



# CHEMISTRY

## BOOKS - NDA PREVIOUS YEARS

### BASIC CONCEPTS OF CHEMISTRY, ATOMIC STRUCTURE

#### Chemistry

1. The molecular weight of an oxide of nitrogen is 30 .What is the number of electron is it ?

A. 14

B. 15

C. 22

D. 23

**Answer: C**



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2. How many gram atoms of hydrogen are present in 0.04 mole of  $CuSO_4, 5H_2O$  ?

A. 0.04

B. 0.2

C. 0.4

D. 4

**Answer: C**



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**3. Why is helium preferred over hydrogen for use in airships ?**

- A. Helium has a low density
- B. Helium has a high density
- C. Helium is chemically less reactive
- D. Helium is chemically more reactive.

**Answer: C**



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4. One litre of an unknown gas weight 1.25 g at STP. Which one of the following can be the formula for the gas ?

A.  $O_2$

B. CO

C.  $CO_2$

D.  $SO_2$

**Answer: B**



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**5. Consider the following statements :**

1. Maximum covalency of carbon is 4, whereas maximum covalency of silicon is 6.

2. The maximum covalency of an element is limited to 6.

Which of the statements given above is/are correct ?

A. 1 only

B. 2 only

C. Both 1 and 2

D. Neither 1 nor 2

**Answer: A**



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6. Which one of the following substances does not have a melting point ?

A. Bromine

B. Sodium chloride

C. Mercury

D. Glass

**Answer: C**



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7. Which one of the following metals occurs in nature in free state ?

A. Gold

B. Sodium

C. Aluminium

D. Copper

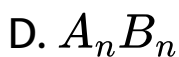
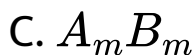
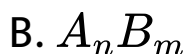
**Answer: A**



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8. An ionic compound when dissolved in water has produced  $m A^{n-}$ ,  $n B^{m-}$  ions. What is the formula of the compound ?



**Answer: A**



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9. Bonds presents in  $CuSO_4 \cdot 5H_2O$  is

A. Electrovalent and covalent

B. Electrovalent and coordinate covalent

C. Electrovalent, covalent, coordinate  
covalent and hydrogen bonds

D. Covalent and coordinate covalent

**Answer: C**



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**10.** Which one of the following is the correct sequence of the given elements in the increasing order of their reactivity ?

A. Iodine-Bromine-Chlorine-Fluorine

B. Bromine-Iodine-Chlorine-Fluorine

C. Bromine-Iodine-Fluorine-Chlorine

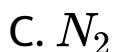
D. Iodine-Bromine-Fluorine-Chlorine

**Answer: A**



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11. At STP, the least volume will be occupied by 15 g of which one of the following ?



**Answer: B**



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12. At  $30^{\circ}C$ , which 3 metals are all liquids ?

A. Hg, Fe, Zn

B. Hg, Sn, Pb

C. Zn, Pb, Sn

D. Hg, Ga, Cs

**Answer: D**



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**13.** Which one of the following noble gases is not found in atmosphere ?

A. Argon

B. Krypton

C. Radon

D. Xenon

**Answer: C**



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**14.** Which one of the following is the correct statement ? The force binding the nucleons inside the nucleus is :

- A. charge dependent
- B. strong and highly repulsive
- C. a central force
- D. charge independent

**Answer: D**



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15. What is the weight of one atom of Hydrogen in grams ?

A.  $6.023 \times 10^{-23}$

B.  $1.66 \times 10^{-24}$

C.  $6.62 \times 10^{-24}$

D. None of these

**Answer: B**



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**16.** Which one of the following elements shows variable equivalent mass ?

A. Zinc

B. Silver

C. Calcium

D. Iron

**Answer: D**



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17. An element A has valencies equal to 3 and 5. It combines with another element B having valency equal to 2. What are formulae of the compounds thus formed ?

