HOLIDAYS HOMEWORK[2025-26]

CLASS XI **SUBJECT-PHYSICS**

Dear children,do these assignment in physics notebook.
#Read Newspaper daily.
For a fulfilling summer vacation, prioritize well-being by staying hydrated, seeking shade during peak heat, and practicing good hygiene. Engage in activities that foster learning,

CH-1 UNITS AND MEASUREMENT

Multiple Choice Questions (MCQs)

1. The number of significant figures in 0.007500 is:
   a) 4 b) 5
   c) 6 d) 3
2. Which of the following is not a fundamental quantity?
   a) Length b) Mass
   c) Force d) Time
3. The SI unit of pressure is:
   a) Pascal b) Newton
   c) Joule d) Watt
4. The dimensional formula of velocity is:
   a) $[M^1L^1T^{-1}]$ b) $[M^0L^1T^{-1}]$
   c) $[M^1L^0T^{-1}]$ d) $[M^0L^0T^{-2}]$
5. Which of the following pairs has the same dimensions?
   a) Energy and Force b) Work and Torque
   c) Power and Momentum d) Pressure and Work
6. The least count of a standard metric ruler is:
   a) 1 cm b) 0.1 cm
   c) 0.01 cm d) 0.001 cm
7. A physical quantity which has unit but no dimension is:
   a) Angle b) Velocity
   c) Pressure d) Energy
8. If the error in measurement of radius is 2%, the error in the calculated area of a circle will be:
   a) 2% b) 4%
   c) 6% d) 1%
9. Dimensional formula of Planck's constant is:
   a) $[ML^2T^{-1}]$ b) $[ML^2T^{-2}]$
   c) $[MLT^{-1}]$ d) $[ML^2T]$
10. Which of these methods is used to find dimensions of a physical quantity?
    a) Dimensional analysis b) Unit conversion
    c) Algebraic expression d) Measurement with instruments

Assertion and Reason Questions

a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.
c) A is true but R is false.
d) A is false but R is true.

1.Assertion (A): The physical quantity having dimensions $[MLT^{-2}]$ is force.
Reason (R): Force = mass × acceleration.

2. Assertion (A): The SI unit of work is the same as that of energy.
Reason (R): Work and energy have the same dimensions.

3. Assertion (A): Dimensionally correct equations are always physically correct.
Reason (R): Dimensional analysis only checks consistency of units.

4. Assertion (A): Two quantities with same dimensions are always equal in magnitude.
Reason (R): Dimensional analysis ensures numerical equality.

5. Assertion (A): Torque and work have the same dimensions.
Reason (R): Both are scalar quantities.

CH 2 MOTION IN A STRAIGHT LINE

Multiple Choice Questions (MCQs)

1.Which of the following is not a vector quantity?
a) Displacement b) Velocity
c) Speed d) Acceleration

2.The area under a velocity-time graph represents:
a) Acceleration b) Distance
c) Displacement d) Speed

3.An object is moving with constant velocity. Which of the following is true?
a) The object has no acceleration.
b) The object is speeding up.
c) The displacement is zero.
d) The speed is decreasing.

4. If the acceleration of an object is zero, then the velocity-time graph is:
a) A curve
b) A parabola
c) A straight horizontal line
d) A straight line with a positive slope

5. A particle moves along a straight line and covers 10 m in the first second, 10 m in the second second, and 10 m in the third second. The motion is:
a) Uniform acceleration b) Retardation
c) Uniform motion d) Variable acceleration

6.The SI unit of acceleration is:
a) m/s b) m/s^2
c) km/hr d) m^2/s

7.Which of the following is a correct equation of motion?
a) $v = u - at$ b) $s = ut + at^2$
c) $v^2 = u^2 + 2as$ d) $v = u^2 + 2as$

8. If an object returns to its starting point, its displacement is:
a) Positive b) Negative
c) Zero d) Equal to distance

9. The slope of a position-time graph gives:
a) Acceleration b) Speed
c) Velocity d) Displacement

10. Which of the following is not a kinematic quantity?
a) Displacement b) Acceleration
c) Force d) Velocity

Assertion and Reason Questions

1. Assertion (A): Displacement can be zero even when distance is not zero.
   Reason (R): Displacement is the shortest distance between initial and final positions.
2. Assertion (A): The velocity-time graph of a body under uniform acceleration is a straight line.
   Reason (R): Under uniform acceleration, velocity changes at a constant rate.
3. Assertion (A): A body moving with uniform speed can have variable velocity.
   Reason (R): Velocity is a scalar quantity.
4. Assertion (A): Acceleration is the rate of change of velocity.
   Reason (R): It is a scalar quantity.
5. Assertion (A): The slope of a displacement-time graph represents speed
   Reason (R): The steeper the slope, the greater the speed.

Ch-3 MOTION IN A PLANE

Multiple Choice Questions (MCQs)

1. A body is projected with a velocity of 20 m/s at an angle of 30° with the horizontal. What is the time of flight?
   a) 1 s b) 2 s
   c) 3 s d) 4 s
2. The path of a projectile is
   a) Circular b) Parabolic
   c) Linear d) Elliptical
3. A ball is projected at 45° angle. To attain maximum range, what should be the value of $\sin(2\theta)$?
   a) 0 b) 0.5
   c) 1 d) $\sqrt{2}$
4. The horizontal range of a projectile is maximum when the angle of projection is:
   a) 30° b) 45°
   c) 60° d) 90°
6. Which of the following is a vector quantity?
   a) Speed b) Distance
c) Displacement d) Mass
7. When a particle moves in a circle with uniform speed, its velocity vector:
   a) Remains constant
   b) Changes direction continuously
   c) Is directed radially outward
   d) Is directed radially inward
8. The centripetal acceleration for a particle moving in a circle of radius *r* with speed *v* is:
   a) v/r b) v^2/r
   c) r/v d) v/r^2
9. Vector A has a magnitude of 3 units and vector B has a magnitude of 4 units. The maximum resultant of A + B is:
   a) 1 b) 5 c) 7 d) 12
10. The resultant of two vectors is maximum when the angle between them is:
   a) 0° b) 90° c) 180° d) 45°
11. What is the angle between two vectors if their dot product is zero?
   a) 0° b) 45° c) 90° d) 1

Assertion-Reason Questions

A) Both Assertion and Reason are true, and Reason is the correct explanation of Assertion.
B) Both Assertion and Reason are true, but Reason is not the correct explanation.
C) Assertion is true, but Reason is false.
D) Assertion is false, but Reason is true.

1. Assertion: A projectile has maximum range when projected at 45°.
   Reason: The horizontal and vertical components of velocity are equal at 45°.
2. Assertion: Acceleration is always zero in uniform circular motion.
   Reason: Speed remains constant.
3. Assertion: Displacement is a vector quantity.
   Reason: Displacement has both magnitude and direction.
4. Assertion: The vertical component of velocity in projectile motion remains constant.
   Reason: There is no force acting in the vertical direction.
5. Assertion: The magnitude of a vector can never be negative.
   Reason: Magnitude is a scalar quantity.