The Brigade School Unit Test (2020-21)

Total points 22.5/25

Class : 10
Marks :25

Subject : Chemistry

Paper 2 : Subjective

Email address *

mananmehtabatman@gmail.com

0 of 0 points

Name : *

Manan Y Mehta

Class/Section : *

10 A

School : *

TBSG

Answer the following questions :-(5X2=10) 9 of 10 points

✓ 1. State one distinguish test between ethene and ethyne. * 2/2

Ethene does not react with ammoinical copper chloride solution but ethyne reacts with it forming red precipitate of copper acetylide.

Feedback

Ethene + ammoniacal CuCl2 / ammoniacal AgNO3- no ppt is seen.[1 Mark]
Ethyne + ammoniacal CuCl2 - red ppt of copper acetylide. or [1 Mark]
Ethyne + ammoniacal AgNO3 - white ppt of silver acetylide.

✓ 2. (a) Give reason : Alkali metals are good reducing agents. (b) Define : Periodicity * 2/2

(a) Alkali Metals tend to lose electrons and are thus good reducing agents.
(b) The periodic properties which occur at a regular intervals is called periodicity.

Feedback

(a) As they have one valence electron which is easily removed from outer shell. [1 Mark]
(b) The properties which appear at regular intervals in the periodic table are called periodic properties and the phenomenon is called periodicity in properties of elements. [1Mark]

✓ 3. Name the two isomers of butane.Give IUPAC name of each. * 2/2

The two isomers of butane is n-butane and iso-butane. The IUPAC name of n-butane is Butane and that of iso=butane is 2-methyl propane.

Feedback

1. n-butane, IUPAC - Butane [1 Mark]
2. iso-butane, IUPAC - 2-methyl propane.[1Mark]

✓ 4. Write condensed structural formulae of the following : (a) Methoxy Methane (b) 3-Pentanone (c) Chloro Methane (d) 1-Propanol * 2/2

(a) CH-O-CH3
(b) CH3 - CH2 - CO - CH2 - CH3
(c) CH3 - Cl
(d) CH3 - CH2 - CH2 - OH

Feedback

(a) CH3-O-CH3 [1/2 Mark each]
(b) C2H5-CO-C2H5
(c) CH3Cl
(d) C3H7OH

✗ 5. Arrange the following as per the instruction given in the brackets: (a) Cs, Na, Li, K, Rb (Increasing order of metallic character). (b) Mg, Cl, Na, S, Si (Decreasing order of atomic size). * 1/2

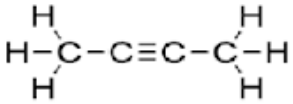
(a) Li, Na, K, Rb, Cs
(b) Mg, Al, Si, S, Cl

Feedback

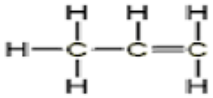
(a) Li, Na, K, Rb,Cs [1Mark]
(b) Na, Mg, Si, S, Cl [1Mark]

Answer the following questions :-(5X3=15) 13.5 of 15 points

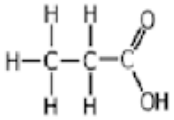
✗ 1. Write the IUPAC names of the following:- * 2/3



Structure 1



Struture 2



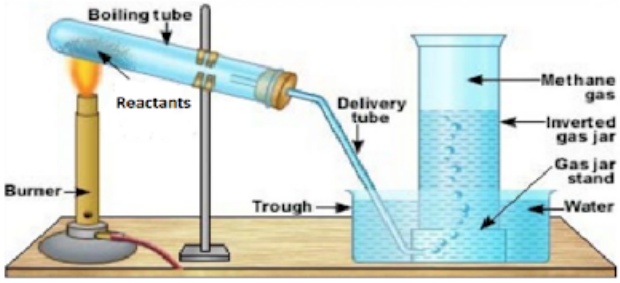
Structure 3

(1) But - 2 - yne
(2) Prop - 1 - ene
(3) Ethanoic Acid

Feedback

A. But-2-yne or 2- Butyne [1 Mark each]
B. prop-1-ene or Propene
C. Propanoic acid

✓ 2. Study the given diagram of laboratory preparation of methane and answer the following questions : (a) Write balanced equation for the given preparation. (b) Why the above reaction is called as Decarboxylation ? (c) Why soda lime is preferred over NaOH ? And name the method of collection of methane gas. * 3/3



(a) $CH_3COONa + NaOH \rightarrow CH_4 + Na_2CO_3$
Conditions - CaO and Δ
(b) The above reaction is decarboxylation as it is the elemination of CO_2 from carboxylic acid.
(c) Soda lime is preferred as it is not deliquescent and does not attack glass.
(d) This is collected through downward displacement of water.

Feedback

(a) $CH_3-COONa + NaOH + CaO$ ----> $CH_4 + Na_2CO_3$ [heat required] [1 Mark]
(b) elimination of a molecule of CO_2 from a carboxylic acid.[1 Mark]
(c) soda lime is not deliquescent & does not attack glass.Downward displacement of water.[1/2 Mark each]

✓ 3. The following questions are related with certain properties of an element 'Z' having atomic number 16: (a) State the period and group to which Z belongs. (b) Is Z a metal or a non-metal. (c) Write an equation to show how Z forms an ion? (d)State the formula of the compound between Z and Hydrogen and what kind of compound is formed between'Z' and Hydrogen? * 3/3

(a) Z belongs to Period 3 and Group 16.
(b) It is a non metal.
(c) Z + 2e → Z2-
(d) H2Z - Covalent Compound is formed between the two.

Feedback

(a) Period-3 , Group-16 [1/2 mark each]
(b) Non-metal [1/2 mark]
(c) Z + 2 e- ----> Z2e- [1/2 mark]
(d) H2Z [1/2 mark] , Covalent compound [1/2 mark]

✓ 4.The elements of one short period of Periodic Table are given below in order from left to right : Li , Be , B , C , O , F , Ne (a) To which period do these elements belong? (b) One element of this period is missing.Which is the missing element and where should it be placed ? (c) Which one of the element in this period shows the property of catenation ? (d) Place fluorine, beryllium and nitrogen in the order of increasing electro-negativity. (e) Which one of the above element belongs to the halogen series? * 3/3

(a) They belong to Period 2.
(b) Nitrogen (N) is missing, it should be placed next to C and before O .
(c) Carbon (C) shows the property of catenation.
(d) Beryllium, nitrogen and fluorine is the order of increasing electonegativity.
(e) Fluorine(Fl) belongs to halogen series.

Feedback

(a) 2nd period [1/2 Mark]
(b) Nitrogen.It should be placed between Carbon and oxygen.[1 Mark]
(c) Carbon [1/2 Mark]
(d) Beryllium , Nitrogen , Fluorine [1/2 Mark]
(e) Fluorine [1/2 Mark]

✗ 5.Give a balanced chemical equation for each of the following: (a) Preparation of ethyne from calcium carbide. (b) Preparation of ethane by Wurtz reaction. (c) Combustion of ethane in limited supply of oxygen. * 2.5/3

(a) CaC2 + 2H2O → C2H2 + Ca(OH)2
(b) 2CH3I + 2Na→ C2H6 + H2NaI
(c) 2C2H6 + 5O29 (limited) → 4CO + 6H2O + Δ

Feedback

1 Mark each
(a) CaC2 + 2H2O ----> C2H2.
(b) 2CH3I + 2Na ----> C2H6 + 2NaI [condition - passed through ether]
(c) 2C2H6 + 5O2 ----> 4CO + 6H2O [exothermic]