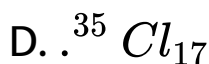
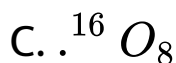
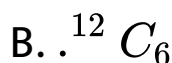
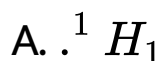


**Answer: C**



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**18.** The atomic weights are expressed in terms of atomic mass unit. Which one of the following is used as a standard ?

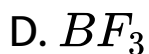


**Answer: B**



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19. The octet rule is not valid for which one of the following molecules ?



**Answer: D**



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20. Which is the rarest naturally occurring element of earth ?

A. Gold

B. Antimony

C. Germanium

D. Astatine

**Answer: D**



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21. Which one of the following elements is a metalloid ?

A. P

B. Al

C. As

D. Po

**Answer: C**



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22. Analysis shows that a binary compound of X (atomic mass =10) and Y (atomic mass =20) contains 50% X. What is the formula of the compound ?

A.  $XY$

B.  $X_2Y$

C.  $XY_2$

D.  $X_2Y_3$

**Answer: C**



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23. What is the correct increasing order of electronegativity for the most common oxidation states among the following elements ?

A.  $F < O < N < C$

B.  $C < N < C < F$

C.  $C < N < F < O$

D.  $C < N < O < F$

**Answer: D**





24. Which one of the following mixtures is homogeneous ?

A. Starch and sugar

B. Methanol and water

C. Graphite and charcoal

D. Calcium carbonate and calcium  
bicarbonate

**Answer: B**



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25. Which one of the following laws explains the formation of carbon monoxide and carbon dioxide from carbon and oxygen ?

- A. Law of conservation of mass
- B. Law of multiple proportions
- C. Law of reciprocal proportions
- D. Law of definite proportions

**Answer: B**



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26. In which one of the following is the valence electronic configuration,  $ns^2np^3$  found ?

A. Carbon

B. Oxygen

C. Nitrogen

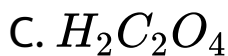
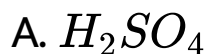
D. Argon

**Answer: C**



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27. The molecular weight and equivalent weight of which one of the following is the same ?



**Answer: D**



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28. Which of the following sets of substance can exist as molecular crystalline solids ?

A. Nickel, Zinc, Manganese

B. Glass, Cement, Rubber

C. Polyethene, Polyvinyl Chloride, Graphite

D. Iodine, Sulphur,  $H_2O$ .

**Answer: D**



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**29.** Which of the statement with regard to Isotopes and Isobars is/are correct ?

1. Isotopes have same mass number.
2. Isobars have same atomic number.

Select the correct answer using the code given below :

A. 1 only

B. 2 only

C. Both 1 and 2

D. Neither 1 nor 2

**Answer: D**



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**30.** If the volume of a drop of water is  $0.0018\text{mL}$  then the number of water molecules present in two drop of water at room temperature is :

A.  $4.84 \times 10^{17}$

B.  $4.184 \times 10^{18}$

C.  $6.023 \times 10^{19}$

D.  $6.023 \times 10^{23}$

**Answer: C**



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**31.** In which one of the following situations a chemical reaction does not occur ?

- A. Common salt is exposed to air
- B. Coal is burnt in air
- C. Sodium is placed in water
- D. Iron is kept in moist air



**Answer: A**



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**32.** The deficiency of which one of the following leads to dental caries ?

A. Iron

B. Copper

C. Fluorine

D. Zinc

**Answer: C**



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**33.** What is the term used to denote the critical temperature at which the air becomes saturated with vapour and below which the condensation is likely to begin ?

- A. Condensation point
- B. Evaporation point
- C. Dew point

D. Point of critical temperature

**Answer: C**



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**34.** What is the mass of one litre of cottonseed oil of density  $926 \text{ kg/m}^3$

A. 926 kg

B. 92.6 kg

C. 0.926 kg

D. 9260 kg

**Answer: C**



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**35.** Which among the following is a chemical change ?

