speciation - Allopatric, sympatric; Reproductive isolation.

### **Unit VIII: Applied Biology**

Bio-medical Technology: Diagnostic Imaging (X-ray, CT scan, MRI), ECG, Application of Biotechnology in health: Human insulin and vaccine production; Gene Therapy; Transgenic animals; ELISA; Vaccines, MABs, Cancer biology, Stem cells.

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## **Proposal of New Subjects Combination**

The current curriculum of BIEAP mandates a total of six compulsory subjects for the Science stream and five compulsory subjects for the Commerce and Arts & Humanities streams, as detailed in the table below:

| <b>Subject</b>                  |                                                                                                                                                                                                                                                                                        | <b>Name of Subject</b>                                                                                                                                                                                                                                                        |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Compulsory                      | Subject 1 ( 1 <sup>st</sup> language)                                                                                                                                                                                                                                                  | English                                                                                                                                                                                                                                                                       |
|                                 | Subject 2<br>( Second language)                                                                                                                                                                                                                                                        | <b>Any one of the Following is Compulsory:</b><br>Telugu, Urdu, Hindi , Arabic, Tamil ,<br>Kannada , Oriya, Sanskrit, Persian,<br>French                                                                                                                                      |
|                                 | <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> Subject 3-----<br/>Subject 4-----<br/>Subject 5-----<br/>Subject 6----- </div> <div style="border-left: 1px solid black; padding-left: 10px;"> Humanities<br/><br/><br/><br/>Science </div> </div> | <b>Any Combination From Group A or Group B:</b> <ul style="list-style-type: none"> <li>- Group- A (Science): MPC &amp; BiPC</li> <li>- Group-B (Humanities): MEC, CEC, HEC, ECH, ECG, HCML (TEL), HCML(U), HCML(E), ECO LO CO, ECO CO PUB, LO HIS CIV, HIS GEO PUB</li> </ul> |
| Subjects of Internal Assessment | Subject 7 & 8 ( to be taken by all regular candidates)                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>- Ethics &amp; Human Values</li> <li>- Environmental education</li> </ul>                                                                                                                                                              |

### **Rationality of Reform:**

- With current combinations, students sometimes face challenges in securing admissions, as certain universities require a single language subject and four core subjects, making a total of five subjects.
- There is demand for MBiPC course from science students
- There is demand from Humanities students to give them more options in terms of combinations which can be adopted.

### **Proposal for new Subject Combinations:**

To address above mentioned issues and also to align with the NEP's emphasis on flexibility in subject selection, BIEAP plans to introduce new subject combinations which include followings:

1. **Consolidation of Papers:** Mathematics (Math A + Math B) and Biology (Botany + Zoology) will be merged into single unified papers, streamlining the curriculum.
2. **Compulsory Subjects:** Regardless of the chosen stream, students will be required to study a total of five compulsory subjects.

3. **Elective Subject:** Allowing students to choose their second subject from a list of elective subjects provided in Annexure-I. (not chosen as subject 3,4 or 5)
4. **3rd, 4th and 5th Subject: Core Subjects: Science/Humanities:**  
 Science Combinations: MPC, BiPC  
 Humanities combinations : CEC, HEC, MEC etc. (14 combinations)
5. **Introduction of an Additional Subject:** A sixth subject is proposed to add to expand learning opportunities and enhance the curriculum.

This will offer an added advantage— If a student has taken 6<sup>th</sup> subject, and if he/she fails in any one of first five subjects, the same will be replaced by the 6<sup>th</sup> subject provided the candidate satisfies the scheme of studies i.e., after replacement English should remain as one of the main five subjects.

Additional subject can be chosen from language or academic, 23 options available in the annexure -I (not chosen as core or elective subjects)

The proposed subject combinations are presented below for reference.

| <b>Subject</b>                      |                                                        | <b>Name of Subject</b>                                                                                                                                                                                          |
|-------------------------------------|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Compulsory                          | Subject 1<br>( 1st language)                           | English                                                                                                                                                                                                         |
| Elective                            | Subject 2                                              | Student can choose from 10 Languages and 13 subject options                                                                                                                                                     |
| Core                                | Subject 3<br>Subject 4 and<br>Subject 5                | Any Combination From Group A or Group B:<br>Group- A (Science): MPC & BiPC<br>Group-B (Humanities): MEC, CEC, HEC,<br>ECH, ECG, HCML (TEL), HCML(U), HCML(E), ECO<br>LO CO, ECO CO PUB, LO HIS CIV, HIS GEO PUB |
| Additional<br>Subject<br>(Optional) | Subject 6                                              | Any one elective or Language from any subject<br>not selected as Compulsory                                                                                                                                     |
| Qualifying<br>Subjects              | Subject 7 & 8 ( to be taken by all regular candidates) | Ethics & Human Values<br>Environmental education                                                                                                                                                                |

