



ACCELERATED LEARNING PROGRAMME (ALP)

تسریع التعلیم پروگرام

برائے

سیکنڈری کلاسز

پنجاب کریکولم اینڈ ٹیکسٹ بک بورڈ، لاہور

(Note: All questions given in “Mini Exercises and Quick Quizzes” are excluded.)

CHAPTER 1: PHYSICAL QUANTITIES AND MEASUREMENT

Physical Quantities (Pg. 4), Base Quantities (Pg. 5), Derived Quantities (Pg. 5), International System of Units (Pg. 5), Base Units (Pg. 5, 6), Derived Units (Pg. 6), Prefixes (Pg. 7, 8), Scientific Notation (Pg. 8), Vernier Callipers (Pg. 10, 11), Significant Figures (Pg. 20-22), Example: 1.4 (Pg. 22)

Exercise:

Classwork: Q : 1.1 (iv, v, vii, x) (Pg. 24) (1.4-1.7, 1.13) (Pg. 25), Problems: (1.2, 1.6, 1.8) (Pg. 25, 26)

Homework: Q: 1.1 (i-iii) (Pg. 24) (1.2, 1.3, 1.8, 1.12) (Pg. 24, 25), Problems: (1.4, 1.5, 1.9) (Pg. 25, 26)

CHAPTER 2: KINEMATICS

Rest and Motion (Pg. 29), Scalars and Vectors (Pg. 33, 34), Terms Associated with Motion (Pg. 34-39), Graphical Analysis of Motion (Pg. 40), Distance-Time Graph (Pg. 40, 41), Speed-Time Graph (Pg. 42, 43), Equations of Motion (Pg. 44-46), Motion of Freely Falling Bodies (Pg. 49), Examples: 2.4-2.8, 2.10 (Pg. 39-43, 46, 47)

Exercise:

Classwork: Q: 2.1 (iv-vi, ix, x, xii) (Pg. 52, 53), (2.6-2.8, 2.13) (Pg. 53, 54), Problems: (2.3-2.5, 2.8) (Pg. 54)

Homework: Q: 2.1 (iii, viii, xi) (Pg. 52, 53), (2.4, 2.5, 2.9, 2.10) (Pg. 53), Problems: (2.1, 2.2, 2.6) (Pg. 54)

CHAPTER 3: DYNAMICS

Force, Inertia and Momentum (Pg. 57-59), Newton’s Laws of Motion (Pg. 59, 60, 63, 64), Mass and Weight (Pg. 62, 63), Force and Momentum (Pg. 67, 68), Law of Conservation of Momentum and its Daily Life Applications (Pg. 69-71), Friction, Coefficient of Friction ($F = \mu R$) (Pg. 72, 73), Rolling Friction (Pg. 74, 75), Centripetal Force (Pg. 77, 78), Examples: 3.1, 3.3, 3.6, 3.8 (Pg. 61, 62, 68, 69, 78, 79)

Exercise:

Classwork: Q: 3.1 (iii, viii) (Pg. 81, 82), (3.3, 3.6, 3.7, 3.9, 3.10, 3.12, 3.13) (Pg. 82), Problems: (3.5, 3.9) (Pg. 83)

Homework: Q: 3.1 (i, ii, v, vii, ix) (Pg. 81, 82), (3.2, 3.4, 3.11, 3.16, 3.17) (Pg. 82), Problems: (3.1, 3.3, 3.8, 3.10) (Pg. 83)

CHAPTER 4: TURNING EFFECT OF FORCES

Like and Unlike Parallel Forces (Pg. 86), Addition of Forces (Pg. 86, 87), Head to Tail Rule (Pg. 87), Resolution of Forces (Pg. 88-90), Torque or Moment of a Force (Pg. 90-92), Principle of Moments (Pg. 92), Centre of Gravity (Pg. 94-96), Equilibrium (Pg. 97), First Condition of Equilibrium (Pg. 97, 98), Second Condition of Equilibrium (Pg. 98, 99), Examples: 4.2-4.5 (Pg. 89, 92, 93, 98)

Exercise:

Classwork: Q 4.1: (iv, vi) (Pg. 104), (4.4, 4.5, 4.7-4.9, 4.11) (Pg. 104, 105),
Problems: (4.1, 4.3, 4.7, 4.8) (Pg. 105)

Homework: Q 4.1 : (ii, iii) (Pg. 104), (4.6, 4.10) (Pg. 104, 105),
Problems: (4.2, 4.4, 4.5) (Pg. 105)

