

## **Mathematics**

1. Sets
2. Relations and functions
3. Trigonometric Functions
4. Inverse Trigonometric Functions
5. Principle of Mathematical Induction
6. Complex Numbers and Quadratic Equations
7. Linear Inequalities
8. Permutations and Combinations
9. Binomial Theorem
10. Sequences and Series
11. Straight Lines
12. Conic Sections
13. Introduction to Three Dimensional Geometry
14. Limits and Derivatives
15. Mathematical Reasoning
16. Statistics
17. Probability
18. Matrices
19. Determinants
20. Continuity and Differentiability
21. Application of Derivatives
22. Integrals
23. Applications of integrals
24. Differential equations
25. Vectors
26. Three dimensional geometry
27. Linear Programming

## **Physics**

1. Physical World and Measurement
2. Kinematics
3. Laws of Motion
4. Work, Energy and Power
5. Motion of Systems of Particles and Rigid body
6. Gravitation
7. Properties of bulk matter
8. Thermodynamics
9. Behavior of perfect gas and kinetic energy
10. Oscillations
11. Waves
12. Electrostatics
13. Current Electricity
14. Magnetic effect of current and magnetism
15. Electromagnetic Induction
16. Alternating Current
17. Electromagnetic Waves
18. Optics
19. Dual Nature of Radiation and Matter
20. Atoms
21. Nuclei
22. Electronic devices
23. Communication Systems

## **Chemistry**

1. Some Basic Concept of Chemistry
2. Structure of Atom
3. Classification of Elements and Periodicity in Properties
4. Chemical Bonding and Molecular Structure
5. States of Matter
6. Thermodynamics
7. Equilibrium
8. Redox Reactions
9. Hydrogen
10. The s-block Elements
11. The p-block Elements
12. Organic Chemistry – Some Basic Principles and Techniques
13. Hydrocarbons
14. Environmental Chemistry
15. The solid state
16. Solutions
17. Electrochemistry
18. Chemical Kinetics
19. Surface chemistry
20. General principles and processes of isolation of elements
21. The p-block elements
22. The d- & f-block elements
23. Coordination compounds
24. Haloalkanes and haloarenes
25. Alcohols, phenols and ethers
26. Aldehydes, ketones and carboxylic acids
27. Organic compounds containing nitrogens
28. Biomolecules
29. Polymers
30. Chemistry in everyday life

## **Biology**

1. Diversity in the living world
2. Structural organization in animals and plants
3. Cell structure and function
4. Plant physiology
5. Human physiology
6. Reproduction
7. Genetics and evolution
8. Biology and human welfare
9. Biotechnology and its application
10. Ecology and environment