ACCELERATED
LEARNING PROGRAMME (ALP)

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生 产 اميربهاردك（ أررووواءرواثش（10－9）：




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## ENGLISH

## Unit \# 1: The Saviour of Mankind

Class work: Comprehension (Exercise: A, Q/A's: 1-4), Vocabulary, Dictionary Skills, Grammar, Writing Skills, Oral Communication Skills
Home work: Reading for Comprehension (Q/A's: 5-8)
Unit \# 2: Patriotism
Class work: Comprehension (Exercise: A), Grammar, Writing Skills, Oral Communication Skills
Home work: Vocabulary
Unit \# 4: Hazrat Asma (R.A)
Class work: Oral Activity, Stress and Intonation, Dictionary Skills, Comprehension
(Exercise: A, B, D), Grammar, Writing Skills, Oral Communication Skills
Home work: Comprehension (Exercise: C), Vocabulary
Unit \# 5: Daffodils
Class work: Oral activity, Comprehension (Exercise: A), Figures of Speech (Exercise: A, B), Vocabulary (Exercise: A, B, C), Grammar, Writing Skills, Oral Communication Skills
Home work: Figures of Speech (Exercise: C, D),
Unit \# 6: The Quaid's Vision and Pakistan
Class work: Oral Activity, Comprehension (Exercise: A), Vocabulary (Exercise: D, E), Dictionary Skills, Grammar, Writing Skills, Oral Communication Skills
Home work: Vocabulary (Exercise: A, B, C),

## Unit \# 7: Sultan Ahmad Masjid

Class work: Oral Activity, Comprehension, Grammar, Writing Skills, Oral Communication Skills
Home work: Vocabulary,

## (Grammar \& Composition)

## Letters

Class Work: To your Mother who is worried about your health, To your sister congratulating her on her success in the exam, To your father requesting him to send you some extra funds for the payments of hostel dues
Home work: To your friend congratulating him/her on birthday, To your friend requesting him/her to lend you some books, To your friend condoling the death of his/her mother, To your sister thanking her for a gift
Story Writing
Class work: A Farmer and His Sons, The Kindness of Rasool Robbers Turned into Good Citizens, A Friend in need is a Friend Indeed, The Muslim Brotherhood, Home work: The Boy who cried "Wolf", Dialogue Writing, Between A Teacher and Student, Between Two students regarding Salaht

## Comprehension of a Passage:

Class work: (III), (IV), (V)
Home work: (VII), (IX), (X)
Comprehension of a Passage Exercise:
Class work: (3), (5), (7)
Homework: (9), (13), (15)
Translation (Tense), Active and Passive Voice
Class work: Practice will be given
Homework: Practice will be given

## MATHEMATICS (Science Group)

## UNIT - 1: Matrices and Determinants

Class Work: Exercise:1.1,Q:1(C), Q:3 Exercise:1.2, Q:4(A), Q:5(B),Q:6(i),
Exercise:1.3,Q:1(A), Q:2(B), Q:3(ii), Q:4(ii), Q:5(x), Q:8(i), Exercise:1.4, Q:1(i,v), Q:4(a), Q:5(ii), Execise:1.5, Q:1(ii), Q:2(i),Q:3(i), Q:6(i), Exercise: 1.6, Q:1(iii), Q:4
Home Work: Exercise:1.1,Q:1(G,H),Q:3,Exercise:1.2,Q:1-3, Q:4(D), Q:5 (C,E)
,Q:6(ii), Exercise:1.3,Q:1(B-F), Q:2(C,F), Q:3(iv,vi), Q:4(vi), Q:5 (vi-ix),
Q:8(ii,vi), Exercise:1.4, Q:1(ii-iv), Q:4(d,e), Q:5(iv), Q:6(ii),
Execise:1.5,Q:2(ii-iv), Q:3(iii, iv), Q:6(ii), Exercise: 1.6: Q:1(i,v), Q:3, Review
Exercise:1, Q:1, Q:3 Q:5, Q:7(ii)
UNIT - 2: Real and Complex Numbers
Class Work: Exercise:2.1,Q:1(i,iii),Q:2(iii),Q:3(ii),:4(i),Q:6(ii),

Exercise:2.3,Q:1(i), Q:2(i), Q:3(ii), Exercise:2.4, Q:1(i), Q:3(ii), Exercise:2.5, Q:1(ii),Q:2(iii),Q:3(ii),Exercise:2.6, Q:1(v), Q: 2(iii), Q:3(i), Q:4(iii), Q:6(ii), Q:7(i)
Home Work: Exercise:2.1,Q:1(ii-vi),Q:2(iv,vi),Q:3(iii,v),: 4(ii,iv), Q:6(iii), Exercise:2.3, Q:1(iii), Q:2(ii), Q:3(iii), Exercise:2.4, Q:1(iv), Q:3(iii), Exercise:2.5, Q:1(iv,vi), Q:2(v,vi), Q:4, Exercise: 2.6, Q:1(vi), Q:2(iv), Q:3(iv), Q:6(vi), Q:7(ii), Review Exercise:2, Q:1, Q:3(ii,iv), Q:4, Q:5
UNIT -3: Logarithms
Class Work: Exercise:3.1,Q:1(iv),Q:2(ii), Exercise:3.2, Q:2(iii),Q:4(ii), Q:6(i),
Exercise:3.3,Q:1(iii), Q:3(ii),Q:4(i), Q:5(iii), Exercise:3.4, Q:1(i),Q:4
Home Work: Exercise:3.1,Q:1(v),Q:2(ii), Exercise:3.2, Q:2(iv), Q:6(iv,v),
Exercise:3.3,Q:1(v,vi),Q:3(iv),Q:4(ii), Q:5(iv), Exercise:3.4, Q:1(iii,v,viii),
Review Exercise:3, Q:1, Q:3, Q:5(ii), Q:6(i,iii)
UNIT- 4: Algebraic Expressions and Algebraic Formulas
Class Work: Exercise:4.1, Q:1(iv), Q:2(i), Q:3(iii), Q:4(b), Q: 6(v), Exercise:4.2, Q:3,13,14(i) Exercise:4.3, Q:1(iv), Q:2(v), Q:3(iv), Q:4(v),
Exercise:4.4,Q:1(i), Q:2(iii), Q:3(iii), Q:5(i),
Home Work: Exercise:4.1, Q:1(ii), Q:2(iii), Q:3(i,vi), Q:6(i,iii), Exercise:4.2,
Q:5,8,11, 14(ii), Exercise:4.3, Q:1(ii), Q:2(i), Q:3(i), Q:4(i,iv),
Exercise:4.4,Q:1(vi,vii), Q:2(vii,viii), Q:5(ii),Review Exercise:4,Q:1, Q:4(ii), Q:5,
Q:6(iv), Q:7(iii), Q:8(i)

## UNIT -5: Factorization

Class Work: Exercise:5.1,Q:1(ii), Q:3(ii), Q:4(ii), Q:5(ii),
Exercise: 5.2,Q:1(iii), Q:2(i), Q:3(v), Q:4(iii), Q:5(ii), Q:6(i),
Exercise:5.3,Q:1(iv), Q:4,Exercise: 5.4, Q:2,
Home Work: Exercise:5.1,Q:1(v,vi), Q:3(iv),
Q:4(iv), Q:5(v,vi), Exercise:5.2,Q:1(v), Q:2(iv), Q:3(iv), Q:4
(v), Q:5(iv), Q:6(iv),Exercise:5.3,Q:1(i,v), Exercise: 5.4, Q:8,

Review Exercise: 5,Q:1,Q:3(ii,v,ix),
UNIT- 6: Algebraic Manipulation
Class Work: Exercise:6.1,Q:1(ii),Q:2(v), Q:4(ii), Q:5(iii),Q:6,
Exercise: 6.2, Q:1,11, Exercise:6.3, Q:1(v), Q:2(v),Q:3(ii),
Home Work: Exercise:6.1,Q:1(ii),Q:2(i,iv),Q:3(i), Q:5(iv), Q:8,
Exercise: 6.2,Q:,4,6, Exercise:6.3, Q:1(i,ii,vi), Q:2(i,ii), Q:4(i),
Review Exercise:6,Q:2,Q:6(i),Q:7
UNIT -7: Linear Equations and Inequalities
Class Work: Exercise:7.1, Q:1 (i,ix), Q:2(v), Exercise:7.2, Q:2(iii,viii),
Exercise:7.3, Q:1(ii), Q:2(iii)

Home Work: Exercise:7.1, Q:1 (ii,v,vi,x), Q:2(i,ii,viii), Exercise:7.2,
Q:2(v,vii),Exercise:7.3, Q:1(iv), Q:2(iv), Review Exercise:7, Q:1, Q:3(i,iii), Q:5(i) UNIT-8: Linear Graph \& Their Application
Class Work: Exercise:8.1, Q:1, Q:2 (ii), Q:3(i), Q:4(b), Q:5(ii),
Exercise:8.2, Q:3(b), Q:4(iii), Exercise:8.3, Q:1,
Home Work: Exercise:8.1, Q:2 (iii,vii,viii), Q:3(v), Q:4(c), Q:5(v), Exercise:8.2,
Q:3(e), Q:4(iv),Exercise:8.3, Q:4, Review Exercise:8, Q:1, Q:4(ii,v)
UNIT-9: Introduction to Coordinate Geometry Descriptive Geometry
Class Work: Exercise:9.1,Q:1(a),Q:2(ii),Exercise:9.2,Q:1,10,
Exercise:9.3,Q:1(a),Q:3,
Home Work: Exercise:9.1,Q:1(c,f),Q:2(iii,vi), Exercise:9.2, Q:3,4,9,
Exercise:9.3,Q:1(d,f), Review Exercise:9, Q:1,Q:3(ii),Q:4(i,ii), Q:5
UNIT-10: Congruent Triangles
Class Work: Review Exercise: Q:(3,4)
Home Work: Review Exercise: Q:(2,5)
UNIT-11:Parallelograms and Triangles
Class Work: Review Exercise: Q:(3,4)
Home Work: Review Exercise: Q:(5,6)
UNIT-12: Line Bisectors and Angle Bisectors
Class Work: Theorem 12.1.2, Theorem 12.1.4 Review Exercise: Q:4
Home Work: Theorem 12.1.2, Theorem 12.1.4 Review Exercise: Q:5
UNIT-13: Sides and Angles of a Triangle
Class work: Review Exercise: Q:(3,5)
Home work: Review Exercise: Q:(2,4)
UNIT-14: Ratio and Proportion
Class Work: Review Exercise: Q:(3,5,6)
Home Work: Review Exercise: Q:2
UNIT-15: Pythagoras' Theorem
Class Work: Exercise:15, Q:1(i), Q:3, Q:6 (ii), Q:7
Home Work: Exercise:15, Q:1(iv), Q:8 Review Exercise: Q:2
UNIT-16: Theorem Related with Area
Class Work: Review Exercise: Q:2 (i,ii), Q:3
Home Work: Review Exercise: Q:2 (iii,iv)
UNIT-17: Practical Geometry-Triangles:
Class Work: Exercise:17.1, Q:1(iv), Q:2(ii), Q:4(ii,iii), Q:5(i), Exercise: 17.2,Q:1(ii), Q:2(iii), Q:3(i), Q:4 (ii), Exercise:17.3,Q:1(ii)Q:3, Exercise: 17.5,Q:1 Home Work: Exercise:17.1, Q:1(i,vi,vii), Q:4(iii), Q:5(ii),Exercise:17.2, Q:3(ii),Q:4 (iii), Exercise:17.3,Q:1(i), Exercise:17.5,Q:4,6,Review Exercise:17, Q:2,Q:3

