

According to your chemistry studying answer the following questions:

Group 1 : Questions from (1 – 9)

1) answer (a) or (b):

A - Write the scientific term: Chemical substances that their color change according to the type of medium in which they are found.

B - Write the scientific term: the minimum amount of energy that the molecule must possess in order to react upon collision.

2) answer (a) or (b):

A - Choose the correct answer: When one faraday passes through the electrolyte, this leads to dissolve, evolve or precipitate of the substance at one of the electrodes.

- gram equivalent mass
- gram atomic mass
- mass of Avogadro's number
- half the equivalent mass

B - Choose the correct answer: The cell that is used in cars as a source of electric current is

(fuel cell – mercury cell – dry cell – lead-acid battery)

3) Choose to answer (a) or (b):

A - Write the scientific term: the process of increasing the percentage of iron by removing the impurities mixed with it, by using magnetic or electric separation.

B - Write the scientific term: the material that is attracted to the magnetic field due to presence of single electrons in its orbitals.

(4) Give reason for: A white precipitate is formed when carbon dioxide gas is passed through clear lime water for a short period of time.

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(5) Give reason for: There are no Hydrogen positive ions (protons) present individually (alone) in aqueous solutions of acids.

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(6) Choose the correct answer: When concentrated nitric acid is added to iron

- iron (II) nitrate, hydrogen
- iron (III) nitrate, water, nitric oxide
- iron (III) nitrate and water
- Non-porous oxide layer

(7) Choose the correct answer:

The monomer name which used to make polypropylene is

(Ethyne , Propane , Propene , Pentene)

(8) Mention the scientific term: An element used in galvanizing other metals to protect them from rust.

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(9) Choose the correct answer: When a copper spoon is electroplated with a layer of silver, the spoon is connected to

- A- the positive pole of the battery.
- B- the negative pole of the battery.
- C- a rod of silver through the solution.
- D- the anode or cathode of the battery.

The second group: questions from (10-18)

(10) Answer (a) or (b):

a - Give reasons for the following:

The hydration of alkenes takes place in an acidic medium.

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b - Give reasons for the following:

Ethyne gas is passed in a solution of copper sulphate in dilute sulphuric acid before collecting.

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(11) Choose the correct answer:

Concentrated sulphuric acid is considered a reagent for ions of

(Sulphate – nitrite – phosphate – bromide)

(12) Write the scientific term:

The phenomenon of the existence of several organic compounds having same molecular formula, but differ from each other in their structural formula and chemical and physical properties.

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(13) Choose the correct answer:

The most active organic compound of the following is.....

(Acetylene - Ethylene - Propane - Butene)

(14) Choose the correct answer:

Polyethylene (P.E.) is used in the manufacture of

(Surgical threads - drainage tubes – cooking tools - plastic bags)

(15) The electrode at which the oxidation process occurs in Daniel's cell is

..... (zinc - copper - zinc ions - copper ions)

(16) Answer (A) or (B):**A - Choose the correct answer:**

2- bromo-2-chloro-1,1,1-trichloroethane is known as

(Chloroform - Halothane - Urea - Teflon)

B- Choose the correct answer:

The general formula for alkynes.....

(C_nH_{2n+2} - C_nH_{2n} - C_nH_{2n-2} - C_nH_n)

(17) If you know that the equilibrium constant (Kc) for the reaction:

$\text{Cl}_2 + \text{PCl}_3 \rightleftharpoons \text{PCl}_5$ equals 15.75, calculate the concentration of phosphorous pentchloride, knowing that the concentration of chlorine is 0.3M and phosphorous trichloride is 0.84M.

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(18) Choose the correct answer:

By heating iron (II) oxalate in absence of air, are evolved.

[(CO)) - CO₂ - (CO) + (CO₂ - (H₂O)]

The third group: Questions from (19-27)

(19) Answer (A) or (B):

A - Choose the correct answer : Molecular formula for heptene is

.....

(C₇H₁₄ - C₇H₁₆ - C₆H₁₄- C₆H₁₂)

B - Choose the correct answer:

The scientist who formulated the rule for adding an asymmetric reagent to an asymmetric alkene is

(Kekule - Bayer - Friedel craft - Markonikoff)

(20) Answer (a) or (b):

(A) Choose the correct answer:

The first organic compound prepared in the laboratory.....

