

Contents

● Previous Years' Papers Fully Solved

MATHEMATICS

● Algebra	3–71
1. Sets	3
2. Relation	8
3. Complex Numbers	13
4. Arithmetic Progression	19
5. Geometric Progression	25
6. Harmonic Progression	31
7. Miscellaneous Series	35
8. Permutations and Combinations	40
9. Quadratic Equations	45
10. Binomial Theorem	50
11. Binary Number System	57
12. Representation of Real Numbers on a line	60
13. Linear Inequations in two variables	64
● Matrices and Determinants	72–85
● Trigonometry	86–115
1. Identities and Trigonometric Ratios	86
2. Simple Identities	95
3. Properties of Triangles	99
4. Inverse Trigonometrical Functions	104
5. Height and Distance	109
● Coordinate Geometry	116–155
1. Rectangular cartesian coordinates and straight lines	116
2. The Circle	121
3. The Parabola	125
4. The Ellipse	130
5. The Hyperbola	135
6. Geometry of Three Dimensions	140
7. The Plane	145
8. The Sphere	152
● Differential Calculus	156–209
1. Function	156
2. Limit and Continuity	164
3. Differentiation	182

4. Increasing and Decreasing, Maxima and Minima	194
---	-----

● Integral Calculus and Differential Equations	210–248
1. Indefinite Integrals	210
2. Definite Integrals	223
3. Differential Equations	233
4. Problems on applications of differential Equation growth and Decay	246
● Vector Algebra	249–263
● Statistics and Probability	264–273
Frequency Distribution, mean, median, mode and standard deviation	264
● Graphical Representation	274–292
1. Histogram, Frequency Polygon and Pie chart	274
2. Correlation and Regression	281
3. Probability	284

GENERAL ENGLISH

1. Common Error	2–34
— Articles, Nouns, Pronouns	2
— Adjectives, Adverbs, Adverbial order	8
— Verb, Infinitive, Verbal noun, Gerund, Participle	13
— Conjunctions, Prepositions	19
— Miscellaneous Sentences	24
2. Antonyms	35–40
3. Synonyms	41–47
4. Sentence Completion	48–57
5. One Word Substitution	58–61
6. Comprehension	62–75
7. Passage Completion	76–80
8. Completion of Paragraphs and Sentences	81–88

GENERAL KNOWLEDGE

● History and Culture	3–17	10. Wave Motion	52–56
● Indian Polity and Constitution	18–40	11. Electrostatics	57–64
● Indian National Movement	41–54	12. Current Electricity	65–69
● Geography	55–68	13. Thermal and Chemical Effects of Current	70–72
— Geography of India	55	14. Magnetic Effect of Current	73–76
— World Geography	63	15. Magnetism	77–79
● Indian Economy	69–79	16. Electromagnetic Induction and Alternating Current	80–84
● International Organisation	80–81	17. Electromagnetic Waves	85–86
● Books and Authors	82–85	18. Ray Optics and Optical Instruments	87–95
● Awards	86–89	19. Electrons and Photons	96–98
● Sports	90–93	20. Atoms, Molecule and Nuclei	99–102
● Final Population Results–Census of India 2011	94–96	21. Solids and Semiconductor Devices	103–105
● Physics	1–140	22. Primary and Secondary Cells	106–113
1. Measurement and Dimensional Analysis	3–7	23. X-rays	114–116
2. Rectilinear Motion	8–12	24. General Physics	117–139
3. Motion in Two and Three Dimensions	13–19	● Chemistry	1–60
4. Laws of Motion	20–26	— General Chemistry	3
5. Work, Energy and Power	27–31	— Physical Chemistry	16
6. Rotatory Motion of Rigid Body	32–35	— Inorganic Chemistry	28
7. Gravitation	36–40	— Organic Chemistry	42
8. Heat and Thermodynamics	41–47	● General Science	1–16
9. Oscillations	48–51		