A. A wet towel dries in the sun

B. Lemon juice added to tea causing its colour to change

C. Hot air rises over a radiator

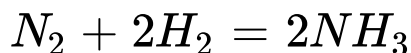
D. Coffee is brewed by passing steam  
through ground coffee

**Answer: D**



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**36.** Consider the following equation for the formation of ammonia from nitrogen and hydrogen :



How many hydrogen molecules are required to react with 100 molecules of nitrogen ?

A. 100

B. 200

C. 300

D. 400

**Answer: C**



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37. Which one of the following contains maximum percentage of nitrogen by mass ?

A. Urea

B. Ammonium cyanide

C. Ammonium carbonate

D. Ammonium nitrate

**Answer: B**



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**38.** According to which one of the following laws it is indicated that when two or more gases react with one another, their volumes bear a simple ratio ?

- A. Law of mass action
- B. Law of multiple proportions
- C. Law of reciprocal proportions
- D. Law of combining volumes

**Answer: B**



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**39.** Which of the following is the best example of law of conservation of mass

A. When 12 gm of carbon is heated in vacuum, there is no change in mass

B. Weight of platinum wire is the same before and after heating

C. A sample of air increases in volume when heated at constant pressure but mass remains unchanged

D. 12 gm of carbon combines with 32 gm of oxygen to give 44 gm of carbondioxide.

**Answer: A**



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**40.** Which one of the following is not a mixture ?

A. Air

B. Mercury

C. Milk

D. Cement

**Answer: B**



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**41.** The number of neutrons in  ${}_{13}^{27}\text{Al}$  is

A. 40

B. 27

C. 14

D. 13

**Answer: C**



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**42.** As compared to covalent compounds, electrovalent compounds, generally have

- A. low melting point and low boiling point
- B. low melting point and high boiling point
- C. high melting point and low boiling point
- D. high melting point and high boiling point

**Answer: D**



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**43.** Calcium carbonate is naturally available as limestone and can also be synthesized from quick lime. It is seen that the compositions of the elements in both the natural and synthetic calcium carbonate are same. The validity of which one among the following laws is confirmed by this observation ?

A. Law of conservation of mass

B. Law of definite proportion

C. Law of multiple proportion

D. Avogadro's law

**Answer: B**



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**44.** Which one among the following statements regarding the properties of mixtures and compounds is not correct ?

A. A mixture shows the properties of its constituents but the properties of a compound are entirely different from its constituents

B. A mixture may be homogeneous or heterogeneous but a compound is a homogeneous substance

C. The constituents of a mixture can be separated by physical methods but those

of a compound cannot be separated by physical methods

D. Energy is either absorbed or evolved during the preparation of a mixture but not in the preparation of a compound

**Answer: D**



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**45.** Protons and neutrons are bound in a nucleus by the



- A. short range 'weak interaction'
- B. short range 'strong interaction'
- C. long range 'electromagnetic interaction'
- D. long range 'gravitational interaction'

**Answer: B**



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**46.** Which one among the following most correctly determines the atomic number of an element ?

A. Number of protons

B. Number of protons and electrons

C. Number of ions

D. Number of nucleons

**Answer: A**



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**47.** The number of protons in a negatively charged atom (anion) is

A. more than the atomic number of the element

B. less than the atomic number of the element

C. more than the number of electrons in the atom

D. less than the number of electrons in the atom

**Answer: D**



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**48.** Which one among the following is not a mixture ?

A. Graphite

B. Glass

C. Brass

D. Steel

**Answer: A**



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**49.** Which one among the following is correct regarding

$^{20}_{10}\text{Ne}$ ,  $^{23}_{11}\text{Na}^+$ ,  $^{19}_{9}\text{F}^-$  and  $^{24}_{12}\text{Mg}^{2+}$  ?

- A. They are isomers of each other
- B. They are isotopes of each other
- C. They are isoelectronic with each other
- D. All of the above

**Answer: C**



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**50.** Which of the following pairs is/are correctly matched ?

