ACCELERATED LEARNING PROGRAMME (ALP)
LAHORE, SAHIWAL, GUJRANWALA, FAISALABAD, MULTAN, BHAWALPUR
RAWALPINDI , DERA GHAZI KHAN, AZAD KAHSMIR , SARGODHA

PHYSICS 9TH CLASS GUESS PAPERS

UNIT NO. 1 PHYSICAL QUANTITIES AND MEASUREMENT

MULTIPLE CHOICE:

1. The number of significant figures in 0.00580 km is.
   a) 5
   b) 6
   c) 3
   d) 2
2. The number of base units in SI are.
   a) 5
   b) 6
   c) 7
   d) 9
3. Amount of a substance in term of number is measured in.
   a) Gram
   b) Kilogram
   c) Newton
   d) Mole
4. An interval of 200 micro second is equivalent to.
   a) 0.2 s
   b) 0.02 s
   c) 2×10^{-4} s
   d) 2×10^{-6} s
5. The smallest quantity among these is.
   a) 0.01 g
   b) 2 mg
   c) 100 g
   d) 5000 mg

SHORT QUESTIONS:

1. Define base quantities.
2. Define base quantities and units.

3. Define physical quantities and derived quantities.
4. Write down rules to find the significant digits.
5. What role SI Units have played in the development of science.
6. What is vernier calipers? Write the least count of vernier calipers.
7. What is meant by significant figures? How many significant figures are in?

LONG QUESTIONS:

NO LONG QUESTIONS IN THIS CHAPTER.

UNIT NO. 2 KINAMITICS.

MULTIPLE CHOICE:

1. Falcon can fly at speed of.
   a) 200 kmh^{-1}
   b) 17 kmh^{-1}
   c) 100 kmh^{-1}
   d) 70 kmh^{-1}
2. The acceleration of a body failing down freely is approximately.
   a) 10 m^2s^{-2}
   b) 10 ms^{-2}
   c) 10 ms^{-1}
   d) 10 m^2s^{-1}
3. Which of the following is a vector quantity.
   a) Speed
   b) Distance
   c) Displacement
   d) Power
4. If an object is moving with constant speed than its distance –time graph will be a straight line.
   a) Along time- axis
   b) Along distance-axis
   c) Parallel to time-axis
   d) Inclined to time –axis
5. By dividing displacement of a moving body with time we obtain.
   a) Speed
   b) Velocity
   c) Displacement
   d) Distance
8. 36 kmh^{-1} is equal to.
   a) 10 ms^{-1}
   b) 20 ms^{-1}

c) 25 ms^{-1}
d) 50 ms^{-1}

SHORT QUESTIONS:

1. How is a vector represented?
2. Define speed and write its units.
3. Convert 50 $kmh^{-}1$ speed of a body into ms^{-1}
4. Differentiate between variable and uniform speed.
5. Define uniform velocity
6. Define uniform speed and uniform velocity
7. What is difference between positive acceleration and negative acceleration?
8. Write equation of motion for uniformly acceleration motion.
9. Define gravitational acceleration and write its value is SI units.
10. How can vector quantities be represented graphically?
11. A train starts from rest with an acceleration of 0.5 ms^{-2}. Find its speed in Kmh^{-1}. When it has moves through 100 m.

LONG QUESTIONS/NUMERICAL:

1. Example 2.5
2. Prove with the help of graph $Vf - Vi + at$
3. Prove it graphically by diagram $s = vit + ½ at^2$
4. Derive second equation
5. Drive third equation of motion.
6. A car has a velocity of 10 ms-1 if acceleration at 0.75 for half minute. Find the distance travelled during this time and final velocity of the car.
7. A stone is dropped from the top of a tower. The stone hits the ground after 5 seconds. Find (i) The height of tower (ii) The velocity with which the above hits the ground.