**Annexure-I: Proposed List of Elective Subjects or  
Additional Subjects**

| <b>Sl. No.</b> | <b>Subject</b>              |
|----------------|-----------------------------|
| <b>1.</b>      | <b>TELUGU</b>               |
| <b>2.</b>      | <b>URDU</b>                 |
| <b>3.</b>      | <b>HINDI</b>                |
| <b>4.</b>      | <b>SANSKRIT</b>             |
| <b>5.</b>      | <b>TAMIL</b>                |
| <b>6.</b>      | <b>KANNADA</b>              |
| <b>7.</b>      | <b>ORIYA</b>                |
| <b>8.</b>      | <b>PERSIAN</b>              |
| <b>9.</b>      | <b>ARABIC</b>               |
| <b>10.</b>     | <b>FRENCH</b>               |
| <b>11.</b>     | <b>PHYSICS</b>              |
| <b>12.</b>     | <b>CHEMISTRY</b>            |
| <b>13.</b>     | <b>BIOLOGY</b>              |
| <b>14.</b>     | <b>MATHEMATICS</b>          |
| <b>15.</b>     | <b>ECONOMICS</b>            |
| <b>16.</b>     | <b>COMMERCE</b>             |
| <b>17.</b>     | <b>HISTORY</b>              |
| <b>18.</b>     | <b>CIVICS</b>               |
| <b>19.</b>     | <b>LOGIC</b>                |
| <b>20.</b>     | <b>GEOGRAPHY</b>            |
| <b>21.</b>     | <b>SOCIOLOGY</b>            |
| <b>22.</b>     | <b>PUBLIC ADMINISTRATON</b> |
| <b>23.</b>     | <b>FINE ARTS, MUSIC</b>     |

## **Proposed Changes in Examination Marks Pattern**

The current marking pattern of Board Exams of BIEAP is detailed in the table below:

| Subjects         | 1st Year       |      |              |                  |
|------------------|----------------|------|--------------|------------------|
|                  | Science Theory |      | Subjects     | Humanities (CEC) |
|                  | MPC            | BiPC |              |                  |
| English          | 100            | 100  | English      | 100              |
| 2nd Language     | 100            | 100  | 2nd Language | 100              |
| Maths –A/Botany  | 75             | 60   | Commerce     | 100              |
| Maths –B/Zoology | 75             | 60   | Eco          | 100              |
| Physics          | 60             | 60   | Civics       | 100              |
| Chemistry        | 60             | 60   | --           | --               |
| Total            | 470            | 440  | Total        | 500              |

| Subjects             | 2nd Year       |      |           |              |                  |
|----------------------|----------------|------|-----------|--------------|------------------|
|                      | Science Theory |      | Practical | Subjects     | Humanities (CEC) |
|                      | MPC            | BiPC |           |              |                  |
| English              | 100            | 100  | --        | English      | 100              |
| 2nd Language         | 100            | 100  | --        | 2nd Language | 100              |
| Maths –A/<br>Botany  | 75             | 60   | 30 (BiPC) | Commerce     | 100              |
| Maths –B/<br>Zoology | 75             | 60   | 30 (BiPC) | Eco          | 100              |
| Physics              | 60             | 60   | 30        | Civics       | 100              |
| Chemistry            | 60             | 60   | 30        | --           | --               |
| Total                | 470            | 440  | 60/120    | --           | 500              |

As per above, total marks for 1<sup>st</sup> year + 2<sup>nd</sup> year is 1000.

- MPC: 470 (1<sup>st</sup> year)+[470+60] (2<sup>nd</sup> year)=1000;
- BiPC: 440 (1<sup>st</sup> year)+[440+120] (2<sup>nd</sup> year)=1000;
- Humanities: 500 (1<sup>st</sup> year)+500 (2<sup>nd</sup> year)=1000

It is proposed to realign the subject wise total marks and weightage between theory exams and internal/practical exams as per the CBSE pattern.

### **Rationality of Reform:**

- As per the CBSE marking pattern, marking pattern for the BIE Board exams is proposed to be revised to ensure a balanced distribution of marks between theory and internal/practical assessments.
- This will help in developing critical thinking and research ability in the students.
- The proposal is in line with the NEP 2020 guidelines, which advocates for assessment of higher-order thinking skills such as analysis, critical thinking, and problem-solving, alongside descriptive elements for a deeper understanding,

### **Proposed Change in Examination Marks Pattern:**

- For languages and for core subjects in the Humanities stream, such as Civics, Commerce, History, and Economics, the division will be 80 marks for theory and 20 marks for internal assessments (Project Work/Research Activity)
- In total, each stream will have 500 marks: the Humanities group will be allocated 400 marks for theory and 100 marks for internal assessments. MPC group will have 380 marks for theory and 120 marks for internal/practical assessments and BiPC group will have 370 marks for theory and 130 marks for internal/practical assessments. Details shown below:

| Subjects                       | Board Exam |                        |        |                        |                                 |            |                        |
|--------------------------------|------------|------------------------|--------|------------------------|---------------------------------|------------|------------------------|
|                                | MPC        |                        | BiPC   |                        | Subjects                        | Humanities |                        |
|                                | Theory     | Internal/<br>Practical | Theory | Internal/<br>Practical |                                 | Theory     | Internal/<br>Practical |
| English                        | 80         | 20                     | 80     | 20                     | English                         | 80         | 20                     |
| Elective Subject               | 80         | 20                     | 80     | 20                     | Elective Subject                | 80/70      | 20/30                  |
| Maths /Biology                 | 80         | 20                     | 70     | 30                     | Core Sub.1                      | 80         | 20                     |
| Physics                        | 70         | 30                     | 70     | 30                     | Core Sub. 2                     | 80         | 20                     |
| Chemistry                      | 70         | 30                     | 70     | 30                     | Core Sub.3                      | 80         | 20                     |
| Additional Subjects (Optional) | -          | -                      | -      | -                      | Additional Subjects ( Optional) | -          | -                      |
| Total (500)                    | 380        | 120                    | 370    | 130                    | Total (500)                     | 400        | 100                    |

- Further, in line with the NEP 2020 guidelines, which advocate for exams that assess higher-order thinking skills such as analysis, critical thinking, and problem-solving, alongside descriptive elements for a deeper understanding, BIEAP has proposed the following changes:
  - Introduction of 1-mark questions in the form of multiple-choice questions (MCQs), fill-in-the-blanks, and one-word answers.
  - Revision of essay-type questions, reducing the marks allocated from 8 to 5/6 marks.