

(الأسئلة في خمس صفحات)

الكيمياء (باللغة الإنجليزية)

تنبيه مهم : يسلم الطالب ورقة امتحانية باللغة العربية مع الورقة المترجمة .

Answer Four questions only of the following:**First Question:**

Mention the scientific term that expresses each statement of the following:

- 1- Metal elements that are characterized by having electrons in the sublevel (d) and several oxidation states. ()
- 2- A substance that changes the rate of the chemical reaction without either being changed or changing the equilibrium position. ()
- 3- The property of many organic compounds to have the same molecular formula but different structural formulae. ()
- 4- The substance that is attracted to an external magnetic field due to the presence of unpaired electrons. ()
- 5- The minimum amount of energy that must be gained by a molecule to react on collision. ()
- 6- A kind of chemical analysis used to estimate the ratio of each component of the basic components of the substance. ()
- 7- The negative logarithm (of base 10) of the concentration of hydrogen ions in the solution. ()
- 8- Electric cells that produce an electric current due to a spontaneous oxidation – reduction reaction. ()
- 9- A type of alloys formed as a result of introducing a metal of smaller atomic size into the intermolecular spaces within the crystal lattice of the original metal in order to prevent the sliding of its layers. ()
- 10- Organic compounds that contain carbon and hydrogen elements only. ()
- 11- An organic gas prepared by dripping water on calcium carbide. ()
- 12- Saturated aliphatic hydrocarbons that have an open chain and general formula $C_n H_{2n+2}$ ()
- 13- A type of galvanic cells in which the oxidation – reduction reaction is spontaneous and irreversible. ()
- 14- The method of determining the concentration of an acid by knowing its volume that is completely consumed to neutralize known volume and concentration of a base. ()
- 15- A polymer which is a derivative of tetra fluoro ethene and used in cooking utensils. ()

[بقية الأسئلة في الصفحة الثانية]

Second Question:

First: Choose from group (B) what fits each phrase in group (A) and write its number between the two brackets:

Group (A)	Group (B)
1) Ammonium hydroxide is used in	a) Detecting for iodide anion. ()
2) Scandium is used in	b) The manufacture of mercury vapor lamps. ()
3) Silver nitrate is used in	c) Lithium ion battery. ()
4) 2 bromopropane	d) $\text{CH}_3 - \underset{\text{Br}}{\text{CH}} - \text{CH}_3$ ()
5) It can be recharged and used in mobile phones and computers	e) Detecting for aluminum ion Al^{+3} ()
6) 3 - bromo - 1 - butyne	f) Kekule ()
7) Who discovered the hexagonal cyclic shape of benzene	g) $\text{CH} \equiv \text{C} - \underset{\text{Br}}{\text{CH}} - \text{CH}_3$ ()

Second: Choose from group (B) what fits each phrase in group (A) and write its number between the two brackets:

Group (A)	Group (B)
1) Zinc is used in	a) Galvanizing metals to protect them from rusting. ()
2) Guldberg and Waage formulated	b) Chemical decomposition of an electrolyte by passing an electric current through it. ()
3) Electrolysis is	c) The law of mass action. ()
4) Wohler	d) Succeeded to prepare Urea in the laboratory. ()
5) Galvanic cells	e) Is produced from the reaction between benzene and hydrogen in the presence of a catalyst. ()
6) 4- chloro - 1 - butane	f) $\text{CH}_2 - \underset{\text{Cl}}{\text{CH}_2} - \text{CH} = \text{CH}_2$ ()
7) Le Chatelier established	g) Convert the chemical energy into electrical energy spontaneously. ()
8) Cyclic hexane	h) A rule describing the effect of the different factors on the systems under equilibrated. ()

Third Question:

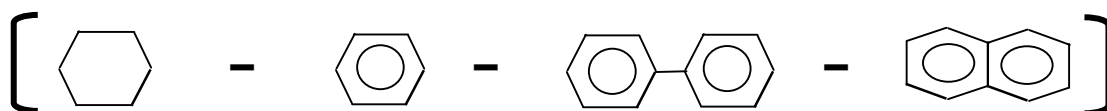
Put (Y) in front of the correct statement and (×) in front of the wrong statement:

- 1- Transition elements are considered as ideal catalysts. ()
- 2- The reaction of a magnesium ribbon with diluted hydrochloric acid is reversible. ()
- 3- The molecular formula indicates the number and kind of element atoms that form the compound molecule but it does not show their way of bonding. ()
- 4- The molecular formula of cyclic hexane is $C_6 H_{14}$ ()
- 5- In the blast furnace, iron oxides are reduced into iron by CO gas. ()
- 6- Electroplating of cooking utensils is an application of electrolysis. ()
- 7- Aluminum is extracted electrically from bauxite ore dissolved in molten cryolite. ()
- 8- The reaction of methane with halogens in the presence of ultra-violet rays is a substitution reaction. ()
- 9- Cyclic hexane is obtained from the reaction of benzene with chlorine in the presence of sunlight. ()
- 10-The product of the concentrations of hydrogen ion and hydroxyl ion produced from the ionization of water = 1×10^{-14} ()
- 11-Burning of methane is exothermic. ()
- 12-The conduction of the acetic acid to the electric current increases by diluting it. ()
- 13-Ethylene glycol is an antifreeze substance to prevent water freezing in car radiators. ()
- 14-Methyl Orange is red in acidic medium and yellow in basic medium. ()
- 15-As the surface area exposed to the reaction increases, the rate of reaction increases. ()

Fourth Question:

Choose the correct answer from those between brackets:

- 1- The proper pH value of sodium hydroxide solution is (1 – 4 – 7 – 13)
- 2- A transition element that is strong and rigid as steel but less dense. Its alloys with aluminum are used in the manufacture of aircrafts and space shuttles. (Titanium – Chromium – Cobalt – Manganese)
- 3- The compound 2, 2 dimethyl pentane containsmethylene group(s). (one – two – three – four)
- 4- Elements of the first transition series in the periodic table are located directly after (magnesium – argon – calcium – scandium)
- 5- When adding HCl acid to a salt, a gas of bad smell evolves. (sulphide – carbonate – thiosulphate – sulphite)
- 6- The explosive material TNT is produced from the reaction of the nitration mixture with (toluene – benzene – ethane – acetylene)
- 7- On mixing two equal volumes of HCl and NaOH, the concentration of each is 0.5 M, the produced solution would be..... (acidic – alkaline – neutral – amphoteric)
- 8- The compound prepared by the dry distillation of anhydrous sodium acetate with soda lime is (ethane – methane – propane – butane)
- 9- Siderite ore is (hydrated iron oxide – anhydrous iron oxide – iron II carbonate – black iron oxide)
- 10- In mercury cell, the negative pole is made up of (mercury oxide – lead oxide – zinc – lead dioxide)
- 11- Water gas is a mixture of two gases which are (hydrogen and carbon monoxide – methane and water vapor – hydrogen and oxygen – propane and butane)
- 12- Which of the following changes would increase the kinetic energy of the reacting molecule? (adding a catalyst – raising temperature – increasing the surface area – increasing the reactants concentration)
- 13- In the following reaction: $N_2 + 3H_2 \rightleftharpoons 2NH_3$
The production of the ammonia gas increases by.... (increasing pressure – decreasing pressure – heating – increasing volume)
- 14- A salt which does not react with hydrochloric acid but reacts with hot conc. sulphuric acid (sodium sulphide – sodium carbonate – sodium bicarbonate – sodium chloride)
- 15- The structural formula of naphthalene is



[بقية الأسئلة في الصفحة الخامسة]

Fifth Question:**Choose from the following words and concepts what fits each statement.****Put the concept order between the brackets in front of the statement:**

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|--------------------------|--------------------|-------------------------------|
| 1) Volatilization method | 2) Methane gas | 3) Duralumin |
| 4) Magnetite | 5) Rust | 6) Catalytic reforming method |
| 7) Halogenation | 8) Bromine vapors | 9) Diamagnetic |
| 10) Poly chloro ethane | 11) Enzymes | 12) Electroplating |
| 13) Lead - acid battery | 14) Phenyl radical | 15) Alloy |

- 1- The product of the reaction of red hot iron with air. ()
- 2- It is made up of two metals or more, such as iron and chromium. ()
- 3- An inter-metallic alloy that is made up of aluminum and copper elements. ()
- 4- An alkane known as the swamp gas. ()
- 5- The process of converting normal hexane into benzene. ()
- 6- A gravimetric method that is based on volatilizing the element or the compound in order to estimate mass. ()
- 7- The reaction of halogens with alkenes by addition. ()
- 8- A polymer that is characterized by being strong and soft and used in floors and insulators. ()
- 9- One of the secondary galvanic cells. ()
- 10- Chemical corrosion of metals due to the effect of the surrounding medium. ()
- 11- Reddish orange vapors that cause the starch solution to turn yellow. ()
- 12- The radical produced by removing a hydrogen atom from the benzene molecule. ()
- 13- Protein molecules formed in the living cells. ()
- 14- Forming a thin layer of a metal on the surface of another metal to protect it from rusting. ()
- 15- The material that repels with the magnetic field as a result of having paired electrons in its orbitals. ()

[انتهت الأسئلة]