1. Isotopes : Atoms with same atomic number but different atomic mass
2. Isobars : Atoms with same number of neutrons but different atomic number
3. Isotones : Atoms with same mass number but different atomic number

Select the correct answer using the code given below :

A. 1,2 and 3

B. 1 only

C. 1 and 2 only

D. 2 only

**Answer: B**



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**51.** The nucleus of a singly ionized carbon atom contains

A. 6 protons and 6 neutrons

B. 5 protons and 6 neutrons

C. 6 protons, 6 neutrons and 6 electrons

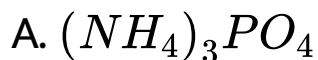
D. 12 protons, 6 neutrons and 6 electrons

**Answer: A**



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**52.** Which one among the following nitrogen compounds has the least percentage of nitrogen by mass ?







**Answer: A**



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**53.** Which one among the following transitions of electron of hydrogen atom emits radiation of the shortest wavelength ?

A.  $n=2$  to  $n=1$

B.  $n=3$  to  $n=2$

C.  $n=4$  to  $n=3$

D.  $n=5$  to  $n=4$

**Answer: A**



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**54.** Which one among the following is the most appropriate statement with respect to the atomic weight of an element ?

A. The atomic weight of an element is the sum total of the number of protons and

neutrons present in the atom of the element

B. Unlike mass number, the atomic weight of an element can be a fraction

C. The atomic weight of an element is a whole number

D. The atomic weight of all the atoms in an element is the same

**Answer: B**



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**55.** Match List I with List II and select the correct answer using the code given below the Lists :

List I	List II
Scientist	Discovery
Goldstein	1. Atomic theory
Chadwick	2. Proton
JJ Thomson	3. Neutron
John Dalton	4. Electron

A. 

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
2	3	4	1

B. 

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
2	4	3	1

C. 

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
1	4	3	2

D. 

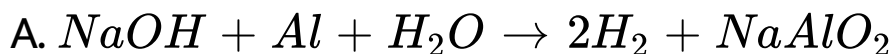
<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
1	3	4	2

**Answer: A**

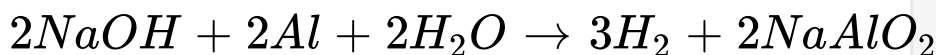


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**56.** Which one among the following equations is correctly balanced ?



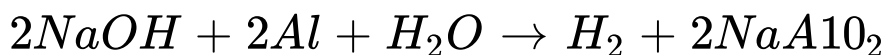
B.



C.



D.



**Answer: B**



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57. Which one among the following is the equivalent weight of sulphuric acid ?

(Atomic weight : H=1, S=32, O=16)

A. 98

B. 60

C. 100

D. 49

**Answer: D**



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**58.** The phenomenon of radioactivity was discovered by

A. Marie Curie

B. Pierre Curie

C. Henri Becquerel

D. J.J. Thomson

**Answer: C**



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**59.** Which one among the following is not a chemical change ?

A. Curdling of milk

B. Ripening of fruit



C. Evaporation of water

D. Burning of coal

**Answer: C**



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**60.** The following questions consist of two statements, one labelled as the Assertion (A) and the other as Reason (R ), You are to examine these two statements carefully and select the answers to these items using the codes given

below :

Assertion (A) : Atomic weights of most of the elements are not whole numbers.

Reason (R ) : Atoms of most of the elements contain mixture of isotopes having different atomic weights.

A. Both A and R are individually true and R is the correct explanation of A

B. Both A and R are individually true but R is NOT the correct explanation of A

C. A is true but R is false

D. A is false but R is true

**Answer: A**



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**61.** The question consist of two statements, Statement I and Statement II. You are to examine these two statements carefully and select the answer to these items using the codes given below.

Statement I : Conversion of blue copper sulphate to black cupric oxide on heating is a

physical change.