## MATHEMATICS (Arts Group)

UNIT-1: Percentage, Ratio and Proportion
Class Work: Exercise:1.1, Q:1(iii,xi), Q:2(iv,xii), Q:3(i), Q:4(xii), Exercise:1.2, Q:1,9, Exercise:1.3, Q:1(i), Q:2(i,ix), Exercise:1.4,Q:1,9, Exercise:1.5,Q:1,11
Home Work: Exercise:1.1, Q:1(v,ix,xii), Q:2(vi,ix,xi), Q:3(iii,iv,x,xi),
Q:4(i,iii,v,xi), Exercise:1.2, Q: 3,6,7, Exercise:1.3, Q:1(iv,vi), Q:2(ii,iii,viii),
Exercise:1.4,Q: 3,5,6, Exercise:1.5,Q: 2,5,6,10,Review Exercise: 1, Q:1,Q:3,Q:6
UNIT-2: Zakat, Ushr and Inheritance
Class Work: Exercise:2.1,Q:1,7,12
Home Work: Exercise:2.1,Q:,3,6, 9,10, Review Exercise:2,Q:1, Q:3, Q:5
UNIT-3: Business Mathematics
Class Work: Exercise:3.1,Q:1(iii),Q:3(ii), Q:5,Exercise:3.2, Q:1(ii),
Q:6,„Exercise:3.3:Q:1,5
Home Work: Exercise:3.1,Q:1(i,v),Q:3(iv,v), Q: 7,Exercise:3.2, Q:2(iii), Q:4,
8,Exercise:3.3:Q:3 Review Exercise:3, Q:1, Q:3, Q:4
UNIT-4: Financial Mathematics
Class Work: Exercise:4.1,Q:4,Exercise:4.2, Q:1,10,14, Exercise:4.3,Q:3,
Exercise:4.4,Q:4,7Exercise: 4.5,Q:5(ii)
Home Work: Exercise:4.1,Q:5,Exercise:4.2, Q: 3,6 ,12,
Exercise:4.3,Q:1,6,9,Exercise:4.4,Q:3,8,Exercise: 4.5, Q:2(ii), Review
Exercise:4,Q:1,Q:3
UNIT-5:Consumer Mathematics
Class Work: Exercise:5.1,Q:1,6,Exercise:5.2, Q:1(i),Q:2(ii), Q:3(ii), Exercise:5.3,Q:6(ii)
Home Work: Exercise:5.1,Q:2, 8,Exercise:5.2, Q:1(ii,vi), Q:2(iii), Q:3(v,vi),
Exercise:5.3,Q:2,5,Review Exercise: 5,Q:1,Q:3,Q:4
UNIT-6: Exponents and Logarithms
Class Work: Exercise:6.1, Q:1(ii),Q:2(iii), Q:3(iii), Q:4(iii,vii, ,xi),Q:5(viii,ix,xi,), Exercise:6.2,Q:1(ii), Q:3,15,18,27(iii),Q:28(ii),Q:29 (iii), Exercise:6.3, Q:8,10, 15, Exercise:6.4, Q:1 (i), Q:2(ii), Q:3(ii), Q:4(iii), Exercise:6.5, Q:2(ii), Q:4(ii), Q:5(ii), Q:8(i), Q:10
Home Work: Exercise:6.1, Q:1(v,vi),Q:2(iv), Q:3(ii,vii,viii), Q:4(i, ,viii, xii),Q:5(ii,iv,xiii),

Exercise:6.2,Q:1(v,vi),Q:6,9,13, 17,18,21,24,26,27(i,vi),Q:28(i, , v), Q:29 (i,iv,viii), Exercise:6.3, Q:1,4 ,12,13, Exercise:6.4, Q:1 (ii,vi), Q:2(i, v),Q:4(ii), Exercise:6.5,Q:1(ii), Q:2(iv,v), Q:3(ii), Q:5(iv), Q:8(v,vi), Review Exercise:6, Q:1,Q:3(i), Q:4(ii),Q:6(i,ii)
UNIT-7: Arithmetic and Geometric Sequences
Class Work: Exercise:7.1, Q:1 (iv), Q:2(ii), Q:3(v), Exercise:7.2, Q:1(ii), Q:2(ii), Q:5(vii),Exercise:7.3. Q:1(ii), Q:5, Exercise:7.4, Q:3,12,
Execise:7.5,Q:1(iii),Q:3(ii), Q:4,12

Home Work: Exercise:7.1, Q:1 (i,viii,ix),Q:2(v,vi), Q:3(i,ii), Exercise:7.2, Q:1(iii,v), Q:2(i,iv,vi), Q:5(ix),Exercise:7.3. Q:1(iv), Q:3,7,8, Exercise:7.4, Q:1,4,8,10, Exercise:7.5,Q:2(ii),Q:4,12, Review Exercise:7, Q:1, Q:3,Q:5,Q:7 UNIT-8: Sets and Functions
Class Work: Exercise:8.1,Q:5, Exercise:8.2,Q:4,5
Home Work: Exercise:8.1,Q:6,7, Exercise:8.2,Q:2,7, Review Exercise:8, Q:1, Q:4, Q:5 UNIT -9: Linear Graph
Class Work: Exercise:9.1,Q:1(i),Q:3(ii), Exercise:9.2, Q: 2 ,Q:11(i), Exercise:9.3, Q:1(a),Q:3(a)
Home Work: Exercise:9.1,Q:1(iv,vi,viii),Q:3(iii), Exercise:9.2, Q:1, 5,9,Q:12, Exercise:9.3, Q:1(b),Q:3(b), Review Exercise:9, Q:1,Q:3(i), Q:4(iii,iv)
UNIT -10: Basic Statistics
Class Work: Exercise:10.1,Q:1, Exercise:10.2, Q:1(i), Q:3, Exercise:10.3,Q:1(i), Exercise:10.4,Q:1(i),
Home Work: Exercise:10.1,Q:3, Exercise:10.2, Q:1(iii), Q:3,
Exercise:10.3,Q:1(iv), Exercise:10.4,Q:1(iv,v), Review Exercise: 10, Q:1,Q:3,Q:5

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حميثنُمبر 3

 حمدتُ: 4

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Chapter 1: Physical Quantities and Measurement
Physical Quantities, Base Quantities, Derived Quantities, International System of Units, Base Units, Derived Units, Prefixes, Scientific Notation, Vernier Callipers, Significant Figures, Example: 1.4

## Exercise:

Class Work: Q 1.1: (iv, v, vii, x) (1.4-1.7, 1.9-1.11, 1.13), Problems: (1.2, 1.3, 1.6, 1.8)
Home Work: Q 1.1: (i-iii, vi) (1.2, 1.3, 1.5, 1.8, 1.12), Problems: (1.4, 1.5, 1.9)
Chapter 2: Kinematics
Rest and Motion, Scalars and Vectors, Terms Associated with Motion, Graphical Analysis of Motion
Distance-Time Graph, Speed-Time Graph, Equations of Motion, Motion of Freely Falling Bodies, Examples: 2.4-2.10
Exercise:
Class Work: Q 2.1: (iv-vii, ix, x, xii) (2.6-2.8, 2.13), Problems: (2.3-2.5, 2.7, 2.8)
Home Work: Q 2.1: (iii, viii-xi) (2.4, 2.5, 2.9, 2.10), Problems: (2.1, 2.2, 2.6)

## Chapter 3: Dynamics

Force, Inertia and Momentum, Newton's Laws of Motion, Mass and Weight, Force and Momentum, Law of Conservation of Momentum and its Daily Life Applications, Friction, Coefficient of Friction ( $\mathrm{F}=\mu \mathrm{R}$ ), Rolling Friction, Centripetal Force, Examples: 3.1, 3.3, 3.6
Exercise:
Class Work: Q 3.1: (iii, viii) (3.3, 3.5-3.10, 3.12, 3.13, 3.17), Problems: $(3.5,3.9)$
Home Work: Q 3.1: (I, ii, v, vii-ix) (3.2, 3.4, 3.11, 3.14-3.17), Problems: (3.1-3.4, 3.8, 3.10) Chapter 4: Turning Effect of Forces
Like and Unlike Parallel Forces, Addition of Forces, Head to Tail Rule, Resolution of Forces, Torque or Moment of a Force, Principle of Moments, Centre of Gravity, Equilibrium, First Condition of Equilibrium, Second Condition of Equilibrium only, Examples: 4.2-4.5