(Propane - Freon - Urea - Alcohol)

(B) Choose the correct answer:

The reaction of bromine with ethene is considered a

(Oxidation - substitution - addition - hydrogenation)

(21) Answer (a) or (b):

A - Choose the correct answer:

Chromium (III) oxide Cr₂O₃ is used in

(Car springs - artificial joints - metal plating – manufacture of dyes)

B - Choose the correct answer:

A type of alloy formed when the elements of the alloy have the same atomic radius is alloy.

(Substitutional – Inter metallic – Interstitial – Natural)

(22) Write the scientific term: Arrangement of elements in descending order according to their negative reduction potentials and ascending order according to their positive reduction potentials.

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(23) Choose the correct answer: One of iron ores that is roasted producing a large amount of water vapour.....

[(Fe₃O₄) - (Fe) – (2Fe₂O₃. 3H₂O) – (Fe₂O₃.H₂O)]

(24) Choose the correct answer: The pH value of a 0.005 mol/L sulphuric acid solution is (2 - 0.1 - 0.005 - 2.3)

(25) Choose the correct answer:

In the equation: CH₄ $\xrightarrow[no\ air]{1000^\circ C}$ is produced.

(CO₂ – CO – divided black Carbon – divided black Carbon + H₂)

(26) If the value of the solubility product (K_{sp}) of calcium fluoride CaF₂ is 3.9 × 10⁻¹¹ , calculate the degree of its solubility in water.

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(27) Choose the correct answer:

When two equal volumes of hydrochloric acid and sodium hydroxide are mixed, the concentration of each is 0.5 M, the produced solution is

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(Acidic effect - alkaline effect - neutral effect - turns litmus paper into red)

Fourth group: Questions (28-36)**(28) Answer (a) or (b):**

A - Choose the correct answer: In a cell for electrolysis of bauxite, the cathode is

(Cell body made of iron - carbon rods - graphite layer - zinc rod)

b - Choose the correct answer: If the emf value of an electrochemical cell has a negative sign, this means that

- The reaction is spontaneous
- the reaction is not spontaneous
- the cell is a source of electric current
- the cell is primary

(29) Choose the scientific term:

An atomic group that does not exist freely and is derived from alkane by removing a hydrogen atom and is symbolized by the symbol (R).

..... (Aldehyde – alkyl – ether – alkyne)

(30) Write the scientific term: the change in the concentration of the reactants per unit time.

(31) Choose the correct answer:

The name of the corresponding compound (Cl - CH₂ - CH₂ - CH = CH₂) in the IUPAC system is

- 4-chloro-1-butene.
- 1-chloro-4-butene.
- Chlorobutene.
- Chloro-1-butene.

(بقية الأسئلة في الصفحة السابعة)

Fifth group: questions from (37 - 45)**(37) Answer (a) or (b):**

A - Write the scientific term: a chemical analysis used to identify the proportions of each component of the substance.

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b- Write the scientific term : the process of determining the concentration of a known volume of acid or a base by using known volume and concentration of base or acid.

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(38) Choose the correct answer: The accumulator cell (lead-acid battery) is one of cells.

(Primary – liquid – secondary – analytical)

(39) Choose the correct answer:

When a salt solution of calcium is added to dilute sulphuric acid, a precipitate is formed of

- White calcium sulphate

- black from sulphate

- White Calcium

- Brick Red Calcium Sulphate

(40) Choose the correct answer: Dropping water on calcium carbide is used in the preparation of gas.

(Methane - ethane - acetylene – propane)

(41) Choose the correct answer: Sodium carbonate solution in water.....

- Turns litmus solution into red

- turns litmus solution into blue

- has neutral effect on litmus solution

- it does not dissolve

(42) Choose the correct answer: When a solution of silver nitrate is added to a solution of sodium chloride, a precipitate is formed

(White - yellow - black - white turns black by heating)

(بقية الأسئلة في الصفحة التاسعة)

(43) Answer (a) or (b):**A - Choose the correct answer:** Ethylene glycol is used in

- Surgical threads
- drainage pipes
- lining of cooking utensils
- water antifreeze

b - Choose the correct answer: The catalytic hydration of ethyne produces

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(Ethanol - ethanal - dimethyl ether - acetic acid)

(44) Calculate the quantity of electricity (in coulombs) required to separate 9.3 grams of iron from a solution of iron III chloride.If the cathode reaction is: $\text{Fe}^{3+}_{(\text{aq})} + 3\text{e}^{-} \rightarrow \text{Fe}^{\circ}$ (Fe =55.86)

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(45) Complete the following table, knowing that the ionic product of water is 10^{-14} at 25°C :

pOH	pH	[OH ⁻]	[H ⁺]
5	1×10^{-9}
7	1×10^{-7}

(انتهت الأسئلة)