

Answer the Following questions:**Group 1: Questions from (1 – 9)**

1) **Choose to answer (A) or (B). Write down the suitable scientific concept that is expressed as:**

(A) The equilibrium in which the rate of the forward reaction equals that of the backward reaction.

- a) The equilibrium system b) Chemical equilibrium c) Chemical system

(B) The process in which all unionized molecules will change into ions.

- a) Binding energy b) Complete Ionization c) Fusion

2) **Choose to answer (A) or (B). Choose the correct answer:**

(A) The number of double bonds in ethene gas (C_2H_4) is

- a) 4 b) 2 c) 1

(B) The general formula of alkanes is

- a) C_nH_{2n+2} b) C_nH_{2n} c) C_nH_{2n-2}

3) **Choose to answer (A) or (B). Choose the scientific concept:**

(A) The elements of group (1B) that are considered from transition elements as their sub-level (d) doesn't completely filled in the oxidation states (+2, +3).

- a) Inert element b) Inner transition element c) Coinage metals

(B) An alloy in which a metal is replaced by atoms of other metal which having the same atomic radius, crystal lattice and the chemical properties.

- a) Interstitial alloy b) Substitutional alloy c) Inter-metallic alloy

4) **Choose the correct answer:**

Diamagnetic property found in elements and ions which

- a) have got unpaired electrons
b) have not got unpaired electrons
c) are attract to magnetic field

5) Choose the suitable scientific concept:

The reactions which proceed in both two directions which are forward and backward directions

- a) Complete reactions b) Reversible reactions c) Precipitation reactions

6) Choose the correct answer:

On adding sodium hydroxide solution to aluminum sulphate solution precipitate is formed.

- a) yellow b) white gelatinous c) black

7) Choose the correct answer:

On adding dilute hydrochloric acid (HCl) to sodium bicarbonate solution (Na_2CO_3), gas is evolved.

- a) CO_2 b) H_2 c) CO

8) Choose the correct answer for the next reason:

Carbon mono oxide gas (CO) is used in blast furnace because it is

- a) a reducing agent which reduce CO to C.
b) an oxidizing agent which oxides iron ores to Fe.
c) a reducing agent which reduces iron ores to Fe.

9) Choose the correct answer:

If the standard reduction potential for zinc and nickel are (- 0.76 v , -0.23 v) So the emf of this cell equals

- a) 0.76 V b) 0.99 V c) 0.53 V

Group 2: Questions from (10 – 18)**10) Choose to answer (A) or (B). Choose the correct answer:**

(A) The German scientist who had destroyed vital force theory is

- a) Baeyer b) Wohler c) Markownikoff

(B) The types of bonds in alkanes is.....

- a) double bonds b) single bonds c) triple bonds

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11) Choose the suitable scientific concept:

The chemical analysis which aims to identify the essential components of substance from anions and cations is analysis.

- a) Quantitative b) Volumetric c) Qualitative

12) Choose the suitable scientific concept:

It is the formula which indicates the number and kind of the elements atoms which form the chemical compound, and does not show the kind of the linkage between the atoms in the molecule.....

- a) Isomerism b) Molecular formula c) Structural formula

13) Choose the correct answer for the next reason:

Diluted hydrochloric acid doesn't use to detect sulphate ions because hydrochloric acid.....

- a) More stability than Sulphuric acid.
b) Have the stability of Sulphuric acid.
c) Less stability than Sulphuric acid.

14) Choose the suitable scientific concept:

Adding a huge numbers of unsaturated small molecules to each other to form a very large saturated molecule.....

- a) Electrolysis b) Isomerism c) addition polymerization

15) Choose the correct answer:

It is a separating process of an electrolyte's component from each other by passing an electric current through it.....

- a) Chemical analysis b) Electrolysis c) Ionization

16) Choose to answer (A) or (B). Choose the correct answer:

(A) What's the effect of dissolving ammonium chloride in water on litmus paper?

- a) Change into red.
b) Change into blue
c) Neutral effect

(B) On adding silver nitrate solution on sodium iodide solution..... precipitate is formed.

- a) White
b) Yellow
c) White change into black by heating

17) Choose the correct answer:

A solution is of pH = 5 so its pOH =

- a) 9 b) 10 c) 11

18) Choose the suitable scientific concept:

A transition element used in car springs.....

- a) Vanadium V b) Titanium Ti c) Manganese Mn

Group 3: Questions from (19 – 27)**19) Choose to answer (A) or (B). Choose the correct answer:**

(A) Detection of unsaturation in both of ethane molecule

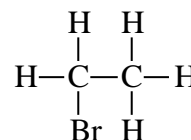
- a) oxygen b) hydrogen c) alkaline potassium permanganate

(B) The scientist who classify compounds into organic and inorganic.....

- a) Kekule b) Baeyer c) Berzelius

20) Choose to answer (A) or (B). Choose the correct answer:

(A) The scientific name of the compound in front of you according to



IUPAC is

- a) 2- bromo ethane b) bromo ethane c) Methyl bromo ethane

(B) The scientific name of the compound in front of you $\text{CH}_3\text{-CH}_2\text{-CH}_2\text{-CH}_3$

according to IUPAC is

- a) Pentane b) Butane c) Methyl propane

21) Choose to answer (A) or (B). Choose the correct answer for the next reason:

(A) Nickel Chromium is used in heating coils Because

- a) it is hard
b) it doesn't corroded at high temperature
c) it give metals red color

(B) Magnesium is from transition elements Because

- a) Because it ends with partially filled (d) sublevel
b) Because it has large atomic number
c) Because it has completely filled (s) sublevel