## Exercise:

Class Work: Q 4.1: (ii, iv-vii), (4.4, 4.5, 4.7-4.9, 4.11, 4.12), Problems: (4.1, 4.3, 4.7, 4.8)
Home Work: Q 4.1: (i-iii, viii), (4.6, 4.10-4.13), Problems: (4.2, 4.4-4.6)
Chapter 5: Gravitation
The Force of Gravitation, Law of Gravitation, Law of Gravitation and Newton Third Law of Motion, Mass of Earth, Artificial Satellites, Examples: 5.1, 5.2
Exercise:
Class Work: Q 5.1: (ii) (5.8-5.10) Problems: $(5.4,5.5,5.8,5.9)$
Home Work: Q 5.1: (i, iii, iv) (5.2, 5.3, 5.12, 5.13) Problems: (5.1-5.3, 5.7)
Chapter 6: Work and Energy
Energy, Kinetic Energy (K.E. $=1 / 2 \mathrm{mv} 2$ ), Potential Energy (P.E.=mgh), Efficiency, Power, Examples: 6.2, 6.3, 6.5, 6.7
Exercise:
Class Work: Q 6.1: (ii, iii, vii), (6.3, 6.5, 6.6, 6.13, 6.14), Problems: (6.4-6.6)
Home Work: Q 6.1: (i, iv-vi, ix), (6.2, 6.4, 6.7, 6.15, 6.16), Problems: (6.1-6.3, 6.7, 6.9)
Chapter 7: Properties of Matter
Pressure, Atmospheric Pressure, Variation in Atmospheric Pressure, Pressure in Liquids, Density, Pascal's Law, Elasticity, Hooke's Law, Young's Modulus, Examples: 7.2, 7.7

## Exercise:

Class Work: Q7.1: (viii) (7.22), Problems: (7.1,7.6)
Home Work: Q7.1: (iii) (7.6, 7.15, 7.17), Problems: $(7.5,7.12)$
Chapter 8: Thermal Properties of Matter
Temperature and Heat, Specific Heat Capacity, Importance of Large Specific Heat Capacity of Water, Heat Capacity, Change of State, Latent Heat of Fusion, Latent Heat of Vaporization, The Evaporation, Thermal Expansion, Linear Thermal

Expansion in Solids, Volume Thermal Expansion, Examples: 8.5-8.7

## Exercise:

Class Work: Q 8.1: (vi, vii), (8.7-8.9) Problems: $(8.4,8.8)$
Home Work: Q 8.1: (iv, v viii), (8.3, 8.10) Problems: $(8.3,8.7)$
Chapter 9: Transfer of Heat
Transfer of Heat, Conduction, Thermal Conductivity, Convection, Convection Currents in Air, Use of Convection Currents, Land and Sea Breezes, Gliding, Radiation, Example: 9.1
Exercise:
Class Work: Q 9.1: (ii, vi-viii), (9.4, 9.6, 9.7), Problems: (9.2)
Home Work: Q 9.1: (i, iii, v, ix), (9.2, 9.5), Problems: (9.1)
EXPERIMENTS:

1. To measure the Volume of a Solid Cylinder by measuring Length and Diameter of a Solid Cylinder with Vernier Callipers.
2. To find the Value of " $g$ " by Free Fall Method.
3. Investigate the Relationship between Force of Limiting Friction and Normal Reaction to find the Co-efficient of Sliding Friction between a Wooden Block and Horizontal Surface.
4. To determine the Resultant of two forces graphically using a Horizontal Force Table.
5. To find the Weight of an unknown object by using Principle of Moments.
6. To study the Effect of the Length of Simple Pendulum on Time and hence find " $g$ " by calculation.
7. To study the Relationship between Load and Extension (Helical Spring) by drawing a graph.
8. To find the Specific Heat by the method of mixture using Polystyrene Cups (used as container of negligible Heat Capacity).
9. To measure the Specific Heat of Fusion of Ice.

## CHAPTER NO. 1: FUNDAMENTALS OF CHEMISTRY

Chemistry and branches of chemistry, Basic Definitions (matter, substance, homogeneous and heterogeneous mixture, physical and chemical properties), Elements, Compound and Mixture, Difference between a compound and a mixture, Atomic Number and Mass Number, Example 1.1, Relative Atomic Mass and Relative Mass Unit, Empirical formula and Molecular formula, Molecular mass and Formula mass, Example 1.2; 1.3, Types of Molecules, Avogadro's Number, Mole and Molar mass, Example 1.4, Chemical Calculations, Mole-Mass Calculations, Example 1.5, Mole-Particle Calculations, Example 1.6,1.7(pp. 4-14; 16-22).

## Practicals:

Separate the given mixture of iron filings and sand by physical method.

## Questions:

Classwork: Multiple Choice Questions (1, 2, 6, 7, 8-13) (pp.24-25)
Homework: Short Answer Questions (1-8, 10, 11, 12, 14-17, 19) (pp.25-26);
Long Answer Questions (1, 2, 4) (p.26); Numericals (1, 3, 4, 6, 7, 9) (p.26)
CHAPTER 2: STRUCTURE OF ATOMS
Rutherford's Atomic Model, Defects in Rutherford's Model, Bohr's Atomic Theory, Electronic Configuration, Examples: 2.1, 2.2, 2.3, Electronic Configuration of First 18 Elements (pp. 31-37), definition of isotopes types and uses of isotopes.

## Practicals:

No Practical

## Questions:

Classwork: Multiple Choice Questions (3-9) (p.42)
Homework: Short Answer Questions (3-13) (pp. 42-43); Long Answer Questions (4-10) (p.43)
CHAPTER 3: PERIODIC TABLE AND PERIODICITY OF PROPERTIES
Definition of Periodic Law, Modern Periodic Table, Periods and Groups, Periodicity of Properties (definition and trends in periods and groups in Atomic Size and Atomic Radius, Shielding Effect, Ionization Energy, Electron Affinity, and Electronegativity. (pp. 46-56).
Practicals:
No practical

## Questions:

Classwork: Multiple Choice Questions (1, 2, 6, 7, 10) (pp.56-57)
Homework: Short Answer Questions (3, 4, 7-9) (p.57); Long Answer Questions (8-10) (p.57)

## CHAPTER 4: STRUCTURE OF MOLECULES

Chemical Bonds, Types of Chemical Bond, Ionic Bond, Covalent Bond and its types, Dative or Coordinate Covalent Bond, Polar and Non-Polar Covalent Bond, Metallic Bond, Intermolecular Forces (Dipole-Dipole Interaction, Hydrogen Bonding) (Page 59-68).
Practicals:
No practical

## Questions:

Classwork: Multiple Choice Questions (5-8, 11-13, 17) (p.72-73)
Homework: Short Answer Questions (4, 5, 7, 8, 10-14) (pp.73-74); Long Answer Questions (1, 4-8) (p.74)
CHAPTER 5: PHYSICAL STATES OF MATTER
Boyle's Law, Experimental Verification of Boyle's Law, Charles's Law, Experimental Verification of Charles's Law, Evaporation, Vapour Pressure, Boiling Point, Freezing and Melting Point, Density (pp. 78-83, 84-90). Definition gas, liquid, solid and allotropy

## Practicals:

Determine the melting point of naphthalene.
Determine the boiling point of ethyl alcohol.
Separate the given mixture of alcohol and water by distillation.
Questions:
Classwork: Multiple Choice Questions (2, 7, 9-11) (p.93)
Homework: Short Answer Questions (3, 4,5, 7) (p.94); Long Answer Questions (1-4) (p.94);
Numericals (2-5, 7-9) (pp. 94-95;
CHAPTER 6: SOLUTIONS
Definitions of following terms with example: \{Solution (i-solute ii-solvent), Aqueous Solutions, Saturated Solution, Unsaturated Solution, Supersaturated Solution, Dilution of Solution, Percentage (Mass/Mass Percentage, Mass/Volume Percentage, volume/ mass percentage, Volume/Volume Percentage), Molarity with formula, Preparation of Molar Solution, example $6.2 \& 6-3$, Dilution of Solution Solubility (pp.97-104).

## Practicals:

Prepare 100 cm 3 of 0.1 M Sodium Carbonate $(\mathrm{Na} 2 \mathrm{CO} 3)$ solution.
Prepare 100 cm 3 of 0.1 M Sodium Hydroxide $(\mathrm{NaOH})$ solution from the given 1 M solution.
Demonstrate that temperature affects solubility.
Questions:
Classwork: Multiple Choice Questions (4,8, 11-13) (pp.110-111)
Homework: Short Answer Questions (12) (p.111); Long Answer Questions (1-4) (p.112). Numericals $(2,4-5,6)$ (p.112).

## CHAPTER 7: ELECTROCHEMISTRY

Definitions of Oxidation and Reduction Reactions with examples, Oxidation and Reduction in terms of Loss or Gain of Electrons, Oxidation State and Rules for Assigning Oxidation State, Examples: 7.1, 7.2, 7.3, definition of Oxidizing and Reducing Agents with examples, Oxidation-Reduction Reactions, definition of Electrolytes (weak and strong electrolyte) non-electrolyte, Corrosion and its Prevention, Rusting of Iron, Prevention of Corrosion, Prevention of Corrosion by
Physical Methods, definition and method Electroplating(electroplating of silver and chromium) (pp. 114-124, 128-132).
Practicals:
No practical
Questions:
Classwork: Multiple Choice Questions (1-5-6, 8-10) (p.135)
Homework: Short Answer Questions (8-13, 17-22) (p.136); Long Answer Questions(1,2,4,7,9-10) (p.137)
CHAPTER 8: CHEMICAL REACTIVITY
Definition types and properties of Metals, Electropositive Character and its trends in periods and groups, Inertness of Noble Metals (silver, gold and platinum), definition

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and properties of Non-Metals, Comparison of Reactivity of the Halogens, Important
Reactions of Halogens (reaction with hydrogen, water, methane and NaOH) (pp.
138-141, 144-148).
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## Practicals:

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Demonstrate that Some Chemical Processes Absorb Energy.
Questions:
Classwork: Multiple Choice Questions (1-3, 7-11) (pp.150-151)
Homework: Short Answer Questions (3-12) (p.151); Long Answer Questions (2,3,5,7-9,11) (p.151)
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## Chapter 1: Introduction to Biology

Introduction to Biology, Divisions and branches of Biology, Quran and Biology, The Levels of Organization (complete topic) - (pp. 2-16)

