# WBBSE <br> MADHYAMIK 

## CHAPTER 2

## BEHAVIOUR

OF
GASES

STUDY
MATERIAL

CONTENTS

- MCQ
- 1 MARKS QUESTIONS
- 2 MARKS QUESTIONS


## CONTENTS

- MCQ ( 54 Questions) ...................... 3-23
- 1 MARKS ( 55 Questions)............... 24-31
- 2 MARKS ( Questions)

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## MCQ

1. Which of the following gas is prepared by the equipment? (Board Sample Paper)
(a) $\mathrm{N}_{2}$
(b) $\mathrm{H}_{2} \mathrm{~S}$
(c) HCI
(b) $\mathrm{H}_{2} \mathrm{~S}$

Ans. (b) $\mathrm{H}_{2} \mathrm{~S}$
2. The constant in Charles's law is:
(a) the temperature of the gas
(b) the pressure of the gas
(c) amount of gas
(d) volume and pressure of the gas.


Ans. (d) volume and pressure of the gas
3. - The value of $273^{\circ} \mathrm{C}$ in absolute temperature is:
(a) $0^{\circ} \mathrm{C}$
(b)OK
(c) 273 K
(d) 373 d K

Ans. (a) $0^{\circ} \mathrm{C}$
4. Gas is determined by:
(a) volume
(b) size
(c) both shape and volume
(d) none of these

Ans. (d) none of these
5. Which instrument is used to measure the pressure of a gas?
(a) thermometer
(b) barometer
(c) Hydrometer
(d) Calorimeter

Ans. (b) barometer
6. N.T.P. But the volume of 1 mole of gas will be
(a) 20.4 liters
(b) 22.4 liters
(c) 23.4 liters
(d) 24.4 liters

Ans. (b) 22.4 liters
7. What is the freezing point of water?
(a) $\mathrm{O}^{\circ} \mathrm{A}$
(b) okay
(c) 273 K
(d) 373 K

Ans. (c) 273 K
8. The pressure of a gas kept in a vessel can be measured by
(a) barometer
(b) thermometer
(c) manometer
(d) lactometer

Ans. (c) manometer.
9. Which of the following will increase as the kinetic energy of the molecules increases?
(a) potential energy
(b) quantity
(c) temperature
(d) none

Ans. (c) temperature.
10. What is the relation between the volumes of 28 g of nitrogen and 44 g of CO at STP?
(a) Nitrogen has more volume
(b) The volume of carbon dioxide is more.
(c) Both have the same volume.

(d) The ratio of the volume of nitrogen and CO 2 is 1:21.

Ans. (c) Both have the same volume.
11. The vapor density of oxygen is 16 . What is its molecular weight?
(a) 8
(b) 16
(c) 32
(d) 64

Ans. (c) 32
12. Ratio between the vapor density and the molecular weight of gas is -
(a)2:1
(c) $1: 1$
(b) 1.2
(d) none of these

Ans. (b) 1:2
13. What is the relationship between the molecular weight M and vapor density D of a gas?
(a) $\mathrm{D}=2 \mathrm{M}$

(b) D-M
(c) $M=2 D$
(d) $\mathrm{M}=\mathrm{D}^{2}$

Ans. (c) $M=2 D$
14. What is the volume of $8 \mathrm{~g} \mathrm{SO}_{2}$ at S.T.P.?
(a) 2.8 L .
(b) 2.6 L
(c) 3.2 L .
(d) 3.0 L .

Ans. (a) 2.8 L .
15. Volume of $\mathrm{CO}_{2}$ gas generated in STP from combusting 12 g . of carbon is -
(a) 1.2 L
(b) 5.6 L
(c) 4.8 L
(d) 22.4 L

Ans. (d) 22.4L

## 1 Marks

1. What is the value of the standard temperature innerving scale?

Answer: The value of the standard temperature innerving scale is 273 K .
2. What will happen when a balloon filled with gas is heated and why?

Answer: A balloon filled with gas will burst on heating because both its volume and pressure will increase with an increase in temperature.
3. What remains constant in Charles' law?

Answer: In Charles's law the pressure and volume of the gas remain constant.
4. What is a monometer?

Answer: The instrument used to measure the pressure of a gas enclosed in a vessel is called a manometer.
5. Is it possible to find the negative value of temperature in the Kelvin scale?

Answer: It is not possible to find the negative value of temperature in the Kelvin scale.

6 According to Boyle's law, what kind of line will be obtained by plotting the graph taking volume as $1 / \mathrm{v}$ and pressure as?

Answer: Straight straight line.
7. What are the combined form of Boyle's law and Charles' law called?

Answer: Gas equation.
8. Which gases exactly obey Boyle's and Charles' laws?

Answer: Ideal gas.
9. What is the value of Avogadro's number?

Answer: The value of the Avogadro number is $6.023 \times 10^{23}$.
10. What is the relation between molecular weight and vapor density?

Answer: molecular weight 2 x vapor density
11. What is the effect of the motion of gas molecules on their pressure?

Ans. The increase in the kinetic energy of the molecules increases the gaseous pressure.
12. What is the number of protons in one mole of the proton?

Ans. The number of protons in one mole of protons will be $6.022 \times 10^{23}$.
13. what is the gram molecular weight of nitrogen?

Ans. The gram molecular mass of nitrogen is 28 grams.
14. The unit of which physical quantity is a mole?

Ans. The unit of amount of substance is the mole.
15. Write down the relation between the pressure and volume of a given mass of a gas according to Boyle's law when the temperature remains constant.

Ans. Volume is inversely proportional to pressure.

## OUR NOTES

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