

D. alcohols are more branched than Hydrocarbons

19. Almaz adds an indicator to the aqueous solution of basic oxide. She observed yellow color in the aqueous solution. Which indicator Almaz used?

- A. Litmus paper B. phenolphthalein C. methyl orange D. universal indicator

20. The IUPAC name of the compound that can be formed by the reaction of $\text{CH}_3\text{CH}_2\text{CH}_2\text{COOH}$ and $\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$ is

- A. Ethyl butanoate B. propyl butanoate C. butyl propanoate D. ethyl propanoate

21. The gas is liberated by the reaction of ethanol and potassium

- A. CO B. H_2 C. NO D. CO_2

22. The molecular formula of a monohydric alcohol that contain 7 carbon atom is

- A. $\text{C}_7\text{H}_{14}\text{O}_2$ B. $\text{C}_7\text{H}_{15}\text{OH}$ C. $\text{C}_7\text{H}_{16}\text{OH}$ D. $\text{C}_7\text{H}_{12}\text{O}_2$

23. If 2-heptanol is oxidized, the product would be

- A. 2-heptanone B. heptanal C. heptanoic acid D. n-propyl butanoate

24. Which is not industrial application of organic compound?

- A. Alcoholic beverage B. herbicides C. soaps D. pharmaceuticals

25. Which reaction produces an alcohol?

- A. $\text{R-CH=CH}_2 + \text{HX}$ B. $\text{R-CH=CH}_2 + \text{X}_2$ C. $\text{R-COOH} + \text{R-OH}$ D. $\text{R-CH}_2\text{X} + \text{NaOH}$

26. Which two compounds have the same molecular mass?

- A. Butanal & butanone B. butanol & butanone C. 2-butanol & butanal D. none

27. Which one of the following is ester?

- A. CH_3COOH B. CH_3COCH_3 C. $\text{CH}_3\text{COOCH}_3$ D. $\text{CH}_3\text{CH}_2\text{CHO}$

28. Which one is false about acids?

- A. Acids have a sour taste B. React with active metals C. change the color of indicators D. react with acidic oxide

29. In chemistry laboratory if you mix diluted HCl to the unknown substance, the mixture forms a gas that turns lime water to milky. What would be the unknown substance?

- A. Na_2CO_3 B. NaNO_3 C. Na_2SO_3 D. HCl

30. In the process of dilution of acid, we must add

- A. Water to acid B. acid to water C. both acid & water at equal time D. none

I. Choose the best answer from the given alternatives

1. Which one is amphoteric oxide? A. H_2O_2 B. ZnO C. K_2O D. CO_2
2. Which one is used as dry cleaning? A. Gasoline B. benzene C. CCl_4 D. all
3. Calculate the molarities of H_2SO_4 , when 49g of H_2SO_4 dissolved in 50ml of solution. (hint: Molar mass of S=32, H=1, O=16)
A. 10M B. 0.1M C. 0.01M D. 100M
4. Which one is the most reactive? A. Ethane B. ethene C. ethylene D. acetylene
5. The hydrocarbon used as in oxyacetylene torch for cutting & welding of metals.
A. C_2H_4 B. C_2H_2 C. C_2H_6 D. C_2H_5
6. Which alcohol is easiest to dehydrate?
A. Ethanol B. 2-Propanol C. 2-Methyl-2-Propanol D. Methanol
7. Dehydration of ethanol in the presence of acid catalyst yields
A. Ethane B. Ethene C. Ethyne D. propyne
8. Petroleum is a mixture of many alkanes which are separated by
A. Cracking B. polymerization C. fractional distillation D. recrystallization
9. Which one is false about benzene
A. All the six bonds are equal in length C. Isomeric with toluene
B. It is an aromatic compound D. Undergo substitution reaction
10. Treating benzene with concentrated nitric acid in the presence of H_2SO_4 produces
A. Benzene sulphonic acid B. nitro benzene C. chloro benzene D. ethyl benzene
11. The type of medicine used to reduce pain is
A. Sedative B. antiseptics C. analgesics D. disinfectants
12. Which one is acid anhydride of HNO_3 ? A. NO B. N_2O C. NO_2 D. CaO
13. Which oxides can react with acid and base to produce salt & water?
A. N_2O B. CO C. NO D. ZnO
14. $\text{FeCl}_3 + \text{Cl}^- \rightarrow \text{FeCl}_4^-$ from this reaction the Lewis acid is A. FeCl_3 B. Cl^- C. FeCl_4^- D. Fe
15. How peroxides differ from the other oxides?
A. Peroxides contain more hydrogen than the other C. Peroxides are reducing agent
B. Peroxides contain -O-O- linkage D. Oxidation state of oxygen is -2
16. The reaction of alcohol involves C-O bond cleavage is
A. Oxidation of alcohol B. dehydration of alcohol C. esterification D. all
17. When CaC_2 is treated with water to form a gas. This gas belongs to
A. Alkane B. Alkene C. Alkyne D. cycloalkane
18. What causes the boiling point of alcohols to be higher than hydrocarbons of similar molecular mass?
A. Hydrocarbons are more branched than alcohols
B. Due to the presence of hydrogen bond in alcohols
C. Due to the presence of hydrogen bond in Hydrocarbons