## Practicals:

Study of external morphology of mustard plant and microscopic examination of root, stem, leaf, flower, fruit and seeds
Identification of major organs and organ systems in a dissected frog (Dissection by demonstrator / teacher)

## Questions:

Classwork: Multiple Choice (1-10)(p.17)
Homework: Understanding the Concepts (1, 2, 3, 5, 6, 7), Short Questions (1) - (pp. 18)
Chapter 2: Solving the Biological Problem
Biological Method, Biological Problem, Hypothesis, Deductions, and Experiments, Theory, Law and Principle, Data Organization and Data Analysis, - (pp. 20-28)

## Practicals:

No Practical

## Questions:

Classwork: Multiple Choice (1-9)(pp.29-30)
Homework: Understanding the Concepts (3), Short Questions (1, 2) - (pp.30)
Chapter 3: Biodiversity
Biodiversity, Importance of Biodiversity, Classification, Aims of classification, Basis of Classification, Taxonomic Hierarchy, Species- Basic Unit of Classification, Five Kingdom Classification System, The Five Kingdoms, Binomial Nomenclature - (pp. 31-45)

Practicals:
No practicals
Questions:
Classwork: Multiple Choice (1-11) (pp.48-49)
Homework: Understanding the Concepts (1-5), Short Questions (1-3,5) (pp.49)
Chapter 4: Cell Biology
Cellular Structures and Functions, Cell Wall, Cell Membrane, Cytoplasm, Cell

Organelles, Nucleus, Ribosomes, Mitochondria, Plastids, Endoplasmic Reticulum, Golgi Apparatus, Lysosomes, Centrioles, Vacuoles , Difference between Prokaryotic and Eukaryotic Cells, Passage of Molecules Into and Out of Cells, Diffusion, Facilitated Diffusion, Osmosis , Filtration, Active Transport, Endocytosis, Exocytosis, Animal tissues (only introduction - not types), Plant Tissues (only introduction - not types) - (pp. 52-82)

## Practicals:

Identify, from fresh preparations, the cell membrane, nucleus and cytoplasm in an animal cell and the cell wall, cell membrane, sap vacuole, cytoplasm, nucleus and chloroplasts in a plant cell
Questions:
Classwork: Multiple Choice (1, 3-15) - (pp. 83-84)
Homework: Understanding the Concepts (1-8, 11), Short Questions (2-3) - (pp. 84) Chapter 5: Cell cycle
Cell cycle, Mitosis, Phases of Mitosis, Significance of Mitosis, Meiosis, Phases of Meiosis, Significance of Meiosis, Comparison between Mitosis and Meiosis - (pp. 87-103)

## Practicals:

Observation of various stages of mitosis and meiosis by slides, model and charts
Questions:
Classwork: Multiple Choice (1-15) (pp.104-105)
Homework: Understanding the Concepts (1-8), Short Questions (1-4) - (pp. 105)
Chapter 6: Enzymes
Enzymes, Characteristics of Enzymes, Mechanism of enzyme action - (pp. 107-112)
Practicals:
Experiment to show working of enzyme in vitro e.g. pepsin working on meat in test tube Questions:
Classwork: Multiple Choice (1-4) (pp. 115)
Homework: Understanding the Concepts (1, 2, 7), Short Questions (1) - (pp. 116)
Chapter 7: Bioenergetics
Oxidation-Reduction Reactions, ATP - The Cell's Energy Currency, Photosynthesis, Mechanism of Photosynthesis, Light Reactions, Dark reactions, Respiration, Aerobic and Anaerobic Respiration (excluding importance of fermentation) - (pp. 118-131)

## Practicals:

Demonstration of the process of photosynthesis using an aquatic plant, like Hydrilla Investigation of the release of carbon dioxide and heat during Aerobic Respiration in germinating seeds
Questions:
Classwork: Multiple Choice (3, 4, 5, 7, 9, 10) (pp. 137)

Homework: Understanding the Concepts (2, 4, 5, 6, 7, 8), Short Questions (1-4) (pp. 137-138)
Chapter 8: Nutrition
Components of Human Food, Carbohydrates, Lipids, Proteins, Minerals (excluding Role of Calcium and Iron), Table 8.2, Vitamins (Table 8.3: Functions, deficiencies and sources of important vitamins - table only). Effects of Water and Dietary Fiber, Digestion in Humans, Human Alimentary Canal (complete), Role of Liver - (pp. 140-164)

## Practicals:

Microscopic examination of a transverse section of the small intestine to show the villi
Questions:
Classwork: Multiple Choice (1, 2, 4, 5, 7-15) (pp.167-168)
Homework: Understanding the Concepts (3, 4, 6, 10-11), Short Questions (1-5) -(pp.168-169)

## Chapter 9: Transport

Transport in Plants, Water and Ion Uptake, Transpiration, Opening and Closing of Stomata, Significance of Transpiration, Transport of Water, Transport of Food, Transport in human, Blood, Blood Plasma, Blood Cells, Human Heart (complete), Pulmonary and systemic circulation, Heart Beat, Heart Rate and Pulse Rate, Blood Vessels (excluding arteries, veins and capillaries - keeping only Table 9.1 of Comparison of arteries, capillaries and veins) Cardiovascular Disorders Atherosclerosis and Arteriosclerosis, Myocardial Infarction - (pp. 171-204)
Practicals:
Observation of root hairs on a growing root of onion, carrot etc.
Identification of red and white blood cells under the light microscope on prepared slides and in diagrams and photomicrographs
Questions:
Classwork: Multiple Choice (1-17, 19) (pp. 205-206)
Homework: Understanding the Concepts (1, 3-6, 10, 11, 14, 15), Short Questions (1, 2, 4, 6-8) - (pp. 207)

[^0]Unit 2: Binary System:
Introduction to Number Systems (Pg. 34), Number System Conversion (Decimal to Binary and Binary to Decimal, Hexadecimal to Binary and Binary to Hexadecimal) (Pg. 35-39), Memory and Data Storage (39-40), Measurement of Size of Computer Memory(Pg. 43), Boolean Algebra (Boolean Preposition, Truth Values, Logical Operators(AND, OR, NOT) ,Truth Table)(Pg. 44-47), Logical Expressions (49-50)
Class Work: Q.2.1 (Pg. 51), Q.2.2 (2,3,5)(Pg. 51-52), Q.2.3,Q.2.4 (Pg. 52)
Home Work: Q. 2.2 (4)(Pg. 51), Activity 2.8 (Pg. 52)
Unit 3: Networks:
Computer Networks (Pg. $54-56$ ), Basics of Data Communication(Pg. 60-62), Computer Network Models(Pg. 62- 64), Protocols in TCP/IP Suit(Pg. 64-65), Understanding IP Addressing(Pg. 67-68), Routing (Pg. 68-69)
Class Work: Q.3.1 (Pg. 71), Q.3.2 (Pg. 71-72), Q.3.3 (1-3) (Pg. 72), Q.3.4 (4) (Pg. 72) Home Work: Q. 3.3 (4-7), Q. 3.4 (2) (Pg. 72)
Unit 4: Data and Privacy:
Introduction (Pg. 74) Ethical Issues Related to Security (Pg.74- 78), Simple Encryption (Pg. 81-85), Encryption with keys and Passwords (Pg. 89-90), Cybercrime (Pg. 90-91)
Class Work: Q.4.1 (Pg. 96), Q.4.2, Q.4.3(1,5) (Pg. 96)
Home Work: Q. 4.3 (2,4) (Pg. 97), Activity 4.8 (Pg. 97)
Unit 5: Designing Website:
Introduction to HTML(Pg. 100-103), Text Formatting (Pg. 103,104), Define a hyperlink to a webpage(Pg. 109,110)
Class Work: Q.5.1-5.2 (Pg. 113-114), Q.5.3 (1,3) (Pg. 115), Q.5.4 (Pg. 115)
Home Work: Q. 5.3 (2) (Pg. 115), Q. 5.5(Pg. 116) Activity 5.7 (Pg. 116)

## List of Practicals:

1. Draw a flowchart that calculates the sum and product of two numbers.
2. Draw a flowchart that calculates the difference and division of two numbers.
3. Draw a flowchart that calculates the modulus of an integer with respect to another integer.
4. Draw a flowchart that calculates the area of a rectangle.
5. Draw a flowchart that calculates the of a triangle when three side are given.
6. Draw a flowchart that calculates the volume of a cylinder.
7. Draw a flowchart that calculates the temperature from Centigrade to Fahrenheit.
8. Write a program to print the distance covered by a car having an average speed.
9. Draw a flowchart that takes a number as input and displays whether it is even or odd.
10. Draw a flowchart that takes three integers as input and displays the largest two.
11. Draw a flowchart that prints the grade of a student.
12. Draw a flowchart that prints first 10 integers using loop.
13. Draw a flowchart that prints odd numbers from 1 to 10.
14. Draw a flowchart that takes a number as an input and prints its multiplication table up to 10 .
15. Draw a flowchart that takes two numbers as input and prints the multiplication table of the first number up to the second number.
16. Draw a flowchart that prints integers from 10 to 1 (reverse order, using loop).
17. Draw a flowchart that takes input " $n$ " from the user and prints the sum of first " $n$ " numbers and their average.
18. Draw a flowchart that takes few numbers as input from the user and prints them in reverse order.
19. Draw a flowchart that takes 10 numbers as input from the user and prints all the odd ones.
20. Draw a flowchart that takes two numbers " $m$ " and " $n$ " as input from the user and calculates " $m$ " to the power on " $n$ "
21. Draw a flowchart that takes two numbers as input calculates the GCD of the numbers using Euclidean Algorithm.
22. Creating a HTML page which has following tags

- html
- body

23. Create an HTML page which has following additional tags

- title
- paragraph
- line break

24. Create an HTM page which has following additional functions heading up to three levels bold, italic, underline
25. Create a website with two webpages linked to each other. The links are in text
26. Create an HTML page which has a table, and the border of the table is of a specified width and border type.
27. Create a website which has multiple pages and all the components mentioned above.

