



St. Lawrence High School
A Jesuit Christian Minority Institution



Term : 1st

Solution of Work Sheet – 1

Subject – Physical Science

Class – X

Date – 01.02.21

Chapter – Behavior of gas

Choose the correct option for the following questions.

1 × 15 = 15

1. The value of absolute zero temperature in Celsius scale will be –

- a) -237°C b) 0°C c) 100°C d) -273°C

2. The equation of state of 3.2g of oxygen gas will be –

- a) $PV = 2.24RT$ b) $PV = RT$ c) $10PV = RT$ d) $PV = 10RT$

3. The pressure on certain mass of an ideal gas is doubled keeping its volume constant. If the initial temperature of the gas was 0°C , then its final temperature is

- a) 0°C b) 273K c) 546K d) 546°C

4. The product of pressure and volume of 224lit of CO_2 gas at STP will be (R = Molar gas constant)

- a) 224R b) 10R c) 273 R d) 2730R

5. According to the kinetic theory of gas, the collision between the gas molecules is

- a) Perfectly inelastic b) Partially elastic c) Perfectly elastic d) None of these

6. The absolute zero temperature is equal to

- a. 0K b. -273K c. 273K d. 0°C

7. According to the kinetic theory of the ideal gas

- a. Mass of the gas molecules can be neglected
b. Volume of the gas molecules can be neglected
c. Both volume and mass can be neglected
d. None of these

8. How many moles of any ideal gas will occupy 2.24lit at STP?

- a. It depends upon the nature of the gas b. 1mole c. 10 mole d. $\frac{1}{10}$ mole

9. The equation of state of 11g of CO_2 gas will be

- a. $PV=4RT$ b. $PV=RT$ c. $PV=2RT$ d. $4PV=RT$

10. If the temperature is doubled, the speed of the gas molecules of a given ideal gas will be

- a. Halved b. doubled c. four times d. $\sqrt{2}$ times

11. The graph of PV versus P at constant temperature for a fixed mass of ideal gas will be

- a. A straight line passing through origin
- b. A Rectangular hyperbola
- c. A Straight line parallel to P – axis
- d. A Straight line parallel to PV – axis

12. In Celsius scale, the temperature corresponds to 280K is

- a. 7°C
- b. 17°C
- c. 80°C
- d. 20°C

13. The volume of how much gram of hydrogen gas at STP is 224lit?

- a. 10g
- b. 20g
- c. 1g
- d. 2g

14. In how many gram of oxygen gas the number of oxygen molecules will be 6.023×10^{24}

- a. 320g
- b. 32g
- c. 16g
- d. 64g

15. The constants of Charle's law are

- a. Pressure and volume
- b. pressure and temperature
- c. Volume and mass
- d. Pressure and mass

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