Statement II : A change in which chemical composition does not change is called physical change.

A. Both the statements individually true and

Statement II is the correct explanation of  
Statement I.

B. Both the statements are individually true  
but Statement II is not correct explanation  
of Statement I.

C. Statement I is true but Statement II is false.

D. Statement I is false but Statement II is true.

**Answer: D**



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**62.** A mixture of naphthalene and benzoic acid can be separated by

A. extraction with hot water

B. extraction with cold water

C. sublimation

D. steam distillation

**Answer: C**



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**63.** The number of valence electrons in the  $O^{2-}$  ion is

A. 4

B. 6

C. 8

D. 10

**Answer: D**



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**64.** Which one of the following is the correct electronic configuration of chlorine ?

A. 2,7,8

B. 2,8,7

C. 2,8,8

D. 7,8,2

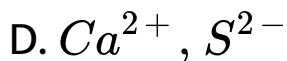
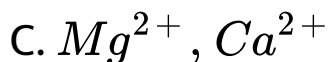
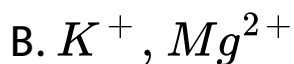
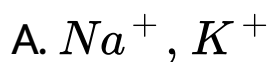
**Answer: B**



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**65.** Which of the following pairs represents isoelectric ions ?





**Answer: D**



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**66.** Which of the following statements about hydrogen is/are correct ?

1. Hydrogen has three isotopes of which protium

is the most common.

2. Hydrogen ion ( $H^+$ ) exists freely in solution.

3. Dihydrogen,  $H_2$ , acts as a reducing agent.

Select the correct answer using the code given below.

A. 1,2 and 3

B. 1 only

C. 1 and 3 only

D. 3 only

**Answer: B**



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**67.** The most of the mass of the atom can be found in

A. electrons

B. charges

C. nucleus

D. electron cloud

**Answer: C**



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**68.** The pressure of an ideal gas undergoes an isothermal change and is increased by 10%. The volume of the gas must decrease by about

A. 0.1 %

B. 9 %

C. 10 %

D. 0.9 %

**Answer: B**



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**69.** The mass number of an atom is determined by

A. adding the number of neutrons and number of electrons

B. adding the number of protons and number of electrons

C. the number of protons only

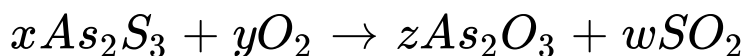
D. adding the number of neutrons and number of protons

**Answer: D**



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**70.** Consider the following reaction :



What is  $y$  (the coefficient for  $O_2$ ) when this equation is balanced using whole number coefficients ?

A. 5

B. 7

C. 9

D. 11

**Answer: C**



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**71.** How many grams of  $MgCO_3$  contain 24.00 g of oxygen ?

(The molar mass of

$MgCO_3$  is  $84.30 \text{ g mol}^{-1}$ )

A. 42.15 g

B. 84.30 g

C. 126.00 g

D. 154.00 g

**Answer: A**



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**72.** A monatomic species that has 18 electrons and a net charge of  $2^-$  has



- A. the same number of electrons as a neutral argon atom
- B. more protons than electrons
- C. 2 unpaired electrons
- D. 20 protons

**Answer: A**



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**73.** A sample of carbon dioxide that undergoes a transformation from solid to liquid and then to

gas would undergo

- A. a change in mass
- B. a change in density
- C. a change in composition
- D. no change in physical properties

**Answer: B**



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**74.** A compound  $X_2O_3$  contains 31.58% oxygen by weight . The atomic mass of X is

A.  $34.66 \text{ g mol}^{-1}$

B.  $45.01 \text{ g mol}^{-1}$

C.  $52.00 \text{ g mol}^{-1}$

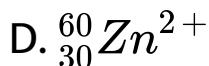
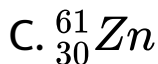
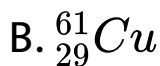
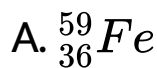
D.  $104.00 \text{ g mol}^{-1}$

**Answer: C**



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**75.** Which one among the following contains the most neutrons ?



