

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: The change in the concentration of the reactants per unit time.

.....

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:**

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

(Surgical threads – drainage tubes – cooking utensils – plastic bags)

B - Choose the correct answer: on combusting organic compounds with copper II oxide will produce.

[($\text{H}_2\text{O} + \text{CO}_2$) - (H_2) - (only CO_2) - (CO)]

(3) Answer (a) or (b):

A - Write the scientific term: The process of strongly heating of iron ore to remove humidity and increase the percentage of iron in the ore.

.....

B - Write the scientific term: The process of converting fine particles of iron ore into large particles in size that are reduced easily .

.....

(4) Give reason for: $_{28}\text{Ni}$ is a paramagnetic substance

.....

.....

(5) Write the scientific term: It is a chemical process in which the components of an electrolyte are separated from each other by using electricity .

(6) Give reasons for: A white precipitate is formed when a solution of magnesium sulphate $MgSO_4$ is added to a solution of sodium carbonate Na_2CO_3 .

(7) Explain how to distinguish between sulphide salts and thiosulphate salts (without writing chemical equations)

(8) Write the scientific term: Oxide of transition element that is used in the manufacture of ceramics and glass industry.

(9) Choose the correct answer: Lithium-ion battery is considered from..... cell.
(Electrolytic - primary galvanic – irreversible - secondary galvanic)

The second group: questions from (10-18)

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

Write the scientific term:

A - 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).

B - Write the scientific term:

The phenomenon of the existence of several organic compounds that have same molecular formula, but differ their structural formula .

(11) Choose the correct answer:

Concentrated sulphuric acid is considered a reagent for ions of

(Sulphates – nitrates – phosphates – sulphides)

(12) Write the scientific term:

The process of converting long carbon chain of alkanes into small carbon chain by heating, pressure and in presence of a catalyst.

.....

(13) Choose the correct answer:

Polychloroethene is used in manufacture of.....

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

(14) Give reason for: Before collecting ethyne gas it is passed in a solution of copper sulphate in sulphuric acid.

.....

.....

(15) 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

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

A- Molecular formula for heptene is

(C_7H_{14} - C_7H_{16} - C_6H_{14} - C_6H_{12})

B- The catalytic hydration of ethyne produces.....

(Ethanol - ethanal - dimethyl ether - acetic acid)

(بقية الأسئلة في الصفحة الرابعة)

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

$Cl_2 + PCl_3 \rightleftharpoons PCl_5$ 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) What is the effect of heat on limonite with writing the chemical equation?

.....

.....

The third group: Questions from (19-27)

(19) Answer (A) or (B): Choose the correct answer

a- To precipitate one gram equivalent mass of silver requires an amount of electricity equals coulombs.

(96500 – 1 – 118 – 48250)

b- The process of dipping steel in molten zinc to prevent steel from corrosion is

(fuel cell – electroplating – galvanizing – steel purification)

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

Choose the scientific term:

A - The polymerization of two different monomers, by removing small molecules as water and forming copolymer, which is the first unit of the polymerization process.

- thermal polymerization
- condensation polymerization
- cooling polymerization
- addition polymerization

B- The reaction of bromine with ethene is considered a

(Oxidation – substitution – addition – hydrogenation)

(بقية الأسئلة في الصفحة الخامسة)

(21) Answer (a) or (b):**A - Choose the correct answer:**

In the equation: $\text{CH}_4 \xrightarrow{1000^\circ\text{C} / \text{no air}}$ is produced.

[(CO_2) - (CO) – (divided black Carbon) – (divided black Carbon + H_2)]

B - Choose the correct answer:

The number of single bonds in Acetylene gas (C_2H_2) is

(2 – 3 – 4 – 5)

(22) Choose the correct answer:

Arrangement of elements in descending order according to their negative reduction potentials and ascending order according to their positive reduction potentials.

(Reduction potential of elements - Oxidation potential of elements -
Electrical activity – Electromotive series of elements)

(23) Choose the correct answer:

An equilibrium occurs in solutions of weak electrolytes between the molecules and the resulting ions.

(Thermal equilibrium - temporary equilibrium - ionic equilibrium -
molecular equilibrium)

(24) Choose the correct answer:

The scientist who explained the relationship between the degree of ionization (α) and dilution of a weak electrolyte.....

