

Answer the Following Questions:**Group 1 : Questions from (1 – 9)****1) Answer (a) or (b). Choose the correct answer:**

(a) The number of single bonds in Acetylene gas (C_2H_2) is
(2 – 3 – 4 – 5)

(b) The general formula of alkenes is
(C_nH_{2n+2} – C_nH_{2n} – C_nH_{2n-2} – C_nH_n)

2) Answer (a) or (b):

(a) **Choose the correct answer:** The German scientist who had destroyed vital force theory is
(Baeyer – Wohler – Markownikoff – Brezelius)

(b) **Choose the correct answer:** During burning organic compounds with copper (II) oxide Is produced.
($H_2O + CO_2$ – H_2 only – CO_2 only – CO)

3) Answer (a) or (b).**Choose the scientific concept:**

(a) A process is used to increase the percentage of iron by removing impurities using magnetic or electric separation.
(reduction – collecting – sintering – concentrating)

Choose the correct answer:

(b) An alloy in which its elements combine with each others chemically.
(Substitution alloy - Inter metallic alloy - Interstitial alloy - Natural alloy)

4) Choose the correct answer:

The potential of electrodes is measured by using standard electrode.
(Oxygen - Nitrogen - Hydrogen - Helium)

5) Choose the suitable scientific concept:

The reactions which proceed in both two directions which are forward and backward directions and both reactants and products exist in the reaction medium

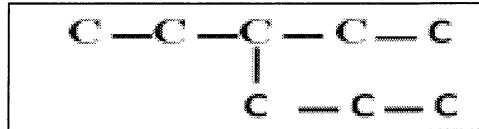
- Complete reactions
- Reversible reactions
- Instant reactions
- Precipitation reactions

6) Choose the correct answer Scientist who establish the relation between ionization degree (α) and diulution degree for weak electrolyte is

(Hizenberg - Le Chatelier - Waage and Guldberg - Ostwald)

7) Choose the correct answer

In given shape, the number of carbon atoms in the longest chain is



(3 - 4 - 6 - 7)

8) Complete the next table by scientific concept :

1- Primary galvanic cell cannot be consumed or store the energy because it is supplied with fuel
2- Secondary galvanic cell used in the modern cars instead of the lead acid battery

9) Choose the correct answer: It is a chemical analysis which aims to estimate the percentage of each essential component of substance.

- Electrical analysis
- Quantitative analysis
- Volumetric analysis
- Qualitative analysis

Group 2: Questions from (10 – 18)**10) Answer (a) or (b):****Choose the scientific concept :**

(a) It is apparently a stationary system but in dynamic reality.

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

(b) The process which unionized molecules change into free ions .

(Dissolving – dissociation – oxidation – Ionization)

(بقية الأسئلة في الصفحة الثالثة)

11) Choose the correct answer:

..... can be used to distinguish between sulphate and phosphate salts .

- sulphuric acid
- Barium chloride solution
- Hydrochloric acid
- Magnesium sulphate

12) Choose the suitable scientific concept :

The process in which fine particles of iron ore are collected in large size suitable for the reduction.

(Reduction – Oxidation – Sintering – Roasting)

13) Choose the correct answer :

Molecules which have the minimum amount of energy to start the reaction.

- Large size molecules
- Activated molecules
- Free molecules
- Small size molecules

14) Choose the suitable scientific concept :

Type of equilibrium occurs between molecules of weak electrolytes and its resulted ions.

- Heat equilibrium
- Temporary equilibrium
- Ionic equilibrium
- Molecular equilibrium

15) Choose the correct answer:

The color of Starch solution changes into yellow when passes through it.

(Iodide vapour - Boromine vapour - Hydrochloride gas - Nitric oxide gas)

16) Answer (a) or (b) :

a) Choose the correct answer Halothane one of halogen alkanes derivatives which used in

(Detergents – Anesthetic – Insulators floors – Surgical threads)

(b) Choose the correct answer : divided carbon (black carbon) used in the manufacture of car tires, we can obtain it by heating To 1000°C in absence of air.

