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Chemistry



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Q. 1 **The most malleable metal is**

- [A] platinum
- [B] silver
- [C] iron
- [D] gold

Answer Option [D]

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Q. 2 **The metallurgical process in which a metal is obtained in a fused state is called**

- [A] smelting
- [B] roasting
- [C] calcinations
- [D] froth floatation

Answer Option [A]

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Q. 3 **The National Chemical Laboratory is situated in**

- [A] New Delhi
- [B] Bangalore
- [C] Pune
- [D] Patna

Answer Option [C]

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Q. 4 **The first metal used by man was**

- [A] iron
- [B] copper
- [C] gold
- [D] bronze

Answer Option [B]

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Q. 5 **The most extensive, commercially useful source of thorium as monazite sand occurs in India at**

- [A] Orissa coast
- [B] Travancore coast
- [C] West Bengal coast
- [D] Gujarat coast

Answer Option [B]

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Q. 6 The number of electrons presents in H^+ is

- [A] zero
- [B] one
- [C] two
- [D] three

Answer Option [A]

Explanation:

H^+ is a hydrogen ion, and it is an ion because it LOST an electron. Electrons are negatively charged. When an atom gains electrons it will have NEGATIVE charges. So it has zero electron.

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Q. 7 The most commonly used bleaching agent is

- [A] alcohol
- [B] carbon dioxide
- [C] chlorine
- [D] sodium chlorine

Answer Option [C]

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Q. 8 The oldest rocks in the earth's crust were once molten, and came from deep inside the earth. The molten rock, called magma, spewed out in volcanic eruptions during the earth's early life and solidified into hard rock's called

- [A] granite
- [B] basalt
- [C] igneous rocks
- [D] sedimentary rocks

Answer Option [C]

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Q. 9 The Latin word *formica* means ant. The name formic acid is derived from this Latin word because

- [A] this acid, in ancient times, was used to eliminate ant-hills
- [B] this corrosive acid is secreted by ants to drive away their enemies
- [C] this acid was first obtained by the distillation of ants
- [D] ants are attracted by the odour of this acid

Answer Option [C]

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Q. 10 The law which states that the amount of gas dissolved in a liquid is proportional to its partial pressure is

- [A] Dalton's law
- [B] Gay Lussac's law
- [C] Henry's law
- [D] Raoult's law

Answer Option [C]

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Q. 11 **The number of d-electrons in Fe^{2+} (Z = 26) is not equal to that of**

- [A] p-electrons in Ne(Z = 10)
- [B] s-electrons in Mg(Z = 12)
- [C] d-electrons in Fe(Z = 26)
- [D] p-electrons in Cl(Z = 17)

Answer Option [D]

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Q. 12 **The main use of salt in the diet is to**

- [A] make the taste of food better
- [B] produce in small amounts the hydrochloric acid required for the digestion of food
- [C] ease the process of cooking
- [D] increase the solubility of food particles in water

Answer Option [B]

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Q. 13 **The method of concentrating the ore which makes use of the difference in density between ore and impurities is called**

- [A] liquation
- [B] leaching
- [C] levigation
- [D] magnetic separation

Answer Option [C]

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Q. 14 **The nucleus of a hydrogen atom consists of**

- [A] 1 proton only
- [B] 1 proton + 2 neutron
- [C] 1 neutron only
- [D] 1 electron only

Answer Option [A]

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Q. 15 **The hardest form of carbon is**

- [A] coke
- [B] graphite
- [C] diamond
- [D] charcoal

Answer Option [C]

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Q. 16 **The gas used in the manufacture of vanaspati from vegetable oil is**

- [A] hydrogen
- [B] oxygen
- [C] nitrogen
- [D] carbon dioxide

Answer Option [A]

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Q. 17 **The oil used in the froth floatation process is**

- [A] coconut oil
- [B] olive oil
- [C] kerosene oil
- [D] pine oil

Answer Option [D]

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Q. 18 **The human body is made up of several chemical elements; the element present in the highest proportion (65%) in the body is**

- [A] carbon
- [B] hydrogen
- [C] oxygen
- [D] nitrogen

Answer Option [C]

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Q. 19 **The number of moles of solute present in 1 kg of a solvent is called its**

- [A] molality
- [B] molarity
- [C] normality
- [D] formality

Answer Option [A]

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Q. 20 **The major constituent of air is**

- [A] nitrogen
- [B] carbon dioxide
- [C] oxygen
- [D] hydrogen

Answer Option [A]

