

Science worksheet class – 11

Physics

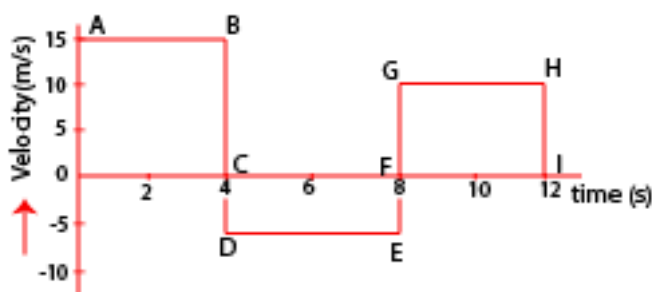
1. Which of the following is the most precise device for measuring length?

- (a) Vernier callipers with 20 divisions on the sliding scale
- (b) A screw gauge of pitch 1mm and 100 divisions on the circular scale
- (c) An optical instrument that can measure length to within a wavelength of light

2. In which of the following examples of motion, can the body be considered approximately a point object:

- (a) A railway carriage moving without jerks between two stations
- (b) A monkey sitting on top of a man cycling smoothly on a circular track
- (c) A spinning cricket ball that turns sharply on hitting the ground
- (d) A tumbling beaker that has slipped off the edge of a table

3. Velocity time graph of a moving particle is shown below. Find the displacement (1) 0 – 4 s (2) 0 – 8 s (3) 0 - 12 s from the graph. Also, write the differences between distance and displacement.



Chemistry

4. Arrange the electrons represented by the following sets of the quantum number in decreasing order of energy.

(a) $n = 4, l = 0, m = 0, s = +1/2$

(b) $n = 3, l = 1, m = 1, s = -1/2$

(c) $n = 3, l = 2, m = 0, s = +1/2$

(d) $n = 3, l = 0, m = 0, s = -1/2$

5. Among the elements B, Al, C and Si

(a) Which has the highest first ionization enthalpy?

(b) Which has the largest atomic radius?

6. What is the value of compressibility factor Z , of a gas when

(a) Pressure is low

(b) Pressure is high

(c) At intermediate pressure

7. Predict the sign of the entropy change for each of the following changes of state.

(a) $\text{Hg (l)} \rightarrow \text{Hg (g)}$ _____

(b) $3\text{AgNO}_3 \text{ (S)} \rightarrow \text{AgNO}_3 \text{ (a)}$ _____

(c) $\text{I}_2 \text{ (g)} \rightarrow \text{I}_2 \text{ (S)}$ _____

(d) $\text{C (graphite)} \rightarrow \text{C (diamond)}$ _____

Biology

8. State an economically important use of

(a) Heterotrophic bacteria

(b) Archaeobacteria

9. Which plants part has given rise to following modifications:-

(a) Spines of Opuntia _____

(b) Pitcher of Nepenthes _____

10. List any two differences' between gymnosperms & angiosperms?