## GENERAL SCIENCE

## CHAPTER 1: INTRODUCTION AND ROLE OF SCIENCE:

Class work: Introduction, 1.2. Concept of Science in Islam, 1.3.
Contribution of Muslim and Pakistani Scientists, 1.4. Branches of Science (a. Physics to h, Geography) 1.5. Role of Science and Technology in our life.
Home work: Exercise: Question No. 1,2,3,4,5,6,10, 11,12
CHAPTER 2: OUR LIFE AND CHEMISTRY:
Class work: 2.1. The basic building elements for life, 2.2.
Carbon and its importance, 2.3. Organic chemistry, 2.4. Water, 2.5. Air.
Home work: Exercise: Question No. 1. (i-v, vii), 2 (i-iv), 3 (i),4,5,6
CHAPTER 3: BIOCHEMESTRY AND BIOTECHNOLOGY:
Class work: Introduction, 3.1. Metabolism, 3.2. Enzymes 3.3. Blood and its functions, 3.7. Antibiotics and Vaccines.
Home work: Exercise: Question No. 1,2,3 (i,iii, iv, v), 4(i, ii, iv),5,6, 7,8,11 CHAPTER 4: HUMAN HEALTH:
Class work: Introduction, 4.1. Food and its Major Components, 4.2. Food and Energy, 4.3. Balanced Diet, 4.6. Exercise and Health, 4.7. First Aid.
Home work: Exercise: Question No. 1(i-iv), 2 (i-iv),3 (i-iii),4 (i-iv),5,6,7,8,9
CHAPTER 5: DISEASES - CAUSE AND PREVENTION:
Class work: Introduction, 5.1. Diseases caused by Germs, 5.2. Agents Spreading the Germs, 5.3. Protection from germs.
Home work: Exercise : Question No. 1 (i-vi), 2 (i-iv) ,3(i-v),4,5,6

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Class work: Vocabulary (Exercise: C, D), Reading for Comprehension (Exercise:
B, C), Grammar, Pronunciation Key, Oral Communication Skills, Writing Skills
Home work: Vocabulary (Exercise: A, B), Reading for Comprehension (Exercise: A)
Unit \# 3: Try Again
Class work: Comprehension (Exercise: A, B, C, D), Grammar, Oral Communication
Skills, Writing Skills,
Home work: Vocabulary
Unit \# 4: First Aid
Class work: Comprehension (Exercise: B, C), Grammar, Oral Communication Skills, Writing Skills
Home work: Vocabulary, Comprehension (Exercise: A),
Unit \# 6: Television vs. Newspaper
Class work: Reading Comprehension (Exercise: B, C), Grammar, Oral
Communication Skills, Writing Skills
Home work: Vocabulary, Reading Comprehension (Exercise: A)
Unit \# 8: Peace (Poem)
Class work: Vocabulary (Exercise: E), Reading Comprehension (Exercise: A, B),
Grammar, Oral Communication Skills, Writing Skills
Home work: Vocabulary (Exercise: A, B, C, D),
Unit \# 10: A World Without Books
Class work: Vocabulary, Grammar, Oral Communication, Writing Skills
Home work: Reading Comprehension

## Unit \# 13: Faithfulness

Class work: Vocabulary, Grammar, Oral Communication, Writing Skills
Home work: Reading Comprehension
(Grammar \& Composition)

## Essay Writing

Class work: Sports and Games, Libraries, Health, The Moon Soon
Homework: A Hockey Match, A True Muslim, Quaid-e-Azam Muhammad Ali Jinnah
Translation of (Urdu) Paragraphs into English
Classwork: (2), (6), (7), (8), (9), (10), (13), (16), (19), (23)
Homework: (24), (25), (28), (29), (31), (32), (33), (34), (37)
Direct and Indirect Speech
Classwork: Practice will be given.
Homework: Practice will be given.
Pair of Words:
Classwork: 1, 2, 3, 6, 8, 9, 10, 12, 13, 15, 17, 19, 20, 22, 24, 27, 28, 30, 32, 34
Homework: 36, 38, 39, 43, 45, 49, 51, 52, 54, 56, 58, 62, 63 65, 66, 71, 72, 75 \& 78

UNIT - 1: Quadratic Equations
Class Work: Exercise:1.1,Q:1(iii),Q:2(ii), Q:3(v,ix),Exercise:1.2,Q:1(iii)
Exercise:1.3,Q:10,12, Exercise:1.4, Q:1,9
Home Work: Exercise:1.1,Q:1(i,iv),Q:2(iv,v),
Q:3(i,v),Exercise:1.2,Q:1(i,vii,viii),Exercise:1.3,Q:2,7,9,10,14,
Exercise:1.4,Q:3,8,Miscellaneous Exercise:1, Q:1,Q:2
UNIT - 2: Theory of Quadratic Equations
Class Work: Exercise:2.1, Q:1(ii),Q:2(i),Q:3 Exercise:2.2,Q:1-4,
Exercise:2.3,Q:1(i),Q:2(ii),Q:5(ii), Exercise:2.5, Q:1(f), Q:2(b),
Q:3(b),Exercise:2.6,Q:1,2,5, Exercise:2.8,Q:4,10
Home Work: Exercise:2.1, Q:1(iv),Q:2(iv), Q:4(iii), Q:10,
Exercise:2.2,Q:2(ii,viii),Exercise:2.3,Q:1(v,vi),Q:2(ii), Q:6(i),Exercise:2.5, Q:1(g,h),
Q:2(d,e), Exercise:2.7,Q:2,5,10,13,Exercise:2.8,Q:1,5,9,Miscellaneous
Exercise:2,Q:1,Q:2(i-vii)
UNIT - 3: Variations
Class Work: Exercise:3.1, Q:4,9, Q:11(iv), Exercise:3.2, Q:1(iii), Q:8,11, Exercise:3.3, Q:1(i),
Q:2(iv,vi),Q:3(i),Q:4(iii):Exercise:3.4,Q:1(i),Q:2(iv,vii),Exercise:3.5,Q:1,Exercise:3.6, Q:1(iii),Q:2(ii),Exercise:3.7,Q:2,9
Home Work: Exercise:3.1, Q:1(iv,v), Q:5,7, Q:11(v), Exercise:3.2, Q:2(ii), Q:5,10,13, Exercise:3.3, Q:1(iv,vi), Q:2(iii,iv,v,vi),Q:3(iv),Q:4(ii):Exercise:3.4,Q:1(v,viii),Q:2(ii, ,v),Exercise:3.5,Q: 3,5, Exercise:3.6,Q:1(ii,vi),Exercise:3.7,Q:3,9, Miscellaneous
Exercise:3,Q:1,Q:2
UNIT - 4: Partial Fractions
Class Work: Exercise:4.1,Q:8, Exercise:4.2,Q:2,Exercise:4.3, Q:8,
Home Work: Exercise:4.1,Q:2,4,7, Exercise:4.2,Q:1,6,8, Exercise:4.3, Q:1,6,
Exercise:4.4, Q: 3,6, Miscellaneous Exercise:4, Q:1,Q:2(i-v)
UNIT - 5: Sets and Functions
Class Work: Exercise:5.1,Q:1(i),Q:3(i,vi),Q:4(i),Q:6(i), Exercise:5.2, Q:1(v), Q:2(iv), Exercise:5.3, Q:1(i), Q:2(iii), Q:4(iii), Exercise:5.4, Q:3(iii), Exercise:5.5, Q:3(i), Q:5(ii)
Home Work: Exercise:5.1,Q:1(iii,iii,iv),Q:3(ii,iii,iv,v),Q:4(iii),Q:6(ii), Exercise:5.2, Q:1(vi-viii),Q:3, Q:4(ii), Exercise:5.3, Q:1(iii,v), Q:2(ii), Q:4(v), Exercise:5.4, Q:5(ii), Exercise:5.5, Q:3(ii,iii), Q:5(iii), Miscellaneous Exercise:5, Q:1,Q:2 UNIT - 6: Basic Statistics
Class Work: Exercise:6.1,Q:1, Exercise:6.2, Q:3,7, Exercise:6.3, Q:5(ii)
Home Work: Exercise:6.1,Q:3, Exercise:6.2, Q:11,12, Exercise:6.3, Q:4, Q:7,

Miscellaneous Exercise:6,Q:1,Q:2
UNIT - 7: Introduction to Trigonometry
Class Work: Exercise\#:7.1, Q:1(vii), Q:2(ii), Q:3(v), Q:4(viii), Q:5(iii), Exercise:7.2, Q:1(ii),,Exercise:7.3,Q:1(ii),Q:2(i),Q:3(iv),Q:4(vi),Q:9, Q:12(viii) Exercise:7.4, Q:7,20, Exercise:7.5:Q: 1,9,
Home Work: Exercise\#:7.1, Q:1(ii,iii), Q:3(ii ,vi), Q:4(ii,iii,v), Q:5(vii,viii), Exercise:7.2,Q:3(i), Q:5,6,Exercise:7.3,Q:1(iii),Q:2(ii),Q:3(iii), Q:4(ii), Q:8, Q:12(i,v,xi) Exercise:7.4, Q: 10,11,16,24, Exercise:7.5,Q:3,4,8, Miscellaneous Exercise:7,Q:1,Q:2 UNIT - 8: Projection of a Side of a Triangle
Class Work: Theorem:2, Miscellaneous Exercise:8,Q:3,5,8 (Exercises are excluded)
Home Work: Theorem:2, Miscellaneous Exercise:8,Q:3,5,8 (Exercises are excluded)
UNIT - 9: Chords of a Circle
Class Work: Theorem:2,4, (Exercises are excluded)
Home Work: Theorem:2,4, Miscellaneous Exercise:9,Q:1(v-xiv), (Exercises are excluded)
UNIT - 10: Tangent to a Circle
Class Work: Theorem:1,3, (Exercises are excluded)
Home Work: Theorem:1,3, Miscellaneous Exercise:10,Q:1(v-xi), (Exercises are excluded)
UNIT - 11: Chords and Ares:
Class Work: Theorem:1,4, (Exercise is excluded)
Home Work: Theorem:1,4, Miscellaneous Exercise:11,Q:1, (Exercise is excluded)
UNIT - 12: Angle in a Segment of a Circle
Class Work: Theorem:1,2 (Exercise is excluded)
Home Work: Theorem:1,2 (Exercise is excluded)
UNIT - 13: Practical Geometry-Circles
Class Work: Exercise: 13.1,Q:1,Q:4, Exercise 13.2: Q:4,Q:5,Exercise:13.3,Q:6,9,11
Home Work: Exercise: 13.1,Q:1,Q:4, Exercise 13.2: Q:4,Q:5,Exercise:13.3,Q: 6,9,11, Miscellaneous Exercise:13,Q:1