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Q. 21 **The hottest part of the gas flame is known as**

- [A] luminous zone
- [B] dark zone
- [C] blue zone
- [D] non-luminous zone

Answer Option [D]

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Q. 22 **The method that cannot be used for removing permanent hardness of water is**

- [A] adding sodium carbonate
- [B] distillation
- [C] adding caustic soda
- [D] boiling

Answer Option [D]

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Q. 23 **The main buffer system of the human blood is**

- [A] $\text{H}_2\text{CO}_3 - \text{HCO}_3^-$
- [B] $\text{H}_2\text{CO}_3 - \text{CO}_3^{2-}$
- [C] $\text{CH}_3\text{COOH} - \text{CH}_3\text{COO}^-$
- [D] $\text{NH}_2\text{CONH}_2 - \text{NH}_2\text{CONH}^+$

Answer Option [A]

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Q. 24 **The hydronium ion is**

- [A] H^+
- [B] HO^-
- [C] H_2^+
- [D] H_3O^+

Answer Option [D]

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Q. 25 **What are the number of moles of CO_2 which contains 16 g of oxygen?**

- [A] 0.5 mole
- [B] 0.2 mole
- [C] 0.4 mole

[D] 0.25 mole

Answer Option [A]

Explanation: One mole of CO₂ has mass of 44 g and 32 g of O₂. So 16 g of O₂ have 22 g of CO₂ or 0.5 moles of it.

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Q. 26 **The most electropositive elements among the following is**

[A] Na

[B] Ca

[C] K

[D] Cs

Answer Option [D]

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Q. 27 **Equal masses of oxygen, hydrogen and methane are kept under identical conditions. The ratio of the volumes of gases will be**

[A] 2 : 16 : 2

[B] 2 : 16 : 1

[C] 1 : 16 : 2

[D] 1 : 1 : 1

Answer Option [C]

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Q. 28 **The molecule which has the highest percentage of ionic character among the following is**

[A] HI

[B] HF

[C] HCl

[D] HBr

Answer Option [B]

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Q. 29 **The main chemical constituent of the oil of cardamom which is responsible for flavour of this oil is**

[A] cineole

[B] engenol

[C] geraniol

[D] limonene

Answer Option [A]

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Q. 30 **The nucleus of an atom consists of**

[A] electrons and neutrons

[B] electrons and protons

[C] protons and neutrons

[D] All of the above

Answer Option [C]

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Q. 31 **The ionisation energy of hydrogen atom in the ground state is x KJ. The energy required for an electron to jump from 2nd orbit to 3rd orbit is**

[A] $5x/36$

[B] $5x$

[C] $7.2x$

[D] $x/6$

Answer Option [A]

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Q. 32 **The material which can be deformed permanently by heat and pressure is called a**

[A] thermoplastic

[B] thermoset

[C] chemical compound

[D] polymer

Answer Option [B]

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Q. 33 **The iron ore magnetite consists of**

[A] Fe_2O_3

[B] Fe_3OH_4

[C] FeCO_3

[D] $3\text{Fe}_2\text{O}_3 \cdot 3\text{H}_2\text{O}$

Answer Option [A]

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Q. 34 **The octane number of zero is assigned to**

[A] 2-methyl octane

[B] n-heptane

[C] iso-octane

[D] 3-methyl octane

Answer Option [B]

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Q. 35 **The metal does not give H_2 on treatment with dilute HCL is**

- [A] Zn
- [B] Fe
- [C] Ag
- [D] Ca

Answer Option [C]

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Q. 36 **The names of the scientists, Newlands, Mendeleev, and Meyer are associated with the development of**

- [A] atomic structure
- [B] metallurgy
- [C] periodic table of contents
- [D] discovery of elements

Answer Option [C]

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Q. 37 **The number of g-molecule of oxygen in 6.02×10^{24} CO molecules is**

- [A] 1 gram of molecule
- [B] 0.5 gram of molecule
- [C] 5 gram of molecule
- [D] 10 gram of molecule

Answer Option [C]

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Q. 38 **The inexpensive and commonly used variety of glass is called soda glass. It is called so because**

- [A] was used initially for making bottles of soda(carbonated drink)
- [B] is made using soda(sodium carbonate)
- [C] was initially used for storing sodium carbonate
- [D] is made using soda lime

Answer Option [B]