CHAPTER 5: GRAVITATION

The Force of Gravitation (Pg. 107), Law of Gravitation (Pg. 107, 108), Law of Gravitation and Newton's Third Law of Motion (Pg. 108), Mass of Earth (Pg. 110), Artificial Satellites (Pg. 112, 113), Examples: 5.1, 5.2 (Pg. 108, 109, 111, 112)

Exercise:

Classwork: Q 5.1: (ii) (Pg. 114), (5.8-5.10) (Pg. 115) Problems: (5.4, 5.9) (Pg. 115, 116)

Homework: Q 5.1: (i, iv) (Pg. 114), (5.2, 5.3, 5.16) (Pg. 115)
Problems: (5.1-5.3, 5.7) (Pg. 115, 116)

CHAPTER 6: WORK AND ENERGY

Energy (Pg. 121), Kinetic Energy ($K.E.=1/2 mv^2$) (Pg. 121, 122), Potential Energy ($P.E.=mgh$) (Pg. 123, 124), Efficiency (Pg. 136), Power (Pg. 137), Examples: 6.2, 6.3, 6.5, 6.7 (Pg. 122-124, 136-139)

Exercise:

Classwork: Q: 6.1 (iii, xi) (Pg. 140, 141), (6.5, 6.6, 6.13, 6.14) (Pg. 141), Problems: (6.4-6.6) (Pg. 142)

Homework: Q: 6.1 (v, ix) (Pg. 140, 141), (6.7, 6.15, 6.16) (Pg. 141), Problems: (6.2, 6.3, 6.9) (Pg. 142)

CHAPTER 7: PROPERTIES OF MATTER

Density (Pg. 147), Pressure (Pg. 148, 149), Atmospheric Pressure only (Pg. 149), Pressure in Liquids (Pg. 151, 152), Pascal's Law (Pg. 152), Application of Pascal's Law, Hydraulic Press (Pg. 152, 153), Elasticity (Pg. 160, 161), Hooke's Law (Pg. 161), Young's Modulus (Pg. 162), Examples: 7.1, 7.2, 7.7 (Pg. 148, 153, 154, 162, 163)

Exercise:

Classwork: Q7.1: (i, vii, viii) (Pg. 164), (7.16, 7.22) (Pg. 165), Problems: (7.3, 7.6, 7.12) (Pg. 165, 166)

Homework: Q7.1: (iii) (Pg. 164), (7.6, 7.15, 7.17) (Pg. 165), Problems: (7.1, 7.5, 7.11) (Pg. 165, 166)

CHAPTER 8: THERMAL PROPERTIES OF MATTER

Temperature and Heat (Pg. 169, 170), Specific Heat Capacity (Pg. 174, 175), Importance of Large Specific Heat Capacity of Water (Pg. 175), Heat Capacity (Pg. 176), Change of State (Pg. 177), Latent Heat of Fusion (Pg. 178, 179), Latent Heat of Vaporization (Pg. 180-182), The Evaporation (Pg. 182, 183), Thermal Expansion (Pg. 183, 184), Linear Thermal Expansion in Solids (Pg. 184), Volume Thermal Expansion (Pg. 185, 186), Examples: 8.5-8.7 (Pg. 175, 176, 184-187)

Exercise:

Classwork: Q 8.1: (vi, vii) (Pg. 191), (8.7-8.9) (Pg. 191) Problems: (8.4, 8.9) (Pg. 192)

Homework: Q 8.1: (iv, v, viii) (Pg. 191), (8.3, 8.10) (Pg. 191) Problems: (8.3, 8.7) (Pg. 192)

CHAPTER 9: TRANSFER OF HEAT

Transfer of Heat (Pg. 195), Conduction (Pg. 195, 196), Thermal Conductivity (Pg. 196, 197), Convection (Pg. 199), Convection Currents in Air (Pg. 200), Use of Convection Currents (Pg. 200), Land and Sea Breezes only (Pg. 200, 201), Radiation (Pg. 201, 202)

Example: 9.1 (Pg. 198, 199)

Exercise:

Classwork: Q 9.1: (ii, vi, viii) (Pg. 207), (9.4, 9.6, 9.7) (Pg. 208), Problems: (9.2) (Pg. 208)

Homework: Q 9.1: (i, iii, v) (Pg. 207), (9.9) (Pg. 208), Problem: (9.1) (Pg. 208)

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.



پنجاب کریکولم اینڈ ٹیکسٹ بک بورڈ، لاہور