CHAPTER NO.3 DYNAMICS

MULTIPLE CHOICE:

1. Equation of momentum is.
   a) $P = m/v$
   b) $P = mv^2$
   c) $P = (mv)^2$
   d) $P = mv$
2. One Newton is unit of force and is equal to.
   a) 1 kg ms^{-2}
   b) 1 $kg^{-1} s^{-1}$
   c) 1 gms
   d) 1 kgm^{-1} s

3. The force oppose the motion of a moving object is called.
   a) Momentum
   b) Friction
   c) Power
   d) Work
4. Coefficient of friction meo between the tyre and wet road is.
   a) Q.2
   b) 0.6
   c) 0.8
   d) 1
5. First law of Newton is applicable in the absences of which of the following.
   a) Force
   b) Net force
   c) Friction
   d) Momentum

SHORT QUESTIONS:

1. Define Newton's second law of motion and give equation.
2. State Newton's third law of motion and write two examples.
3. What is Atwood Machine? Give its one use. Define force and its unit.
4. Define Inertia and momentum.
5. Write difference between Mass and Weight.
6. Give two examples of law of conservation of momentum.
7. When a gun is fired, it recoiled why.
8. Why rolling friction is less than sliding friction?

LONG QUESTINS:

1. How much time is required to change 22 Ns momentum in a body by a force of 20 N?
2. Define rate of change of momentum and also drive its equation.
3. State second law of motion and drive equation f = ma.
4. State Newton's first law of motion. Why is it called law of inertia?
5. A body has weight 20 N. How much force is required to move it vertically upward with an acceleration of 2 ms^{-2}

CHAPTER NO.4. TURNING EFFECT OF FORCES.

MULTIPLE CHOICE:

1. The number of perpendicular components of a vector is.
   a) 1
   b) 2

c) 3
d) 4

2. The centre of gravity of irregular shaped body can be found with help of.
   a) Gravity
   b) Merle rod
   c) Plump line
   d) Screw gauge.
3. Two equal but unlike parallel force having different line of action produce.
   a) A torque
   b) A couple
   c) Equilibrium
   d) Neutral aquarium.
4. The number of vectors that can be added by head to tall rule is.
   a) 2
   b) 3
   c) 4
   d) Any number
5. If 10 Newton force is making an angle 30 o with x-axis then value of horizontally component
   a) 4 N
   b) 5 N
   c) 7 N
   d) 0.7 N
6. Racing cars made stable by.
   a) Increasing their speed
   b) Decreasing their mass
   c) Lowering their centre of gravity
   d) Decreasing their width

SHORT QUESTIONS:

1. What is resultant of force?
2. Define axis of rotation.
3. What is rigid body?
4. When a body is said to be in equilibrium.

LONG QUESTIONS:

1. What is resolution of force? Resolve of force F into its perpendicular components.
2. Find the perpendicular components of a force of 50 N making an angle of 30 o with x-axis.
3. Find a force from its perpendicular component by using a figure.

CHAPTER NO. 5 GRAVITATION:

MULTIPLE CHOICE:

1. The value of gravitational field strength near the surface of earth is.
   a) 20 N kg
   b) 30 N kg
   c) 5 N kg
   d) 10 N kg
2. Mass of the earth is
   a) Increase in mass of the body
   b) Increase in altitude
   c) Decrease in attitude
   d) None of the above
3. The value of g on moon's surface is 1.6 ms-2. What will be the weight of a 100 kg body on the surface of the moon?
   a) 100 N
   b) 160 N
   c) 1000 N
   d) 1600 N

SHORT QUESIOTNS:

1. What do you known about G? Also write its value.
2. Why we cannot fast gravitational force around us?
3. Define gravitational field.
4. Define mass of earth.
5. What is the height and speed of Geo stationary satellite from the surface of the earth?
6. Give the orbital speed formula for artificial satellite.
7. Define force of gravitation and give one example
8. State the law of gravitation and write its formula.

LONG QUESTIONS:

1. What do you mean by artificial satellite?

CHAPTER NO.6 WORK AND ENERGY.