**Answer: A**



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**76.** If the reaction of 1.0 mol  $\text{NH}_3(g)$  and 1.0 mol  $\text{O}_2(g)$

$$4\text{NH}_3(g) + 5\text{O}_2(g) \rightarrow 4\text{NO}(g) + 6\text{H}_2\text{O}(l)$$

is carried to completion, then

A. all the  $O_2(g)$  is produced

B. 4.0 mol NO (g) is produced

C. 1.5 mol  $H_2O(l)$  is produced

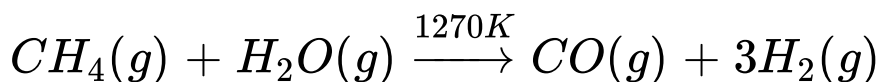
D. all the  $NH_3(g)$  is consumed

**Answer: A**



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**77.** Consider the following reaction :



In the reaction given above, the mixture of CO and  $H_2$  is :

- A. natural gas
- B. water gas
- C. producer gas
- D. industrial gas

**Answer: B**



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**78.** Ammonia ( $NH_3$ ) obtained from different sources always has same proportion of Nitrogen and Hydrogen. It proves the validity of law of :

- A. Reciprocal proportion
- B. Constant proportion
- C. Multiple proportions
- D. None of the above

**Answer: B**



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**79.** Which of the following statements regarding heavy water are correct ?

1. It is extensively used as a moderator in nuclear reactors
2. It cannot be used in exchange reaction to study reaction mechanism
3. Viscosity of heavy water is relatively smaller than that of ordinary water
4. The dielectric constant of heavy water is smaller than that of ordinary water

Select the correct answer using the code given below :



A. 1 and 2

B. 2 and 3

C. 3 and 4

D. 1 and 4

**Answer: D**



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**80.** To weld metals together, high temperature is required. Such a high temperature is obtained by burning :

A. Acetylene in oxygen

B. LPG in oxygen

C. Methane in oxygen

D. Acetylene in nitrogen

**Answer: A**



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**81.** Match List I with List II and select the correct answer using the code given below the Lists :

**List I**  
**(Element)**

- A. Li
- B. Na
- C. K
- D. Cs

**List II**  
**(Use)**

1. Time keeper in atomic clocks
2. Batteries
3. Transfer of nerve impulses
4. Control of the water content in the blood

A. 

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
2	3	4	1

B. 

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
1	2	3	4

C. 

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
2	4	3	1

D. 

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
1	3	2	4

**Answer: A**



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**82.** The symbol of the element 'Tungsten' is :

A. Ta

B. W

C. Tl

D. Te

**Answer: B**



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**83.** Which one of the following statements is correct ?

A. Rutherford's alpha-particle scattering experiment led to the discovery of electron

B. J J Thomson suggested that the nucleus of an atom contains protons

C. The atomic number of an element is the same as the number of protons in the nucleus of its atom

D. The mass number of an atom is equal to the number of electrons in its shells

**Answer: C**



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**84.** Which one of the following is not a chemical change ?

A. Ripening of fruits

B. Curdling of milk

C. Freezing of water

D. Digestion of food

**Answer: C**



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**85.** An atom of carbon has 6 protons. Its mass number is 12. How many neutrons are present in an atom of carbon ?

A. 12

B. 6

C. 10

D. 14

**Answer: B**



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**86.** What is the number of mole(s) of  $H_2(g)$  required to saturate one mole benzene ?

A. 1

B. 2



C. 3

D. 4

**Answer: C**



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**87.** Rutherford's alpha particle scattering experiment was responsible for the discovery of  
(a) Atomic Nucleus , (b) Electron ,(c ) Proton ,(d)  
Neutron.

