**PHYSICS**

For Class IX (marks 65)

**1. PHYSICAL QUANTITIES AND MEASUREMENT**

1.1 Introduction to Physics

1.2 Physical quantities

1.3 International system of units

1.4 Prefixes (multiples and sub multiples**)**

1.5 Standard form / scientific notation

1.6 Measuring instruments

i. metre rule

ii. vernier callipers

iii. screw gauge

iv. physical balance

v. stopwatch

vi. measuring cylinder

1.7 An introduction to significant figures

**2. KINEMATICS**

2.1 Rest and motion

2.2 Type of motion (Translatory, rotatory, vibratory)

2.3 Terms associated with motion;

i. Position

ii. Distance and displacement

iii. Speed and velocity

iv. Acceleration

2.4 Scalars and Vectors

2.5 Graphical analysis of Motion;

i. Distance-time graph

ii. Speed-time graph

2.6 Equations of Motion;

i. S = vt

ii. vf = vi + at

iii. S = vit + ½ at2

iv. $v\_{f}^{2}-v\_{i}^{2}$ = 2 a S

2.7 Motion due to gravity

**3. DYNAMICS**

3.1 Momentum

3.2 Newton’s laws of motion

3.3 Friction

3.4 Uniform circular motion

**4. Turning Effect of Forces**

4.1 Forces on bodies

4.2 Addition of forces

4.3 Resolution of forces

4.4 Moment of a force

4.5 Principle of moments

4.6 Centre of mass

4.7 Couple

4.8 Equilibrium

4.9 Stability

**5. GRAVITATION**

5.1 Law of gravitation

5.2 Measurement of mass of earth

5.3 Variation of ‘g’ with altitude

5.4 Motion of artificial satellites (simple treatment)

**6. WORK AND ENERGY**

6.1 Work

6.2 Energy forms

6.3 Kinetic energy and Potential energy

6.4 Major sources of energy

6.5 Efficiency

6.6 Power

**7. PROPERTIES OF MATTER**

7.1 Kinetic molecular model of matter

7.2 Density

7.3 Pressure

7.4 Atmosphere pressure

7.5 Pressure in liquids

7.6 Up thrust

7.7 Principle of floatation

7.8 Elasticity

7.9 Stress, strain and Young’s modulus

**8. THERMAL PROPERTIES OF MATTER**

8.1 Temperature and heat

8.2 Thermometer

8.3 Specific heat capacity

8.4 Latent heat of fusion

8.5 Latent heat of vaporization

8.6 Evaporation

8.7 Thermal Expansion

**9. TRANSFER OF HEAT**

9.1 The three process of heat transfer

9.2 Conduction

9.3 Convection

9.4 Radiation

9.5 Consequences and everyday application of heat transfer

**RECOMMENDED REFERENCE BOOKS FOR CLASS IX**

 The question paper will be syllabus oriented. However, the following book is recommended for reference and supplementary reading:

 1. Physics 9

 Caravan Book House, Lahore