## UNIT - 1: Algebraic Formulas and Applications

Class Work: Exercise:1.1, Q:1,8 ,11,14,15 ,27,32, Exercise:1.2,Q:1, ,8,14,21,:
Exercise:1.3, Q:1(ii), Q:2(iii), Q:3(iv), Q:5
Home Work: Exercise:1.1, Q: 3,5, 9,16,19,20, 28,31 Exercise:1.2,Q: 3,5,9,11,16,18,:
Exercise:1.3,Q:2(vi), Q:3(ii ,vi,viii), Q:8,9, Review Exercise:1,Q:I
UNIT - 2: Factorization
Class Work: Exercise:2.1, Q:1,11, 16,: Exercise:2.2, Q:2 ,12,Exercise:2.3,Q:,7,9, 20, Exercise:2.4,Q:1, , 15 ,22,:Exercise:2.5,Q:,3,6,19,

Home Work: Exercise:2.1, Q:3,6,8,13: Exercise:2.2, Q: 4,8,11,
Exercise:2.3,Q:1,11,16,18, Exercise:2.4,Q:3,8,10,13, 17,21,Exercise:2.5,Q:1,10,12,16,18, Review Exercise:2,Q:I
UNIT - 3: Algebraic Manipulation
Class Work: Exercise:3.1,Q:1,11,15,: Exercise: 3.2, Q:1,10,: Exercise:3.3, Q:1,9,15,:
Exercise:3.4, Q:1,8,17,: Exercise:3.5, Q:,2,12,: Exercise:3.6, Q: 4,5,9
Home Work: Exercise:3.1,Q:2,5,7, 12, Exercise: 3.2, Q:3,6,9, Exercise:3.3, Q:,3,7, 12,14, Exercise:3.4, Q:,3,7 ,9,12,15, Exercise:3.5, Q:1, 6,7,11, Exercise:3.6, Q:1,8,12, Review Exercise:3,Q:I
UNIT - 4: Linear Equations and Inequalities
Class Work: Exercise:4.1, Q:1(ii),Q:3,10,18, Exercise:4.2, Q:3, 12,16
Home Work: Exercise:4.1, Q:1(iii). Q: 5,8,16,20,: Exercise:4.2, Q:3,6,9, 15 , Review
Exercise:4, Q:I
UNIT - 5: Quadratic Equations
Class Work: Exercise:5.1, Q:1,8,15,19,25,: Exercise:5.2,Q:3, 12,: Exercise: 5.3, Q: 2,8
Home Work: Exercise:5.1, Q:2, 9,12,13,14, 18,24, Exercise:5.2,Q:1, $4,8,9$, Exercise:
5.3, Q:2,8, Review Exercise:5,Q:I

UNIT - 6: Matrices and Determinants
Class Work: Exercise:6.1,Q:4(A,J),: Exercise:6.2, Q:3(C), Q:7(A),: Exercise:6.3.
Q:1(v),Q:2(C), Q:3(ii), Q:8,10, Exercise:6.4, Q:2,7,14,16,: Exercise:6.5, Q:1(ii),
Q:2(iii),Q:3(ii), Q:4(b), Exercise:6.6. Q:1,Q:2(ii), Q:4(ii), Q:5(ii)
Home Work: Exercise:6.1,Q:4(B-I,K,L): Exercise:6.2, Q:3(D), Q:7(B,C),:
Exercise:6.3. Q:1(ii,vi),Q:2(B,E),Q:5(ii), Q:6,11,: Exercise:6.4, Q: 5,6,12: Exercise:6.5, Q:1(iv),Q:3(vi,vii), Exercise:6.6,Q:2(v,vi), Q:4(v,vi), Q:5(iv), Review Exercise:6,Q:I UNIT - 7: Fundamentals of Geometry
Class Work: Exercise:7.1,Q:2,Q:7(iii,vii), : Exercise:7.2,Q:2, : Exercise:7.3, Q:2,5, : Exercise:7.4.Q:1[a(i,iii),d],Q:5
Home Work: Exercise:7.1,Q:4,5,Q:7(iv,ix),Exercise:7.3, Q:2,5, Review Exercise:7, Q:I UNIT - 8: Practical Geometry
Class Work: Exercise:8.1, Q:1,9,13,25,28,
Home Work: Exercise:8.1, Q:,3,4 ,11,15,17,20,24,27, Review Exercise: 8,Q:I
UNIT - 9: Area and Volumes
Class Work: Exercise:9.1,Q:1(i), Q:3,10,: Exercise:9.2, Q: 2,14, 19,Exercise:9.3, Q:1,3,8
Home Work: Exercise:9.1,Q:1(iii), Q:6,7,Exercise:9.2, Q:1,6,12,17, ,Exercise:9.3,
Q:2,4,5,6,7, Review Exercise:9, Q:I
UNIT - 10: Introduction to Coordinate Geometry
Class Work: Exercise:10.1, Q:1(ii,vii), Q:2(ii), Q:4,9,11
Home Work: Exercise:10.1, Q:1(i,vi,x), Q:2(iv), Q:6,10, Review Exercise:10,Q:I
(ふiv)

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،ومورك: ثشثّ توالات، توالنمب3 565


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، ومورك: شثق توالات: بوال2(1-1)
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،ومورك: ثـثّ توالات: بوال3(1-7,9,11,12) ! مقاثىتすّ كَت

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PHYSICS

## Chapter 10: Simple Harmonic Motion and Waves

Simple Harmonic Motion, Motion of Mass Attached to a Spring, Motion of a Simple Pendulum, Wave Motion, Ripple Tank
Activity: 10.2, Types of Mechanical Waves, Relation between Velocity, Frequency and Wavelength ( $\mathrm{v}=\mathrm{f} \lambda$ ),
Examples: 10.1, 10.2
Exercise:
Class Work: MCQs: (i-vi, viii, ix), Review Questions: (10.1, 10.4, 10.5), Numerical Problems: (10.1-10.3, 10.9, 10.10)
Home Work: Review Questions: (10.2, 10.7), Numerical Problems: (10.4)
Chapter 11: Sound Waves
Sound Waves, Sound is produced by a Vibrating Body Activity 11.1, Sound

Requires Material Medium for its Propagation, Longitudinal Nature of Sound Waves, Characteristics of Sound, Loudness, Pitch, Quality, Intensity, Sound Intensity Level, Speed of Sound, Audible Frequency Range, Ultrasound, Examples:
11.1, 11.2

## Exercise:

Class Work: Review Questions: (11.4, 11.5, 11.7-11.11, 11.15, 11.18), Numerical Problems: (11.1-11.6)
Home Work: MCQs: (i-vii), Review Questions: (11.1, 11.2), Numerical Problems: (11.9)

## Chapter 12: Geometrical Optics

Spherical Mirrors, Image Location by Spherical Mirrors, Sign Conventions, Refraction of Light, Laws of Refraction, Refractive Index, Total Internal Reflection, Refraction through Prism, Lenses, Image Location by Lens Equation, Sign Conventions for Lenses, Examples: 12.1-12.6

## Exercise:

Class Work: MCQs: (ix, x), Review Questions: (12.6, 12.8-12.10), Numerical Problems: (12.2-12.5, 12.7-12.10)
Home Work: MCQs: (i-vii), Review Questions: (12.4, 12.7, 12.12), Numerical Problems: (12.1)
Chapter 13: Electrostatics
Electrostatic Induction, Coulomb's Law, Electric Field and Electric Field Intensity, Electrostatic Potential, Capacitors and Capacitance, Combination of Capacitors, Capacitors in Parallel, Capacitors in Series, Uses of Capacitors, Examples: 13.1-13.4

## Exercise:

Class Work: MCQs: (i, vi-xi), Review Questions: (13.2, 13.8-13.14), Numerical Problems: (13.1-13.8)
Home Work: Review Questions: (13.17), Numerical Problems: $(13.9,13.10)$ Chapter 14: Current Electricity
Electric Current, The Measurement of Current, Potential Difference, Electromotive Force (e.m.f), The Measurements of Potential Difference and Electromotive Force, Ohm's Law, V-I Characteristics of Ohmic and Non-Ohmic Conductors, Combination of Resistors, Series Combination, Parallel Combination, Electrical Energy and Joule's Law, Electric Power, Kilowatt-Hour, Examples: 14.1, 14.2, 14.4, 14.5, 14.7, 14.8

## Exercise:

Home Work: MCQs: (i-ix), Review Questions: (14.3-14.5, 14.10, 14.11), Numerical Problems (14.1, 14.2, 14.4-14.7)

Class Work: Review Questions: (14.1, 14.6, 14.8), Numerical Problems (14.3)

## Chapter 15: Electromagnetism

Magnetic Effects of a Steady Current, Direction of Magnetic Field, Magnetic Field of a Solenoid, Electromagnetic Induction, Direction of Induced e.m.f - Lenz's Law, Mutual Induction, Transformer, Working of a Transformer, Example: 15.1

## Exercise:

Class Work: MCQs: (iii-vii), Review Questions: (15.1, 15.3, 15.7, 15.9), Numerical Problems: $(15.3,15.4)$
Home Work: MCQs: (i, ii, viii, ix), Review Questions: (15.11, 15.12), Numerical Problems: (15.1, 15.2)
Chapter 16: Basic Electronics
Analogue and Digital Electronics, Basic Operations of Digital Electronics - Logic Gates, AND Operation, OR Operation, NOT Operation, NAND Gate, NOR Gate, Uses of Logic Gates, House Safety Alarm

## Exercise:

Class Work: Review Questions: $(16.8,16.9)$
Home Work: MCQs: (iii-vii), Review Questions: $(16.7,16.10)$
Chapter 17: Information and Communication Technology
Information and Communication Technology, Components of Computer Based Information (CBIS), Transmission of Light Signals through Optical Fibres only, Internet, Internet Services, Browsers, Electronic Mail