**A. Electron**

B. Proton

C. nucleus

D. Helium

**Answer: C**



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**88.** A homogeneous mixture contains two liquids. How are they separated ?

A. By filtration

B. By evaporation

C. By distillation

D. By condensation

**Answer: C**



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**89.** 20 g of common salt is dissolved in 180 g of water. What is the mass percentage of the salt in the solution ?

A. 0.05

B. 0.09

C. 0.1

D. 0.15

**Answer: C**



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**90.** The valency of an element depends upon the

A. total number of protons in an atom

B. mass number of an atom

C. total number of neutrons is an atom

D. total number of electrons in the outer  
most shell of an atom

**Answer: D**



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**91.** Match List I with List II and select the correct answer using the code given below the Lists :

List I  
(Noble gas)

List II  
(Use)

- |            |   |
|------------|---|
| A. Argon   | 1. In lights for advertising display          |
| B. Neon    | 2. Airport landing lights and in light houses |
| C. Krypton | 3. Light in photographer's flash gun          |
| D. Xenon   | 4. In tungsten filament to last longer        |

A. 

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
3	1	2	4

B. 

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
3	2	1	4

C. 

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
4	2	1	3

D. 

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
4	1	2	3

**Answer: D**



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**92. Randon is**

- A. an inert gas
- B. an artificial fibre
- C. an explosive
- D. a metal

**Answer: A**



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**93.** The ionization energy of hydrogen atom in the ground state is

A. 13.6 MeV

B. 13.6 eV

C. 13.6 Joule

D. Zero

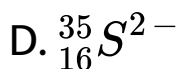
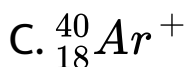
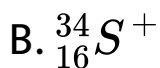
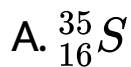
**Answer: B**



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94. The species that has the same number of electrons as  ${}^{35}_{17}\text{Cl}$  is



**Answer: C**



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**95.** Which one of the following is a chemical change ?

- A. Cutting of hair
- B. Graying of hair naturally
- C. Swelling of resin in water
- D. Cutting of fruit

**Answer: B**



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**96.** The atomic number of an element is 8. How many electrons will it gain to form a compound with sodium ?

A. one

B. Two

C. Three

D. Four

**Answer: B**



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**97.** A sample of oxygen contains two isotopes of oxygen with masses 16 u and 18 u respectively. The proportion of these isotopes in the sample is 3 : 1 . What will be the average atomic mass of oxygen in this sample ?

A. 17.5 u

B. 17 u

C. 16 u

D. 16.5 u

**Answer: D**



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98. Which one of the following is a heterogenous mixture ?

A. Hydrochloric acid

B. Vinegar

C. Milk

D. Soda water

**Answer: C**



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**99.** What is the formula mass of anhydrous sodium carbonate ? (Given that the atomic masses of sodium, carbon and oxygen are 23 u, 12 u and 16 u respectively)

A. 286 u

B. 106 u

C. 83 u

D. 53 u

**Answer: B**



**100.** A stainless steel chamber contains Ar gas at a temperature  $T$  and pressure  $P$ . The total number of Ar atoms in the chamber is  $n$ . Now Ar gas in the chamber is replaced by  $CO_2$  gas and the total number of  $CO_2$  molecules in the chamber is  $n/2$  at the same temperature  $T$ . The pressure in the chamber now is  $P'$ . Which one of the following relations holds true ?  
(Both the gases behave as ideal gases)

A.  $P'=P$

B.  $P' = 2P$

C.  $P' = P/2$

D.  $P' = P/4$

**Answer: C**



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**101.** The equivalent weight of oxalic acid in

$C_2H_2O_4 \cdot 2H_2O$  is

A. 45



B. 63

C. 90

D. 126

**Answer: B**



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**102.** Which one of the following substances is NOT a mixture ?

A. Ice

B. Ice-cream

C. Air

D. Honey

**Answer: A**



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