H Alkane

i. If the statement is correct say "true" or incorrect say "false"

- Functional group determines chemical property only.
- Trihydric alcohol has two hydroxyl groups.
- All carbon containing compounds are organic compounds.
- Pentene has three positional isomerisms.
- When carbon number increases, the boiling point of alkenes decrease.

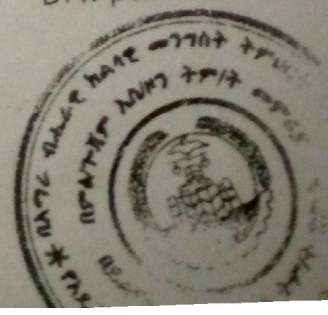
II Match column "A" with "B"

A B

- | | |
|--------------------|---|
| 6. Ester | A. $\text{CH}_3\text{CH}_2\text{CH}_2\text{COOH}$ |
| 7. Carboxylic acid | B. $\text{CH}_3\text{CH}_2\text{CH}_2\text{COOCH}_2\text{CH}_3$ |
| 8. Ketone | $\begin{array}{c} \text{O} \\ \\ \text{C} \end{array}$ |
| 9. Aldehyde | C. $\text{CH}_3\text{CH}_2\text{-C-CH}_3$ |
| 10. Alcohol | D. $\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$ |
| | E. $\text{CH}_3\text{CH}_2\text{CH}_2\text{CHO}$ |

III. Choose the best answer from the given alternatives

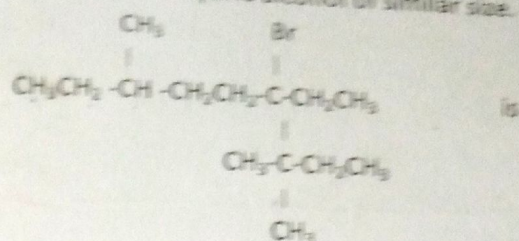
- What is the number of carbon atoms of alkane with hydrogen atoms of 14?
A. 30 B. 6 C. 8 D. 14
- Which one of the following is undistilled alcohol? A. Gin B. Beer C. Ouzo D. whisky
- The alcohol 2-methyl-2-butanol is A. Primary B. secondary C. tertiary D. quaternary
- If $\text{CH}_3\text{CH}_2\text{CH}=\text{CH}_2$ is treated with HCl, the product of the reaction will be
A. 1-chloro butane B. 2-chloro butene C. 2-chloro butane D. butane
- What is the missing term "X" in the reaction $\text{CH}_3\text{C}\equiv\text{CH} + 2\text{HCl} \rightarrow \text{X}$
A. 2,2-dichloro propane C. 1,1-dichloro propane
B. 1,2-dichloro propane D. 1,2-dichloro propene
- Which one of the following is liquid at room temperature?
A. Ethene B. Methane C. Heptane D. Propane
- What would be the coefficient of oxygen in the complete composition of pentane?
A. 8 B. 6 C. 3 D. 5
- The main reaction that benzene undergo is
A. Addition B. substitution C. polymerization D. hydrogenation
- Which one of the following alcohol can be dehydrate easily?
A. 2-butanol B. 1-butanol C. 2-methyl-2-propanol D. 1-pentanol
- The reaction of alcohol with carboxylic acid to form ester is called.....
A. Elimination B. dehydration C. saponification D. esterification
- Which one of the following compound is used as dry cleaning?
A. Ethanol B. soap C. ethanal D. carbon tetra chloride
- What is the name of a compound formed when ethanoic acid is reacted with butanol?
A. Ethyl butanoate B. methyl pentanoate C. butyl ethanoate D. n-pentanoate



23. Which one of the following statement is correct?

- A. Boiling point of alkane decreases as carbon number increase.
- B. Solubility of alcohol in water increases as carbon number increase.
- C. Branched chain alkane has lower boiling point than straight chain isomer.
- D. Monohydric alcohols have lower boiling point than dihydric alcohol of similar size.