## Exercise:

Class Work: Review Questions: $(17.2,17.11)$
Home Work: MCQs: (i, iii, vi, vii), Review Questions: (17.1, 17.3, 17.7)
Chapter 18: Atomic and Nuclear Physics
Atom and Atomic Nucleus, Isotopes, Natural Radioactivity, Background Radiations, Nuclear Transmutations, Half-Life and its Measurement, Radioisotopes and their Uses, Fission Reaction, Nuclear Fusion, Examples: 18.1, 18.2
Exercise:
Class Work: MCQs: (i-ix), Review Questions: (18.1, 18.3, 18.5-18.9, 18.11-18.13),
Numerical Problems: (18.1-18.3, 18.5, 18.7, 18.9)
Home Work: Review Questions: $(18.2,18.4,18.10)$
EXPERIMENTS:

1. To verify the Laws of Refraction by using a Glass Slab.
2. To determine the Critical Angle of Glass using a Semi Circular Slab and a Light Ray Box or by Prism.
3. To trace the path of a ray of light through Glass Prism and measure the Angle of Deviation.
4. To find the Focal Length of a Convex Lens by Parallax Method.
5. Verify Ohm's Law (using Wire as Conductor).
6. To study Resistors in Series Circuit.
7. To study Resistors in Parallel Circuit.
8. To find the Resistance of Galvanometer by Half Deflection Method.
9. To verify the Truth Tables of OR, AND, NOT, NOR and NAND Gates.

## Chapter 9: Chemical Equilibrium

Definition of and properties of Reversible Reaction, definition of chemical equilibrium state and Dynamic Equilibrium state, definition of Law of Mass Action and its derivation ( $\mathrm{Kc}=[\mathrm{C}][\mathrm{D}] /[\mathrm{A}][\mathrm{B}]$ ), definition of Equilibrium Constant and its Units, Problems: 9.1, 9.2, 9.3 (pp. 2-5, 6-12).

## Practicals:

No Practical

## Questions:

Classwork: Multiple Choice Questions (1,3,,4, 5,9,12,13) (pp.16-17)
Homework: Short Answer Questions (2, 3, 5-9,11) (p.18); Extensive Questions (3,4) (p.18); Numericals (1, 4) (pp.18-19)

Chapter 10: Acids, Bases and Salts
Concepts of Acids and Bases, General Properties uses of Acids and Bases, pH Scale, Indicators, Problems: 10.2, 10.3, Salts (pp. 21-23, 25-30, 32-37, 38-40).

## Practicals:

Standardize the Given NaOH Solution Volumetrically.
Determine the Exact Molarity of a Solution of Oxalic Acid Volumetrically.
Demonstrate that Some Natural Substances are Weak Acids.
Classify Substances as Acidic, Basic or Neutral.

## Questions:

Classwork: Multiple Choice Questions (1-3, 5,7, 9, 10-13, 17-19) (pp.46-47)
Homework: Short Answer Questions (1-9)(pp.48); Extensive Questions(1-9)(p.18);
Numericals (1, 4); (p.50)
Chapter 11: Organic Chemistry
Definition of Organic Compounds and types of organic compounds according to the foumula, Classification of Organic Compounds, homologous series.(pp. 52- 57, 66-71).
Practicals:
Identify Carboxylic Acids using Sodium Carbonate Test.
Identify Phenol using Ferric Chloride Test.
Questions:
Classwork: Multiple Choice Questions (10-12, 15, 22, 23) (p.76-78)

Homework: Short Answer Questions (5-11) (pp.78); Extensive Questions (3,5,7-10, 12) (p.79);
Chapter 12: Hydrocarbons
Hydrocarbons, Alkanes, Alkenes, Alkynes (pp. 81-93).

## Practicals:

Identify Saturated and Unsaturated Organic Compounds by KMnO4 Test.
Questions:
Classwork: Multiple Choice Questions (1, 3, 4, 6-8, 12-16) (pp.97-99)
Homework: Short Answer Questions (2, 4, 5, 7, 9-13, 15, 18) (p.99); Extensive Questions (1,3,4,6) (p.100);
Chapter 13: Biochemistry
Carbohydrates and types of carbohydrates, Proteins, Lipids, Fatty Acids (Excluding their Sources and Uses); (pp. 102-106).

## Practicals:

Demonstrate that Sugar Decomposes into Elements and other Compounds.

## Questions:

Classwork: Multiple Choice Questions (1-8, 12-15) (pp.114-115)
Homework: Short Answer Questions (1-6, 8-10, 13) (p.116); Long Answer Questions (1-3,5-6) (p.116)
Chapter 14: Environmental Chemistry-I (The Atmosphere)
Layers of Atmosphere, Pollutants, Greenhouse Effect and Global Warming, Acid Rain and its Effects, Ozone Depletion and its Effects; (Page 118-125, 126, 127-130).
Practicals:
No Practical

## Questions:

Classwork: Multiple Choice Questions (1,3,4-8, 10, 13-16, 18) (pp.134-136)
Homework: Short Answer Questions (3, 5-8, 10, 12) (p.136); Long Answer Questions (2,3,5,7,8) (p.136)
Chapter 15: Environmental Chemistry-II (Water)
Water as Solvent, definition of soft and hard water, disadvantages of hard water,
Water Pollution, Waterborne Infectious Diseases; (pp. 139-140, 144-147)
Practicals:
No practical
Questions:
Classwork: Multiple Choice Questions (3, 8-12, 14-16) (pp.151-152)
Homework: Short Answer Questions (2-4, 11-14) (pp.152-153); Extensive Questions (1,3,5,7-9) (p.153);
Chapter 16: Chemical Industries
Basic Metallurgical Operations, Manufacture of Sodium Carbonate by Solvay's Process,

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& \text { Manufacture of Urea, Importance and Status of Urea (pp. 155-162, 164-165) } \\
& \text { Practicals: } \\
& \text { No practical } \\
& \text { Questions: } \\
& \text { Classwork: Multiple Choice Questions (1-9) (pp.174-175) } \\
& \text { Homework: Short Answer Questions (1-9) (pp.175-176); Extensive Questions } \\
& (1-3,5)(\mathrm{p} .176) \text {; }
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## BIOLOGY

## Chapter 10: Gaseous Exchange

Gaseous Exchange in Plants, Gaseous Exchange in Humans, The Air passageway, The Mechanism of Breathing, Respiratory Disorders (Bronchitis, Pneumonia, Asthma), Bad Effects of Smoking - (pp. 2-15)

## Practicals:

No practicals

## Questions:

Classwork: Multiple Choice (1-6, 9-10) (pp. 16)
Homework: Short Questions (1, 2, 3) Understanding the Concepts (1, 2, 4) - (pp. 17)
Chapter 11: Homeostasis
Homeostasis in Plants, Removal of Extra Carbon dioxide and Oxygen, Removal of Extra Water, Removal of other Metabolic Wastes, The Urinary System of Humans, Structure of Kidney, Functioning of Kidney, Osmoregulatory Function of Kidney, (pp. 18-26)

## Practicals:

No practicals

## Questions:

Classwork: Multiple Choice (1-9) (pp. 29-30)
Homework: Short Questions (2), Understanding the Concepts (1-5) - (pp. 30)
Chapter 12: Coordination and Control
Types of Coordination, Coordinated Action, Human Nervous system, Nerve Cell or Neuron, Divisions of the Nervous System, Brain, Spinal Cord, Peripheral Nervous System, Reflex Action, Endocrine System, Important Endocrine Glands (complete), Feedback Mechanism - (pp.32-52)
Practicals:
No practicals

## Questions:

Classwork: Multiple Choice (1, 4, 6-10) (pp. 53)
Homework: Short Questions (1-5, 8), Understanding the Concepts (1-3, 9-11) - (pp. 54)
Chapter 13: Support and Movement
Human Skeleton, Role of Skeletal System, Bone and Cartilage, Components of

Human Skeleton, Types of Joints, Roles of Tendons and Ligaments, Muscles and Movement - (pp. 57-65)

## Practicals:

Investigation of the nature of bone (by putting three pieces of rib bone of lamb in water, NaOH and dilute HCl )

## Questions:

Classwork: Multiple Choice (1-10) (pp. 66-67)
Homework: Short Questions (1-4), Understanding the Concepts (1-4) - (pp. 67)
Chapter 14: Reproduction
Reproduction, Method of Asexual Reproduction, Binary Fission, Fragmentation, Budding, Spore Formation, Parthenogenesis, Artificial Vegetative propagation, Sexual Reproduction in Plants, Pollination, Germination of seed, Sexual Reproduction in Animals, Fertilization, AIDS - A Sexually Transmitted Disease (pp. 70-89)

## Practicals:

Observation of binary fission of amoeba using slides, photomicrographs or charts
Observation of budding in yeast from prepared slides

## Questions:

Classwork: Multiple Choice (1, 2, 5) (pp. 91)
Homework: Short Questions (2-5), Understanding the Concepts (1, 3, 5) - (pp. 92)
Chapter 15: Inheritance
Introduction to Genetics, Chromosomes and Genes, Watson Crick Model of DNA, How does DNA of Chromosomes work, Genotype and its types, Mendel's Laws of Inheritance, Mendel's Law of Segregation, Mendel's Law of Independent Assortment - (pp. 94-101)

## Practicals:

No practicals
Questions:
Classwork: Multiple Choice (1-7) (pp.109-110)
Homework: Short Questions (1-3), Understanding the Concepts (1-3) - (pp.110)
Chapter 16: Man and His Environment
Levels of Ecological Organization, Components of Ecosystem, Flow of Materials, Biogeochemical Cycles (Carbon cycle, Nitrogen Cycle), Interactions in Ecosystems, Symbiosis (Parasitism, Mutualism, Commensalism), Conservation of Nature, Basic information about Dengue Fever - (pp.113-134)
Practicals:
No practicals

## Questions:

Classwork: Multiple Choice (1, 2, 4-7) (pp. 135)
Homework: Short Questions (1, 2, 4, 5), Understanding the Concepts (1, 4) - (pp. 135-136)

