Sub: Science Question Paper Total Marks: 30

Class: IX 3. Atom And Molecules Time: 1 Hr

Section A(Each 1 marks)

.1) V	V	Which of the following has maximum number of atoms.								
a	a	a)	$18 \mathrm{gm} \mathrm{of} \mathrm{H}_2\mathrm{O}$				b) 18 gm of CH ₄			
c	c	c)	$18 \mathrm{gm} \mathrm{of} \mathrm{O}_2$				d) 18 gm of CO_2	,		
							OR			
7	V	Which of the following would weight the highest?								
a	a	a) 10 moles of H ₂ O				b) 0.2 mole of sucrose $(C_{12}H_{22}O_{11})$				
c	c	c) 2	mole CO ₂				d) 2 mole CaCO ₃	,		
.2) V	V	Who	o formulated th	e law	ofconstar	nt cor	mpostion?			
a	a	a)	Dalton	b)	Proust		c) Lavoisier	d)	Berzelius	
							OR			
a c .2) V	a c V	a) 10 c) 2 Who	0 moles of H_2C mole CO_2 o formulated th	e law	of constar		e highest? b) 0.2 mole of suc d) 2 mole CaCO ₃ mpostion? c) Lavoisier	, y	12 22	

Write atomicity of the following: a) Sulphur b) Phosphrous

For question numbers 3 to 5 two statements are given- one labeled Assertion (A) and the other labeled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below:

- a) Both A and R are true, and R is correct explanation of the assertion.
- b) Both A and R are true, but R is not the correct explanation of the assertion.
- c) A is true, but R is false.
- d) A is false, but R is true
- Q.3) **Assertion (A):** An atom is the smallest particle in an element that has the properties of the element.

Reason (R): Molecules are formed by the combination of two or more atoms.

Q.4) **Assertion(A):** Atomicity of ozone is three while that of oxygen is two.

Reason(R): Atomicity is the number of atoms constituting a molecule.

Q.5) Assertion(A): The number of particles present in one mole of a substance is fixed.

Reason(R): The mass of one mole of a substance is equal to its relative atomic mass in grams.

Q.6)	Give an example of polyatomic ion.							
	OR							
	Define law of conservation of mass.							
Q.7)	Read the following paragraph and answer any two question from 5(i) to 5(iii) (2)							
	Raunak took 5 moles of carbon atoms in a container and Krish also took 5 moles of sodium atoms in another container of same weight.							
	i) Whose container is heavier?							
	a) Raunak b) Krish c) Both a and b d) None of them							
	ii) Whose container has more number of atoms?							
	a) Raunak b) Krish c) Both a and b d) None of them							
	iii) Mass of sodium atoms carried by Krish is							
	a) 115g b) 60g c) 115.5g d) 60g							
Q.8)	Which of the following statements is not true about an atom?							
	a) Atoms are not able to exist independently.							
	b) Atoms are the basic units from which molecules and ions are formed.							
	c) Atoms are always neutral in nature.							
	d) Atoms aggregate in large numbers to form the matter that we can see, feel or touch.							
Q.9)	1 u or 1 amu means							
	a) 1/12th mass of C-12 atoms b) Mass of C-12 atom							
	c) Mass of O-16 atom d) Mass of Hydrogen molecule							
Q.10)	Laws which explain the formation of many oxides by nitrogen is							
	a) Law of conservation of mass b) Law of multiple proportions							
	c) Law of definite proportions d) Avogadro's law							
Q.11)	What would be the gram molecular mass of solid sulphur?							
	a) 256 g b) 128 g c) 64 g d) 32 g							
Q.12)	How many moles are present in 560 g of iron?							
- 45	a) 1 mole b) 10 moles c) 100 moles d) 0.1 mole							
Q.13)	According to the law of definite proportions,							
	/ L - V							
0.14)								
	a) alpha-particles are much smaller than electrons.							
	b) alpha-particles are positively charged							
	c) most part of the atom is empty space							
	d) alpha-particles move with a low velocity							
Q.13)	a) matter remains constant b) matter can neither be created nor destroyed matter remains constant c) a chemical compound is always made up of the same element combined together in the same fixed proportion matter remains constant d) All of these When alpha-particles are sent through a thin metal foil, most of them go straight through the foil because, a) alpha-particles are much smaller than electrons. b) alpha-particles are positively charged c) most part of the atom is empty space							

Section B (Each 2 marks)

- Q.15) Give the names of the elements present in the following compounds:
 - a) Quicklime

b) Hydrogen bromide

c) Baking powder

- d) Potassium sulphate.
- Q.16) What are polyatomic ions?

OR

Write down the formulae of

- i) sodium oxide ii) aluminium chloride
- iii) sodium sulphide iv) magnesium hydroxide

Section C(Each 3 marks)

Q17) Calculate the relative molecular mass of water and molecular mass of HNO₃?

OR

Write down the names of A] CaCl,

B] KNO, C] CaCO,

Q.18) Calculate the mass of the following

A] 0.5 Mole of N, Gas [Mass from mole of molecule]

B] 0.5 Mole of N atoms (Mass from mole of atom]

C] 3.011 x 10²³ Number of N-ATOMS [Mass from Number of atoms]

Section D(5 marks)

Q.19) Give the postulates of Dalton's atomic theory.

OR

The reaction between aluminium carbide and water takes place according to the following equation: $Al_4C_3 + 12H_2O \rightarrow 3CH_4 + 4Al(OH)_3$

Calculate the volume of CH₄ released from 14.4 g of Al₄C₃ by excess water at S.T.P.

$$(C = 12, A1 = 27)$$