MULTIPLE CHOICE:

1. The SI unit of Power.
   a) Newton
   b) Watt
   c) Joule
   d) Coulomb
2. The energy stored in a dam is.

a) Electric energy
b) Potential energy
c) Chemical energy
d) Nuclear energy

3. In Einstein ‘s mass energy equation, c is the
   a) Speed of sound
   b) Speed of light
   c) Speed of volume
   d) None of these
4. Rate of doing work is called.
   a) Energy
   b) Torque
   c) Power
   d) Momentum
5. In a dam the water energy is called.
   a) Heat energy
   b) Electrical energy
   c) G.P.E
   d) Mechanical energy
6. Einstein mass energy equation is.
   a) $E = mc^2$
   b) $E = m^2c$
   c) $E = ½\ mc^2$
   d) $2\ mc^2$
7. 1 kW is equal to.
   a) 10^2 W
   b) 10^3 W
   c) 10 5 W
   d) 10^6 W
8. 1 mega watt is equal to.
   a) $10^{\ 3}$ W
   b) $10^{\ 5}$ W
   c) 10^8 W
   d) 10^6 W
9. The unit of work is.
   a) J
   b) N
   c) Ns
   d) m
10. Work done is maximum when angle between force and displacement is.

a) 45 °
b) 0 °
c) 60°
d) 90°

SHORT QUESTIONS:

1. Define work. What is its SI unit?
2. A machine does 4 joule of work in 2 sec. Calculate its work.
3. Define energy. Give two types of mechanical energy.
4. Define K.E. and derive its relation.
5. Define Potential energy and derive its relation.
6. What is meant by the efficiency of a system?
7. Define power and watt.
8. Define unit of work.
9. State law of conservation of energy.
10. What is magma?
11. Write a brief note on Einstein mass energy equation.

LONG QUESTIONS:

1. Explain two major renewable sources of energy.
2. Explain how energy is obtained from solar house heating and solar cells.
3. Calculate the power of pump which can lift 70 kg of water through a vertical height 16 meters in 10 seconds. Also find the power of the pump, convert its power into horse power.
4. A motor boat moves at a steady speed of 4 ms-1 water resistance acting on it is 4000 N calculate the power of its engine.
5. A man pulls a block with a force of 300 N through 50 m in 60 s. Find power used by him to pull the block.
6. A 50 kg man moved 25 steps up in 20 s. Find his power if each slop is 16 cm high.

UNIT NO. 7 PROPERTIES OF MATTER.

MULTIPLE CHOICE:

1. One litre is equal to.
   a) 1 kgm^{-1}
   b) 100 kgm^{-1}
   c) $10^{-1}m^{-1}$
   d) $10^{-1}m^{-1}$
2. SI unit of pressure is.
   a) N
   b) Nm

c) J
d) Nm-1

3. In SI system, unit of density
   a) Kgm-1
   b) K gm-2
   c) Kg m-3
   d) Kg m
4. In which of the following state molecules do not leave their position.
   a) Solid
   b) Liquid
   c) Gas
   d) Plasma
5. Pascal is equal to.
   a) 10^{-4} Nm^{-2}
   b) 1 Nm^{-2}
   c) 10^{2} Nm^{-2}
   d) 10^{3} Nm^{-2}

SHORT QUESTIONS:

1. What is barometer?
2. What is meant by elasticity?
3. What is Hook's law? What is meant by elastic limit?
4. State Pascal's law
5. How does vacuum cleaner work?
6. Define stress with its unit.
7. Define Young's modulus.
8. Give three application of Pascal's law.
9. Difference between Stress and Strain.
10. What is meant by atmospheric pressure?
11. State Archimedes principle.
12. Difference between Strain and Tensile of strain.
13. Write two examples of applications of Pascal's law.
14. Define the term pressure. Give its S.I.unit.
15. What is meant by Elasticity and Stress?
16. State Hook's law. What is meant by elastic limit?

LONG QUESTIONS:

1. The mass of 200 cm3 of stone in 500 g. Find as density
2. The density of air is 1.3 kgm-1. Find of air in a room measuring 8m x 5m x 4m

3. A cube of glass of 5 cm side and mass 306 g has a cavity inside it. If the density of glass is 2.55 gcm-3. Find the volume of the cavity.
4. A wooden block measuring 40 cm x 10 cm x 5 cm has a mass 850 g. Find the density of wood.