(Heisenberg - Le Chatelier - Waage and Goldberg – Ostwald)

(25) Choose the correct answer:

Chromium (III) oxide Cr_2O_3 is used in

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

(26) Write the scientific term: A secondary galvanic cell used as an alternative to the accumulator battery in modern cars.

(27) Choose the correct answer: A chemical analysis aims to estimate the percentage of each component in the substance.

(Electrolysis, quantitative analysis, volumetric analysis, qualitative analysis)

Fourth group: Questions (28-36)

(28) Answer (a) or (b):

A - 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.

b - Choose the correct answer:

Addition of water to unsaturated aliphatic organic compounds in the presence of a catalyst called

- Catalytic hydrogenation - catalytic hydration
- catalytic halogenation - catalytic cracking

(29) Choose the scientific term:

It is apparently a stationary system but dynamic in reality.

- The equilibrium system - Chemical equilibrium
- Chemical system - The equilibrium

(30) Choose the scientific term:

The process in which unionized molecules change into free ions .

(Dissolving– deissociation – oxidation – Ionization)

(بقية الأسئلة في الصفحة السابعة)

(31) Choose the correct answer:

When concentrated nitric acid is added to iron, a layer of metal oxide is formed that is removed by using

- a. Sodium hydroxide.
- b. Iron (III) nitrate.
- c. Concentrated hydrochloric acid.
- d. Dilute hydrochloric acid.

(32) Write the name:

The iron ores which is roasted giving a gas turbid lime water.

.....

(33) Choose the correct answer: The sulphate and phosphate salts could be distinguished be using

- a - sulphuric acid
- b - barium chloride solution.
- c - magnesium sulphate
- d - hydrochloric acid.

34) Answer (a) or (b):

A - Choose the correct answer:

Coating iron surface by a layer of tin is called

(Anodic protection - Cathodic protection - Galvanization – Passivity)

b- Choose the correct answer:

The cell that is used in earphones and watches is

(fuel - mercury - dry - car battery)

(35) Mention the role of each of the following:

a- Increasing pressure during the preparation of ammonia in industry from its elements.

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b - The catalyst in chemical reactions.

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(36) Give reasons for the following:

Dilute hydrochloric acid does not react with calcium sulphate.

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Fifth group: questions from (37 - 45)

(37) Answer (a) or (b):

A- 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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B- Write the scientific term: The reactions that are used to estimate substances which are slightly soluble in water.

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(38) Choose the correct answer: The process of reduction takes place in the blast furnace for a/an substance.

(iron(III) oxide - magnetic iron oxide - iron(III) chloride - iron(II) oxide)

(39) Choose the correct answer: The concentration of 20 ml. of nitric acid (HNO₃) that is neutralized by 50ml of 0.1M of Ca(OH)₂ solution is.....

(0.25M - 1 M - 0.5M - 0.1M)

(40) Mention one use of calcium oxide CaO During preparing of methane in the laboratory.

.....

(41) Choose the correct answer: Dissolving potassium carbonate salt K₂CO₃ in water

- a. Turns litmus solution into red b. turns litmus solution into blue
 c. gives neutral effect on litmus solution d. gives four ions.

(42) Choose the correct answer:

When a solution of silver nitrate is added to a solution of sodium iodide, a is formed.

- a. yellow precipitate of iodine nitrate.
- b. yellow precipitate silver iodide
- c. Black precipitate silver iodide
- d. White precipitate turns black by heating

(43) Answer (a) or (b):**A - Choose the correct answer:**

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

- a- 4-chloro-1-butene.
- b- 1-chloro-4-butene.
- c- Chlorobutene.
- d- Chloro-1-butene.

b - Choose the correct answer:

The number of hydrogen atoms in an alkene that contains (5) carbon atoms equals atom. (5 - 10 - 12 - 14)

(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: $Fe^{3+}_{(aq)} + 3e^{-} \rightarrow Fe$ (Fe = 55.86)

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(45) A sample of hydrated calcium chloride CaCl₂.XH₂O its mass is 2.94 g, heated strongly until its mass remains constant and became 2.22 g. Calculate the percentage of water molecules of crystallization, then write the molecular formula. [Ca = 40 , Cl = 35.5 , H = 1 , O = 16]

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(انتهت الأسئلة)