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Q. 39 **The ionic radii of N^{3-} , O^{2-} , F^- and Na^+ follows the order**

- [A] $\text{N}^{3-} > \text{O}^{2-} > \text{F}^- > \text{Na}^+$
- [B] $\text{N}^{3-} > \text{Na}^+ > \text{O}^{2-} > \text{F}^-$
- [C] $\text{Na}^+ > \text{O}^{2-} > \text{N}^{3-} > \text{F}^-$
- [D] $\text{O}^{2-} > \text{F}^- > \text{Na}^+ > \text{N}^{3-}$

Answer Option [A]

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Q. 40 **Zone refining is used for the purification of**

- [A] Au
- [B] Ge
- [C] Ag
- [D] Cu

Answer Option [B]

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Q. 41 **The items amenable to detection by soft x-rays are**

- [A] contrabands
- [B] lead in bullets
- [C] narcotics
- [D] genuine coins from counterfeit coins

Answer Option [D]

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Q. 42 **The maximum number of covalent formed by nitrogen is**

- [A] 1
- [B] 2
- [C] 3
- [D] 4

Answer Option [D]

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Q. 43 **The molecules of which gas have highest speed?**

- [A] H₂ at -73°C
- [B] CH₄ at 300 K
- [C] N₂ at 1,027°C
- [D] O₂ at 0°C

Answer Option [A]

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Q. 44 **The luster of a metal is due to**

- [A] its high density
- [B] its high polishing
- [C] its chemical inertness
- [D] presence of free electrons

Answer Option [D]

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Q. 45 **The inherited traits of an organism are controlled by**

- [A] RNA molecules
- [B] nucleotides
- [C] DNA molecules
- [D] enzymes

Answer Option [C]

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Q. 46 **The number of atoms present in 21.6 gram of silver (atomic weight = 108) are same as the molecules in**

- [A] 1.8 gram of H_2O
- [B] 12 moles of $KMnO_4$
- [C] 0.6N H_2SO_4
- [D] 4.6 gram of C_2H_5OH

Answer Option [B]

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Q. 47 **The mass number of an atom is equal to**

- [A] the number of protons
- [B] the number of protons and electrons
- [C] the number of nucleons
- [D] the number of neutrons

Answer Option [C]

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Q. 48 **The organic reaction represented by equation $CH_3 - CH = O + H_2NOH$ gives $CH_3 - CH - NH + H_2O$ is an example of**

- [A] an addition reaction
- [B] a condensation reaction
- [C] an oxidation reaction
- [D] an elimination reaction

Answer Option [B]

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Q. 49 **The mineral containing both magnesium and calcium is**

- [A] magnesite
- [B] calcite
- [C] carnallite
- [D] dolomite

Answer Option [D]

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Q. 50 **The heat required to raise the temperature of body by 1 K is called**

- [A] specific heat
- [B] thermal capacity
- [C] water equivalent
- [D] None of the above

Answer Option [B]

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Q. 51 **The number of waves made by an electron moving in an orbit having maximum magnetic quantum number is +3**

- [A] 4
- [B] 5
- [C] 2
- [D] zero

Answer Option [A]

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Q. 52 **The most abundant rare gas in the atmosphere is**

- [A] He
- [B] Ne
- [C] Ar
- [D] Xe

Answer Option [C]

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Q. 53 **The metal that is usually extracted from sea water is**

- [A] Ca
- [B] Na
- [C] K
- [D] Mg

Answer Option [D]

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Q. 54 **The following are the half lives of four active isotopes. Which one of the following is the most dangerous to handle?**

- [A] 3 billion years
- [B] 100 years
- [C] 0.01 minute
- [D] 13 days

Answer Option [C]

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Q. 55 **The monomer of polythene is**

- [A] vinyl chloride
- [B] ethylene
- [C] ethyl alcohol
- [D] None of the above

Answer Option [B]

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Q. 56 **The gas used for artificial ripening of green fruit is**

- [A] ethylene
- [B] ethane
- [C] carbon dioxide
- [D] acetylene

Answer Option [A]

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Q. 57 **The main chemical constituent of clay is**

- [A] silicon oxide
- [B] aluminium borosilicate
- [C] zeolites
- [D] aluminium silicate

Answer Option [D]

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Q. 58 **The isomerism which exists between CH_3CHCl_2 and $\text{CH}_2\text{Cl} \cdot \text{CH}_2\text{Cl}$ is**

