

D.A.V MUKHYAMANTRI PUBLIC SCHOOL PATRATU

Summer Vacation Homework (2020 - 21)

Class: IX

Subject: Physics

1. A particle is moving in a circular path of radius r . The displacement after half a circle would be:

- (a) Zero (b) πr (c) $2r$ (d) $2\pi r$

2. A body is thrown vertically upward with velocity u , the greatest height h to which it will rise is,

- (a) u/g (b) $u^2/2g$ (c) u^2/g (d) $u/2g$

3. The numerical ratio of displacement to distance for a moving object is

- (a) always less than 1 (b) always equal to 1 (c) always more than 1
(d) equal or less than 1

4. If the displacement of an object is proportional to square of time, then the object moves with

- (a) uniform velocity (b) uniform acceleration (c) increasing acceleration
(d) decreasing acceleration

Q6. Derive the following equations using graphical method:

- (a) $V = u + at$ (b) $S = ut + \frac{1}{2}at^2$ (c) $v^2 - u^2 = 2aS$

Q7. Answer the following questions:

- (i) What is the acceleration of a body moving with uniform velocity?
(ii) What does the slope of a distance-time graph give?
(iii) Can displacement be zero even when distance is not zero? Give Example.
(iv) How can you get speed of an object from its distance – time graph?
(v) How can you get distance of an object from its speed – time graph?

Q8. Complete the exercise question of the Chapter Motion (NCERT)

PROJECT/ACTIVITY

- (A) Using basic concepts of physics, Make a working model on any renewable resources of energy. Solar energy, Hydro energy, wave energy, Wind energy, Geothermal energy, Biogas plant, Tidal energy
- (B) II. Plan to go to a place by a vehicle. Take readings of odometer and speedometer after every 5minutes till you reach your destination. Record these observations in tabular form; plot graphs between distance-time and speed time. State whether this motion is uniform or nonuniform

Class: IX

Subject: Chemistry

1. Pressure on the surface of a gas is increased. What will happen to the inter particle force.

2. Define latent heat of vaporisation.

3. List two properties that liquid have in common with solid.

4. How will you show that air has maximum compressibility.

5. Give reason-

- (i) A sponge can be pressed easil, still it is called a solid.

(ii) Water vapour has more energy than water at same temperature.

6. It is possible to liquefy atmospheric gases? Yes, suggest a method.
7. Prepare a model to demonstrate movement of particles in solids, liquids and gases
8. Prepare a project report on various sample of (a) a mixture (b) a compound (c) an element [metals and non metals]

Class: IX

Subject: Biology

1. What is the difference between plasma membrane and cell wall? Give the function for each one.
2. Name and draw a cell which does not have a well defined nuclear region. Label any four parts.
3. Name the plastids involved in conversion of a green tomato to red.
4. Prepare a model of animal cell or plant cell.
5. Draw the diagram of light or compound microscope.
6. Make a list of cell organelles and write it function.