CHAPTER NO. 8 THERMAL PROPERTIES OF MATTER.

MULTIPLE CHOICE:

1. Rate of flow of heat is equal to.
   a) Q = t
   b) Q^o/t
   c) Q/t
   d) Q/t^2
2. SI unit of specific heat to.
   a) $Jkg^{-1} K^{-1}$
   b) J^{-1} Kg-1 K^{-1}
   c) J Kg K
   d) J kg-1 K
3. The specific heat of iron in joules per kilogram per Kelvin is.
   a) 387.0
   b) 920.0
   c) 470/0
   d) 503.0
4. The value of specific heat of dry soil is about.
   a) B – a alpha
   b) B = 3 Alpha
   c) B = 2 alpha
   d) B = 2/ alpha
5. _____ Material has large specific heat.
   a) Copper
   b) Ice
   c) Water
   d) Mercury

SHORT QUESTONS:

1. Define Temperature.
2. How temperature determines the direction of flow of heat.
3. Define Thermal equilibrium.
4. How evaporation differs from vaporization.
5. Write any two uses of thermal expansion in our daily life.

6. What is meant by bimetallic strip
7. Define co-efficient of linear thermal expansion and what its SI unit is.
8. Define "Volume thermal expansion' and "temperature co-efficient of volume expansion.
9. Define Latent Heat of fusion.
10. What is meant by specific heat?
11. Define latent heat of vaporization.

LONG QUESTIONS:

1. Explain the liner thermal expansion is solids.
2. Define linear thermal expansion in solids. Derive its formula.

CHAPTER NO.9 TRANSFER OF HEAT.

MULTIPLE CHOICE:

1. The way by which transfer of heat takes place are.
   a) 1
   b) 2
   c) 3
   d) 4
2. The units of thermal conductivity to.
   a) Wmk
   b) $Wm^{-1}k^{-1}$
   c) Wmk^{-1}
   d) $Wm^{2}k^{-1}$
3. Thermal conductivity of air is.
   a) 0.08
   b) 0.03
   c) 0.2
   d) 0.026
4. Global warming is due to a gas.
   a) Oxygen
   b) Carbon di oxide
   c) Carbon mono oxide
   d) Chlorine
5. In solids, heat is transferred by.
   a) Radiation
   b) Conduction
   c) Convection
   d) Absorption

6. What happens to the thermal conductivity of a watt if its thickness is doubled?
    a) Becomes double
    b) Remain the same
    c) Becomes half
    d) Become one fourth
7. Metals are good conductor of heat due to.
    a) Free electron
    b) Bigger sure of their momentum
    c) Smaller size of their molecules
    d) Rapid vibration of their atoms
8. False celling is done to.
    a) Lower the height of celling
    b) Keep the root clean
    c) Cool the room
    d) Insulate the celling.
9. Rooms are heated using gas heaters by.
    a) Conduction only
    b) Convection and radiation
    c) Radiation only
    d) Convection only
10. Land Breeze blows from.
    a) Land Breeze blows from
    b) Sea to land during might
    c) Sea to land during the day
    d) Land to sea during the day

SHORT QUESTIONS:

1. What is meant by transfer of heat? Write way by which transfer of heat takes place.
2. Write methods of heat transfer.
3. Why are the metals good conductors of heat?
4. Define Thermal conductivity and write its equation.
5. Define convection.
6. What is meant by gliding?
7. What causes of glider to remain in air?
8. Write names of any two birds who are expert thermal climbers.
9. Where is convection currents used?
10. Define land breeze and sea breeze.
11. Mention the use of Leslie cube

12. Define radiation. Write down the factors at which the rate of emission of radiations depends.
13. Describe relation of radiation of heat and surface are.

LONG QUESTIONS:

1. What measures do you suggest to conserve energy in houses?
2. Explain the reasons of sea breeze blows during the day and land breeze blows during night.
3. Define radiations how heat reaches us from sun?
4. Write use of Leslie Cube. Explain how various surfaces of it can be compared.