(Ethane - Methane - Acetylene - Ethene)

17) Choose the correct answer: The reaction between bromine and ethene is Reaction .

(Oxidation – Substitution – Addition – Hydrogenation)

18) Choose the correct answer: The electrolyte solution in lead accumulated is

- Spongy Lead
- Sulphuric acid
- Lead dioxide
- potassium hydroxide solution

Group 3: Questions from (19 – 27)

19) Answer (a) or (b). Choose the correct answer :

(a) If the standard reduction potential for zinc is (- 0.762 v) and nickel is (-0.23 v) So the emf of this cell equals

(0.530 V – zero – 0.760 V – 0.992 V)

(b) Absence of salt bridge in galvanic cell leads to

- Increase the electric current
- Stop of oxidation reduction reaction
- Continuous of oxidation reduction reaction
- Neutralization the excess of positive and negative ions

20) Answer (a) or (b). Choose the correct reason :

(a) Nickle used in metal plating.

- Because it is high hardness
- To protect it from oxidation and corrosion
- To give it new color
- Because it is sheep

(b) Choose the correct answer Zinc ($_{30}\text{Zn}$) is considered as element .

(Main transition – Diamagnetic – Paramagnetic – Inert)

21) Answer (a) or (b). Choose the suitable scientific concept:

(a) The change in concentration of the reactants per unit time.

- Strength of chemical reaction
- concentration of chemical reaction
- Rate of chemical reaction
- Product of chemical reaction

(b) Substance which causes a change in the rate of chemical reaction without being changed or change equilibrium position.

(Water - Air - Catalyst - Any solid matter)

(بقية الأسئلة في الصفحة الخامسة)

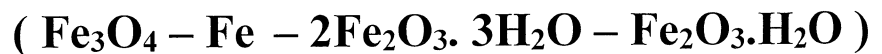
22) Choose the correct answer:

On adding concentrated nitric acid to iron is formed.

- Iron (II) nitrate and hydrogen
- Iron (III) nitrate, water, and nitric oxide
- Iron (III) nitrate, and water
- Nonpours layer of oxide

23) Choose the correct chemical formula:

One of iron ores produces large amount of water vapour on roasting.

**24) Choose the correct answer:**

To distinguish between iron (II) oxide and magnetic iron oxide we can use

- Concentrated nitric acid
- Concentrated sulphuric acid
- Diluted hydrochloric acid
- Sodium hydroxide

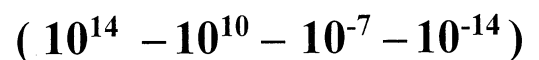
25) Choose the correct answer :

Cryolite is used asin electrolytic cell in extraction of aluminum.

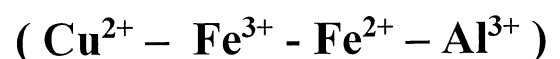
- Oxidizing agent
- flux matter
- Solvent for Bauxite
- Source of aluminum

26) Choose the correct answer :

The concentration of both hydrogen and hydroxide ions resulting from ionization of pure water equals

**27) Choose the suitable scientific concept:**

The cation which forms white gelatinous precipitation with ammonium hydroxide is



Group 4: Questions from (28 – 36)**28) Answer (a) or (b) .choose the correct reason :****(a)** Quantitative analysis must be carried out before qualitative analysis.

1- Because it is easier at the beginning.

2- To know the components of the matter first and choose the suitable methods in quantitative analysis

3- Because we can know all data from the quantitative analysis directly.

4- To know the masses of the chemical compounds of the matter.

(b) Diluted hydrochloric acid doesn't react with sodium sulphate.

1- Because it is more stable than the acid from which the salt is derived.

2- Because it is less stable than the acid from which the salt is derived.