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22) Choose the correct answer:

In Extraction of aluminum by electrolysis a mixture of fluorides instead of fluorspar (CaF_2) is used

- a) To decrease the melting point and the density of the mixture
- b) To increase the melting point
- c) As a reducing agent

23) Choose the correct answer:

The scientist who established the relation between the effect of different factors and the equilibrium is

- a) Heisenberg
- b) Le Chatelier
- c) Guldberg and Waage

24) Choose the correct answer:

Reduction process in denial cell takes place at

- a) Cathode
- b) Anode
- c) Zn electrode

25) Choose the correct answer:

PVC is used in

- a) Surgical thread
- b) Drainage tubes
- c) cooking tools

26) Choose the correct answer:

The electrolyte in fuel cell is

- a) Lead dioxide
- b) Diluted sulphuric acid
- c) Potassium hydroxide solution

27) Choose the suitable scientific concept:

It is the product of multiplication of the concentration of ions of a sparingly soluble salt in water that's present in the equilibrium with the saturated solution.....

- a) Ionic product of water K_w
- b) pH value
- c) solubility product

Group 4: Questions from (28 – 36)**28) Choose to answer (A) or (B). Choose the correct answer for the next reason:**

(A) Secondary galvanic cells are preferred than primary galvanic cells.

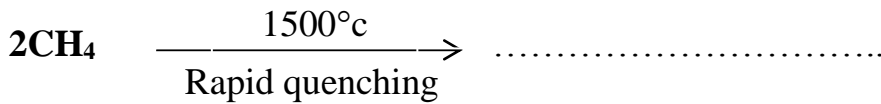
- a) Because it is heavier and stores more amount of energy.
- b) Because it is heavier and stores less amount of energy.
- c) Because it can be recharged.

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(B) Fuel cells are important to astronauts.

- a) Because it does not store the energy produced.
- b) Because the gaseous fuel is the same fuel of launching rockets.
- c) Because the water that is produced from it can be used for drinking.

29) Choose the correct answer to complete the next equation:



- a) Acetylene and hydrogen
- b) Cyclo hexane
- c) Benzene only

30) Choose the correct answer:

On adding silver nitrate solution to unknown solution and yellow ppt. is formed dissolve in ammonia solution the anion of the unknown salt is

- a) Sulphate
- b) Phosphate
- c) Bromide

31) Choose the correct answer:

On adding diluted sulphuric acid to iron, is formed.

- a) Iron (II) sulphate and hydrogen
- b) Iron (III) sulphate and water
- c) A thin layer of oxide stop the reaction

32) Choose the correct answer:

Iron III oxide reacts with concentrated sulphuric acid and give

- a) Iron (II) salts
- b) Iron (III)salts
- c) Iron (II) salts and Iron (III)salts

33) Choose the suitable scientific concept:

The process of reaction between hematite and water gas in midrex furnace is.....

- a) Reduction
- b) Oxidation
- c) Roasting

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34) Choose to answer (A) or (B). Choose the correct answer:

(A) Copper metal in Daniel cell is considered as..... electrode at which the reduction takes place.

- a) Scarifying electrode b) Negative pole c) positive

(B) It's preferable to protect iron by method.

- a) Anodic b) cathodic c) oxygenated

35) Choose the correct answer:

Dissolving Ammonium chloride salt in water produce solution.

- a) Acidic b) Basic c) Neutral

36) Choose the correct answer:

A sample of hydrated barium chloride ($\text{BaCl}_2 \cdot x\text{H}_2\text{O}$) of mass 2.6903 g was heated strongly till it reached constant mass of 2.2923 g, So the mass of water in the sample equals..... gram.

- a) 0.54 b) 0.398 c) 1.3525

Group 5: Questions from (37 – 45)**37) Choose to answer (A) or (B). Choose the correct answer:**

(A) On adding silver nitrate solution to sodium bromide solution precipitate is formed.

- a) White b) Yellow c) yellowish white

(B) Magnesium sulphate solution is used to distinguish between..... salts.

- a) Sulphate and phosphate
b) Carbonate and bicarbonate
c) Nitrate and nitrite

38) Choose the correct answer:

In lead acid cell reduction occurs in

- a) Zinc b) lead c) lead II oxide

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39) Choose the correct answer:

On adding dilute hydrochloric acid to Salt, an irritating smell gas evolved which turn a paper wetted with lead II acetate to black.

- a) Carbonate b) Sulphide c) Thiosulphate

40) Rearrange the next compounds in a descending order according to its activity:

(from high to low activity)

(Alkynes – Alkanes – Alkenes)

- 1 - 2 - 3-

41) Choose the correct answer:

Potassium permanganate act as for many chemical reactions.

- a) Dried agents b) Catalyst c) Oxidizing agents

42) Choose the correct answer for the next reason:

Mercury cell from primary galvanic cell.

- a) Because it can't be charged.
b) Because it stores energy.
c) Because it can be charged.

43) Choose to answer (A) or (B). Choose the correct answer:

(A) Nickel chromium alloy used in

- a) car spring b) artificial joints c) heating coils

(B) When iron react with sulphuris produced.

- a) FeS b) FeSO₄ c) Fe₂O₃

44) Choose the correct answer:

Calculate the precipitated mass of a metal if you know that its equivalent mass is 9 g and 0.5 farad is used.....

- a) 0.0016 g b) 18.55 g c) 4.5 g

45) Providing that the solubility degree of silver chloride AgCl is 10^{-10} mol/L, the value of solubility product will be

- a) 10^{-5} b) 10^{-20} c) 10^{-15}

(انتهت الأسئلة)