

CONTENTS

● Previous Year's Solved Paper

Physics

● Important Formulae

General Properties of Matter

1. Dimensional Analysis	8–13
2. Vector Analysis and Projectile Motion	14–18
3. Uniform Circular Motion	19–24
4. Universal Gravitation	25–29
5. Motion of Satellite : Escape Velocity	30–35
6. Rotatory Motion of Rigid Body	36–40
7. Simple Harmonic Motion	41–48
8. Kinetic Theory of gases, Atmospheric Pressure and Boyle's Law	49–55
9. Elasticity	56–60
10. Surface Tension	61–64
11. Flow of Liquids–Bernoulli's Theorem	65–69
12. Work, Energy and Momentum	70–75
13. Archimede's Principle	76–80

Heat

14. Thermodynamics	81–85
15. Isothermal and Adiabatic Process	86–89
16. Thermal Conduction	90–94
17. Thermometry	95–99
18. Expansion of Solids, Liquids and Gases with Temperature	100–103
19. Calorimetre, Specific heat, Latent heat, Change of State	104–108
20. Vapour Pressure and Liquefaction of Gases	109–111

Light

21. Photometry	112–115
22. Refraction of Light at Spherical Surface : Lenses	116–122
23. Dispersive Power and Chromatic Aberration	123–128
24. Telescope and Microscope	129–132

25. Wave Nature of Light	133–136
26. Polarisation of Light Waves	137–139
27. Superposition of Waves : Interference	140–143

Sound

28. Speed of Mechanical Waves	144–146
29. Progressive Waves	147–151
30. Superposition of Waves : Beats	152–154
31. Vibrations of Air Columns	155–161
32. Vibrations of Stretched Strings	162–168
33. Doppler's Effect	169–172

Electric and Electric Magnetism

34. Electric Field and Potential	173–182
35. Electrical Capacitance	183–189
36. Electrical Conduction	190–194
37. Faraday's Laws of Electrolysis	195–197
38. Secondary Cells	198–200
39. Heating and Magnetic Effect of Electric Current	201–206
40. Simple Circuits	207–213
41. Moving Charges and Magnetic Field	214–217
42. Magnetism	218–221
43. Electromagnetic Induction	222–225
44. Alternating Current	226–231
45. Musical Instruments, Microphone and Ultrasonics	232–234
46. Diodes and Triodes	235–239
47. Cathode Rays and Positive Rays	240–243
48. Photo Electric Effect	244–247
49. Radiation	248–251
50. Structure of the Atom	252–255
51. Origin of Spectra	256–260
52. X-Rays	261–263
53. Radioactivity	264–269
54. Structure of the Nucleus	270–273
55. Nuclear Energy	274–276

Chemistry

● Important Formulae	3–4	21. Elements of Nitrogen Family (Ammonia, Nitric Acid)	148–155
1. Atomic Structure	5–12	22. Elements of Oxygen Family	156–160
2. Valency	13–19	23. Halogens	161–164
3. Radioactivity and Nuclear Energy	20–26	24. Coinage Metals	165–168
4. Oxidation and Reduction	27–32	25. Elements of Zinc Family	169–171
5. Chemical Equilibrium	33–42	26. Iron	172–176
6. Ionic Equilibrium	43–52	27. Transition Elements	177–178
7. Chemical Kinetics	53–57	28. Inert Gases	179–182
8. Calculations based on Chemical Equations and Volumetric Analysis	58–73	29. Purification of Organic Compounds, Element direction, Empirical Formula and Molecular Formula	183–188
9. Gaseous State	74–81	30. Organic Reactants Reactions, Classification of Compounds and Nomenclature	189–194
10. Thermo-chemistry	82–87	31. Isomerism	195–201
11. Electrode Potential and Electrochemical Series	88–92	32. Alkanes, Alkenes and Alkynes	202–209
12. The Colloidal State	93–96	33. Halogen Derivatives of Alkanes	210–214
13. Catalysis	97–101	34. Alcohols	215–222
14. Solution and Distribution Law	102–109	35. Aldehydes and Ketones	223–228
15. Periodic Classification and Periodic Properties of Elements	110–118	36. Monocarboxylic Acids and Derivatives of Fatty Acids	229–234
16. Ores and Extraction of Metals	119–123	37. Aliphatic Amines	235–239
17. Hydrogen and its Compounds	124–128	38. Fats, Oils, Wax, Soaps and Urea	240–243
18. Alkali Metals, Alkaline Earth Metals and Their Compounds	129–136	39. Carbohydrate and Our Food	244–247
19. Aluminium and Alums	137–141	40. Ethers	248–249
20. Elements of Carbon Family (White and Red Lead)	142–147	41. The Aromatic Compounds	250–260
		42. Petroleum	261–264

Biology (Botany & Zoology)

General Informations	3–34	True and False Fishes	23
Major Sub-divisions of Biology	3	True and False Worms	23
Important Branches of Biology	3	Important Dental Formulae	24
Important Diseases	8	Some Important Facts About Human Body	25
Some Interesting Plants & Animals	15	Various Types of Larvae	27
Nobel Prize Winners	18	Important Canals and Ducts	27
Some Important Abbreviations	20	Some Economically Important Plants	28
Father of Various Branches of Biology	21	Some Plants yielding Fatty Oils	29
Some Important Connecting Links	22	Important Resin yielding Plants	30
Zoo and Museums	22	Beverages	30
Famous Research Institute in India	23	Important Commercial Woods	31

Some Important Fumitories and Masticatories	31	UNIT 5	
International Research and Germplasm Centres for Major World Crops	33	Multicellularity : Structure and Function—Plant Life	93 – 115
Type of Cancer	34	UNIT 6	
Important Vaccines	34	Multicellularity : Structure and Function—Animal Life	116 – 136
Average Life Span of various Animals and Plants	34	UNIT 7	
Exceptions in Biology	34	Continuity of Life	137 – 150
UNIT 1		UNIT 8	
The Living World	35 – 42	Origin and Evolution of Life	151 – 164
UNIT 2		UNIT 9	
Unity of Life	43 – 62	Application of Biology	165 – 181
UNIT 3		Explanation of Some Important Problems	182 – 205
Diversity of Life	63 – 76	Assess Your Studies Through Figures	206 – 216
UNIT 4			
Organism and Environment	77 – 92		