3- Because it is need heat to start the reaction.

4- Because sulphate salts dissolve in acids.

29) Choose the correct answer :

The pole at which oxidation occurs in Denial cell is

(Zinc – Copper – Zinc ions – Copper ions)**30) Choose the correct answer:**

On adding diluted hydrochloric acid to Salt a gas evolved which turbid lime water.

(Carbonate – Phosphate – Sulphide – Thiosulphate)**31) Choose the correct answer:**

On heating methane to 1500°C and sudden quenching Produced.

(Ethylene – Acetylene – Propane – Black carbon)**32) Choose the correct answer: Sodium chloride salt in water is.....****(Neutral – Acidic – Basic – Change litmus paper into red)****33) Choose the correct answer:**All the next compounds are attracted to the external magnetic field **except**..... **(CuSO₄ – ZnCl₂ – MnO₂ – FeCl₃)**

(بقية الأسئلة في الصفحة السابعة)

34) Answer (a) or (b) .Choose the correct answer:

(a) During plating a spoon of copper with a layer of silver the spoon will be connected to the

- The Positive pole of the battery.
- The Negative pole of the battery.
- The silver Rod through the solution.
- The anode or cathode of the battery.

(b) Choose the correct answer :Lithium ion battery from cell.

(Electrolytic - Primary galvanic - Irreversible - Secondary galvanic)

35) Choose the correct answer:

The Concentration of hydronium ion in solution of 0.3 mol/L of acetic acid is at 25°C, of ionization constant of 1.8×10^{-5} is mol/L

(2.3×10^{-3} – 0.0023×10^{-5} – 0.54×10^{-5} – 0.0023×10^{-3})

36) Give the scientific explanation:

Color of brown ring removed by shaking or heating.

Group 5: Questions from (37 – 45)

37) Choose to answer (a) or (b). Choose scientific concept:

(a) The reaction of ethene with hydrogen peroxide H_2O_2 to form ethylene glycol is called reaction .

(oxidation – dehydration – Reduction – Substitution)

(b) It is a process which collects a large numbers of molecules reach to millions to form a huge molecule have a great mass.

(Chemical analysis – Electrolysis – Polymerization – Oxidation)

38) Choose the correct answer:

Concentrated sulphuric acid is a reagent for ion.

(Sulphate – Nitrate – Phosphate – Sulphide)

(بقية الأسئلة في الصفحة الثامنة)

39) Rearrange the next compounds in an ascending order according to their activity: (from low to high activity)

(Alkenes – Alkanes – Alkynes)

1 -

2 -

3-

40) Choose to answer (a) or (b). Choose the correct answer:

(a) Poly vinyl chloride (PVC) is used in

(Surgical threads - Drainage tubes - Cooking utensils - Antifreeze substance)

(b) Type of bond in organic compounds

(Ionic – Covalent – Metallic – Hydrogen)

41) Choose the correct answer:

The most active organic compound from the next is

(Cyclo propane - Normal propane - Cyclo pentane - Normal pentane)

42) Choose the correct answer:

The amount of electricity needed to precipitate one mole of silver in silver nitrate solution (AgNO_3) equals.....

(0.5 F - 1 F - 54 F - 108 F)

43) Choose to answer (a) or (b). Choose the correct reason:

(a) Number of hydrogen atoms in alkane which contains 6 carbon atoms equals

(5 – 10 – 12 – 14)

(b) Catalytic hydration of ethyne produce

(Ethanol – Ethanal – Dimethyl ether – Acetic acid)

44) Choose the correct answer:

The solution which of $\text{pH} = 8$, so it's $\text{pOH} =$

(6 – 7 – 8 – 10)

45) Choose the correct answer:

On strongly heating for siderite gas is evolved.

(Carbon dioxide - Carbon monoxide - Sulphur dioxide - Sulphur trioxide)

(انتهت الأسئلة)