24. The IUPAC name of



- A. 3-Bromo- 7-methyl-3-tertpentyl octane
- B. 4-Bromo-4-ethyl-3,3,7-trimethyl nonane
- C. 3-Bromo-2,3-diethyl-2,6-dimethyl octane
- D. 4-Bromo-3-tert butyl-7-methyl nonane

25. If there are 3 beakers A,B & C with a solution of similar color, when you add bromine water (Br in CCl_4) into 3 beakers, beaker A & B decolorize bromine water but beaker C donot. Which beaker contain unsaturated hydrocarbons

- A. Both beakers A & B
- B. beaker A
- C. beaker B
- D. beaker C

26. Which one is the first organic compound that synthesized from inorganic source?

- A. $\text{N}_2\text{H}_4\text{CO}$
- B. AgCNO
- C. NH_4CNO
- D. NH_4Cl

27. Which one of the following shows geometrical isomerism?

- A. 1- pentene
- B. 2-pentyne
- C. 1-butene
- D. 2-pentene

28. Alkanes are insoluble in water. Because

- A. They are non-polar substances
- B. They possess carbon-carbon single bond
- C. They are solid substances
- D. They have strong inter molecular force

29. Producer gas is composed of

- A. CH_4 & H_2O
- B. N_2 & CO
- C. CO & H_2
- D. O_2 & N_2

30. Secondary alcohol oxidized to produce

- A. Ketone
- B. Aldehyde
- C. carboxylic acid
- D. Ester

Time 15 min.

Use if the statement is correct & say false if the statement is incorrect.

1. The second homologous series of Alkene is Ethene
2. Neo-pentane has higher boiling point than iso-pentane.
3. C_4H_{10} , C_6H_{14} and C_8H_{16} are members of the same homologous series.

1. Choose the best answer

4. which do not have the same molecular formula ?

- ~~A. cyclopentane~~ B. 1-pentene C. 1, 2-dimethyl cyclopropane D. 2-methyl butane.

5. 1-heptene as compared to n-heptane.

- A. it undergoes replacement reaction B. it does not react with oxygen.

C. it is less reactive

D. it undergoes addition reaction.

6. What will be the product when an Alkene reacts with hydrogen in the presence of Metal catalyst ?

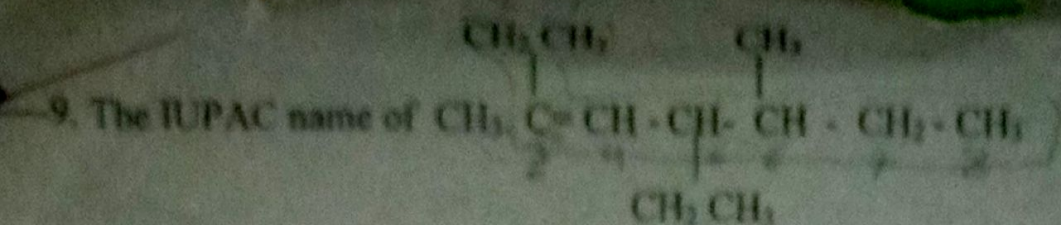
- A. Dihalo Alkane B. Monohalo Alkane C. Alkane D. Alcohol

7. Beletu adds alkaline $KMnO_4$ solution to the unknown solution, she observed the purple colour of $KMnO_4$ solution fades and brown precipitate is formed. Then she concluded that the unknown solution may be-----.

- A. 2-methyl hexane B. 2-hexene C. n-hexane D. iso hexane

8. Which of the following do not show Geometric isomerism?

- A. 2, 3-dibromo-2-butene B. 2-butene C. 1-pentene D. 3-hexene



- A. 4,6-dimethyl-3-ethyl-5-heptene
 B. 2,4-diethyl-5-methyl-2-heptene
 C. 5-ethyl-3,6-dimethyl-3-octene
 D. 4-ethyl-3,6-dimethyl-5-octene

10. Which one is liquid at room temperature?

- A. $\text{C}_{18}\text{H}_{38}$
 B. C_7H_{16}
 C. CH_4
 D. C_4H_{10}

11. The general formula represents the group of paraffin's?

- A. $\text{C}_n\text{H}_{2n-2}$
 B. C_nH_{2n}
 C. $\text{C}_n\text{H}_{2n+1}$
 D. $\text{C}_n\text{H}_{2n+2}$

12. In the reaction $\text{CH}_3\text{CH}=\text{CH}_2 + \text{H}_2\text{O} \xrightarrow{\text{H}^+} \text{X}$, what would be "X".

- A. $\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$
 B. $\text{CH}_3\underset{\text{OH}}{\text{CH}_2\text{OH}}$
 C. $\text{CH}_3\text{CH}_2\text{CH}_3$
 D. $\text{CH}_3\text{CH}_2\text{OH}$

13. How many isomers are there in n-heptane?

- A. 9
 B. 7
 C. 8
 D. 6

14. A part of a molecule or a compound that determines the behavior of that compound is

- A. alkyl radical
 B. functional group
 C. homologous series
 D. isomerism

15. The main reaction of ^{2-pentene} ~~2~~-type is

- A. addition
 B. substitution
 C. combustion
 D. elimination.