## Chapter 17: Biotechnology

Introduction of Biotechnology, Fermentation (Alcoholic Fermentation, Lactic acid Fermentation), Fermentation in Biotechnology, Applications of Fermentation, Genetic Engineering, Basic Steps in Genetic Engineering, Achievements of Genetic Engineering - (pp. 138-147)

## Practicals:

No practicals

## Questions:

Classwork: Multiple Choice (1-4) (pp. 148)
Homework: Short Questions: (1-3, 5), Understanding the Concepts (1, 3, 4) - (pp. 148)
Chapter 18: Pharmacology
Medicinal Drugs, Addictive Drugs, Sedatives, Narcotics, Hallucinogens, Drug Addiction and Associated problems, Antibiotics and Vaccines, Antibiotics, Antibiotic Resistance, Vaccines, Mode of Action of Vaccines - (pp. 150-156)
Practicals:
No practicals
Questions:
Classwork: Multiple Choice (1-8) (pp. 157)
Homework: Short Questions (1, 2, 4, 5), Understanding the Concept (1-5) - (pp. 157-158)

## Unit 1: Problem Solving:

Problem Solving Method (List of Steps of Problem-solving, Design Algorithm and Draw Flowchart, Write the Program (Coding), Test and Debug the Program) (Pg. 1-3), Algorithm (Pg. 4), Strategy for Developing Algorithm (Pg. 4-5), Problem 2 (Pg. 6), Flowchart (Pg. 8, 9)
Class Work: Q. 2, 5, 7,10 (i, iv, v, vii, ix, x) (Pg. 10-12)
Home Work: Q \# 6, 8, 10 (iv, viii) (Pg. 12)
Unit 2: Data Types, Assignment and Input / Output Statements:
Introduction (Pg. 13), Writing Programs in GW-BASIC (Create and Save the Program, Load the Program, Execute the Program) (Pg. 14, 15), Structure of BASIC Program (Pg. 15), Reserved Words (Pg. 17), Variables (Rules for Naming Variables in BASIC, Type Declaration Characters, Types of Variables) (Pg. 17-18), Constants (Pg. 18-19), BASIC commands (AUTO, EDIT, LIST, LOAD, RUN, SAVE, SYSTEM) (Pg. 19-26), BASIC statements (END, REM) (Pg. 27), Operators in BASIC (Pg. 28-31), BASIC statements (READ/DATA, INPUT, PRINT (Pg. 33-37)
Class Work: Q. 2,4, 6,10 (ii, ix), (Pg 38-40)
Home Work: Q. 5, 7,9, 10 (vii, viii) (Pg. 39-40)
Unit 3: Control Structures:
Introduction (Pg. 41), Selection Structure (Pg. 45-48), Loops (Pg.48-50)
Class Work: Q. 2, 4,7, 12, 14 (Pg. 51-52)
Home Work: Q. 5, 8, 10, (Pg. 52)
Unit 4: Arrays:
Introduction (Pg. 53), What is an Array? (Pg. 53-54), Filling and Printing of an Array (Pg. 54-55), Types of Array (Pg. 56), One-Dimensional Array (Pg. 56-57),
Class Work: Q .2, 6,11,18 (Pg. 59, 60)
Home Work: Q. 5,10,9, 14,17(vii, viii) (Pg. 60)
Unit 5: Sub-Program and File Handling: I
ntroduction (Pg. 61), Built-in Function (ABS, INT, RND, LOG, DATES, VAL, MID\$, RIGT\$, CHR\$) (Pg. 61-67), User-Defined Functions (Pg. 67-69)
Class Work: Q.2,5,10,11, 13 (Pg.76,77)
Home Work: Q. 4,6,9, 12 (Pg. 77)
Unit 6: Graphics in BASIC: Introduction (Pg. 79), SCREEN Statement (Pg. 80, 81), PSET Statement (Pg. 83, 84), LINE, CIRCLE, DRAW Statements (Pg. 84-86)

Class Work: Q.2, 7, 8, 10 (Pg. 87-88)
Home Work: Q. 4, 9, 11, 15 (Pg. 88)
Unit 7: Microsoft Word:
Entire unit excluded.

## List of Practicals for Grade IX (Old)

Unit 1: Demonstration of Computer Components
Entire Unit Excluded

## Unit 2: DOS Internal Commands

1. Demonstration of DIR Command in detail including switches used with it
2. Demonstration of CD, MD, RD, and CLS Commands
3. Demonstration of Copy and DEL/ Erase Command
4. Demonstration of TIME, DATE, VOL and VER Commands
5. Demonstration of Xcopy Commands
6. Demonstration of CHKDSK and DISKCOPY Commands
7. Demonstration of ATTRIB Commands
8. Demonstration of FORMAT Commands

Unit 3: Introduction to Windows
9. Creating New Folder
10. How to Search for a File or Folder
11. To Cut/Copy and Paste a File Folder from one location to another
12. How to Use Recycle Bin
13. To Display the My Recent Document Folder on Start Menu and Open Recently used document
14. How to Open and Make Selections from a Menu
15. How to Access Control Panel and Set the Time \& Date
16. How to Arrange a Remove Icons
17. How to Add or Remove Programs and Windows Components List of Practicals for Grade X
Unit 1: Introduction to GW Basic

1. Write a Program to find sum of average of three numbers
2. Write a Program to find area of a rectangle
3. Write a Program to find area and circumference of a circle
4. Write a Program to calculate surface area and volume of a cube
5. Write a Program to convert temperature from Fahrenheit to Centigrade
6. Write a Program to calculate distance covered by a car moving at an average speed of $\mathrm{V} \mathrm{m} / \mathrm{s}$ in time t ( sec ). The Program should input average speed and time.
7. Write a Program that asks for name, roll number, class, section and marks in different subjects of a students of class 10 . The program should calculate and display total obtained marks and percentage of marks.
8. Write a Program to input a number and display whether it is even or odd
9. Write a Program to calculate grade of a student
10. Write a Program to write first ten natural numbers using for next loop
11. Write a Program to sum the series $2,4,6 \ldots, 100$
12. Write a Program to display a table of given number up to ten values
13. Write a Program for the use of iteration of statement, (Read 5 values from keyboard and find their mean gravity and compare the mean value against actual value 9.8 meters / sec2
14. Write a program to find Factorial of a given number
15. Write a program to fill an array with letters $a, b, c, d$
16. Write a program to enter integer type data into an array and then to print the values in reverse order
17. Write a program to read an array with 20 numbers and find the product of numbers in that array
18. Write a program to find largest number out of given 10 numbers using an array
19. Write a program to input numbers in two-dimensional array with 2 columns and 2 rows and display the result in third array by adding these array
20. Write a program to sort the list of 20 names in descending order
21. Write a program using subroutine named mean and call this in main function
22. Write a program to print characters "tan" from the string "Pakistan Zindabad" using mid\$ function
23. Write a program to print first three characters from any string given by user, using left\$ function
24. Write a program to draw a line using LINE statement

## CHAPTER 6: ENVIRONMENT AND NATURAL RESOURCES:

Class Work: 6.1. Earth's Atmosphere, 6.2. Environmental Pollution, 6.5. Dairy and Poultry Farming, 6.6. Wildlife and National Parks,
Home Work: Exercise : Question No. 1 (i - v, viii,ix), 2 (i-iv), 3(i-iii,v), 4, 5, 6, 7, 8, 11( b,c,d)

## CHAPTER 7: ENERGY:

Class Work:Introduction, 7.1. Work and Energy, 7.2. Different Forms of Energy, 7.4. Demand of Energy, 7.5. Production of Electrical Energy, 7.6. Measurement of Energy.
Home Work:Exercise: Question No. 1,2,3 (i-iv), 4 (i-ii,v),5,6,8,9,10
CHAPTER 8: CURRENT ELECTRICITY:
Class Work: Introduction, 8.1. Electric Current, 8.3. Potential Difference, 8.4. Ohm's Law, 8.5. Resistance 8.6. Components of a Circuit, 8.7. Direct and Alternating Current, 8.8. Uses of D.C and A.C, 8.9. Domestic Electric Supply, 8.11. Dangers of Electricity and Precautionary Measures,
Home Work: Exercise: Question No. 1,2 (i-iv), 3(ii-v), 4(i-ix),5,6,7,8,9
CHAPTER 9: BASIC ELECTRONICS:
Class Work: Introduction, 9.1. Semi-conductors, 9.3. Radio Waves, 9.4. Computer, 9.6. Information Technology

Home Work: Exercise: Question No. 2(i-iv), 3(iii, iv \& v),4, 6, 7, 9, 10
CHAPTER 10 : SCIENCE AND TECHNOLOGY:
Class Work: 10.1. Role of Science and Technology, 10.2. Lasers, 10.3. Fiber Optics, 10.4. Satellites and Radars, 10.6. X-Rays, 10.7. Ultrasound, 10.8. E.C.G. 10.10. M.R.I., 10.11. C.T Scan, 10.12. Angiography,

Home Work: Exercise: Question No. 1 (i-iii,v) ,2 (ii-iv), 5,6, 7,8, 11,12 CHAPTER 11: SPACE AND NUCLEAR PROGRAMME OF PAKISTAN:
Class Work: 11.1. Importance of Space Programme, 11.2. Space Programme of Pakistan, 11.3. Nuclear Power Programme of Pakistan,
Home Work: Exercise: Question No. 1,2,3,4,5,6,7



[^0]:    Unit 1: Problem Solving:
    Problem Solving Steps(Pg. 2-6),Flowcharts(6-8), Examples of Flowcharts $(1,4,6,7,8,11)(P g .8-15)$, Algorithm(Pg.15), Definition(Pg. 15-16), Formulation of an Algorithm (Pg. 17),Examples of Algorithms (1,2,5,7,9), Efficiency of Algorithms (Pg. 21-23), Identification of Errors(Pg.27-29)
    Class Work: Q.1.1 (1-4)(Pg. 30), Q.1.2(Pg.30-31),Q.1.3 (Pg. 31), Q.1.4(1,3,5) (Pg. 31)
    Home Work: Q. 1.1 (5)(Pg. 30), Q. 1.4 (2,4)(Pg. 31)