- [A] chain isomerism
- [B] functional group isomerism
- [C] positional isomerism
- [D] metamerism

Answer Option [C]

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Q. 59 **The main active constituent of tea and coffee is**

- [A] nicotine
- [B] chlorophyll
- [C] caffeine
- [D] aspirin

Answer Option [C]

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Q. 60 The mass of P_4O_{10} that will be obtained from the reaction of 1.33 gram of P_4 and 5.07 of oxygen is

- [A] 2.05 gram
- [B] 3.05 gram
- [C] 4.05 gram
- [D] 5.05 gram

Answer Option [B]

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Q. 61 The most electronegative element among the following is

- [A] sodium
- [B] bromine
- [C] fluorine
- [D] oxygen

Answer Option [C]

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Q. 62 The nuclear particles which are assumed to hold the nucleons together are

- [A] electrons
- [B] positrons
- [C] neutrons
- [D] mesons

Answer Option [D]

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Q. 63 The gas present in the stratosphere which filters out some of the sun's ultraviolet light and provides an effective shield against radiation damage to living things is

- [A] helium
- [B] ozone
- [C] oxygen
- [D] methane

Answer Option [B]

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Q. 64 The metal that is used as a catalyst in the hydrogenation of oils is

- [A] Ni
- [B] Pb
- [C] Cu
- [D] Pt

Answer Option [A]

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Q. 65 **The inert gases are ____ in water**

- [A] sparingly soluble
- [B] insoluble
- [C] soluble
- [D] None of these

Answer Option [A]

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Q. 66 **The most important ore of aluminium is**

- [A] bauxite
- [B] magnetite
- [C] haematite
- [D] monazite

Answer Option [A]

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Q. 67 **The mass number of a nucleus is**

- [A] always less than its atomic number
- [B] the sum of the number of protons and neutrons present in the nucleus
- [C] always more than the atomic weight
- [D] a fraction

Answer Option [B]

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Q. 68 **The maximum number of isomers for an alkene with molecular formula C_4H_8 is**

- [A] 5
- [B] 4
- [C] 2
- [D] 3

Answer Option [B]

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Q. 69 **The ore which is found in abundance in India is**

- [A] monazite
- [B] fluorspar
- [C] bauxite
- [D] magnetite

Answer Option [A]

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Q. 70 The metal used to recover copper from a solution of copper sulphate is

- [A] Na
- [B] Ag
- [C] Hg
- [D] Fe

Answer Option [D]

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Q. 71 The mass of one Avogadro number of helium atom is

- [A] 1.00 gram
- [B] 4.00 gram
- [C] 8.00 gram
- [D] $4 \times 6.02 \times 10^{23}$ gram

Answer Option [B]

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Q. 72 The formula $C_6H_5-CO-CH_3$ represents

- [A] Acetone
- [B] Acetic acid
- [C] Acetophenone
- [D] Phenyl acetate

Answer Option [C]

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Q. 73 The high reactivity of fluorine is due to

- [A] its high electro negativity
- [B] small size of fluorine atom
- [C] availability of d-orbitals
- [D] strong F - F bond

Answer Option [A]

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Q. 74 The half life period of an isotope is 2 hours. After 6 hours what fraction of the initial quantity of the isotope will be left behind?

- [A] 1/6
- [B] 1/3
- [C] 1/8
- [D] 1/4

Answer Option [C]

Q. 75 **The heat energy produced when the human body metabolises 1 gram of fat is**

- [A] 30 KJ
- [B] 1 KJ
- [C] 39 KJ
- [D] 29 KJ

Answer Option [C]

Q. 76 **The number of water molecules present in a drop of water (volume 0.0018 ml) at room temperature is**

- [A] 1.568×10^3
- [B] 6.023×10^{19}
- [C] 4.84×10^{17}
- [D] 6.023×10^{23}

Answer Option [B]

Q. 77 **The graphite rods in the nuclear reactor**

- [A] react with U to release energy
- [B] produce neutrons
- [C] undergo combustion which triggers the nuclear fission
- [D] convert fast moving neutrons into thermal neutrons

Answer Option [D]

Q. 78 **The number of waves in n x 10^{th} Bohr's orbit are**

- [A] n^2
- [B] n
- [C] n^{-2}
- [D] n^3

Answer Option [B]

Q. 79 **The molecular formula of phosphorous is**

- [A] P_1
- [B] P_2
- [C] P_3
- [D] P_4

Answer Option [D]

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