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Chemistry Organic Of Fundamentals about Worksheet الملف

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More files for 9th Grade , Subject Chemistry , Term 1

Worksheet about Ionic chemical formula	1
Worksheet about Conversions	2
Chemistry concept Test	3
Worksheet about Chemistry Introduction	4
Worksheet about Organic Chemistry	5

Unit 11 Fundamentals of Organic Chemistry

Choose the best answer.

1. Select the molecule which has only one π bond.

- a) $\text{CH}_3 - \text{CH} = \text{CH} - \text{CH}_3$
- b) $\text{CH}_3 - \text{CH} = \text{CH} - \text{CHO}$
- c) $\text{CH}_3 - \text{CH} = \text{CH} - \text{COOH}$
- d) All of these

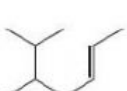
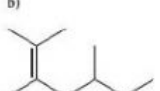
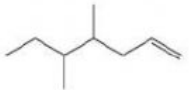
2. In the hydrocarbon $\overset{7}{\text{C}}\text{H}_3 - \overset{6}{\text{C}}\text{H}_2 - \overset{5}{\text{C}}\text{H} = \overset{4}{\text{C}}\text{H} - \overset{3}{\text{C}}\text{H}_2 - \overset{2}{\text{C}} \equiv \overset{1}{\text{C}}\text{H}$ the state of hybridisation of carbon 1,2,3,4 and 7 are in the following sequence.

- a) sp, sp, sp^3, sp^2, sp^3
- b) $sp^2, sp, sp^3, sp^2, sp^3$
- c) sp, sp, sp^2, sp, sp^3
- d) none of these

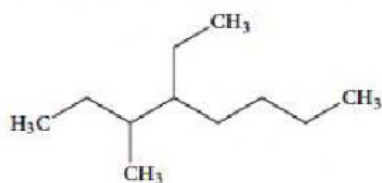
3. The general formula for alkadiene is

- a) C_nH_{2n}
- b) $\text{C}_n\text{H}_{2n-1}$
- c) $\text{C}_n\text{H}_{2n-2}$
- d) C_nH_{n-2}

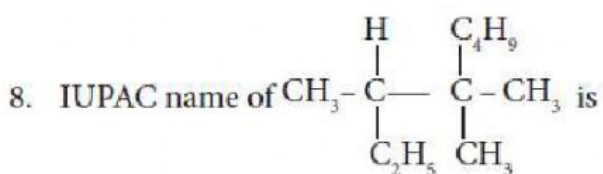
4. Structure of the compound whose IUPAC name is 5,6 - dimethylhept - 2 - ene is

- a) 
- b) 
- c) 
- d) None of these

5. The IUPAC name of the Compound is



- a) 2,3 - Dimethylheptane
 b) 3- Methyl -4- ethyloctane
 c) 5-ethyl -6-methyloctane
 d) 4-Ethyl -3 - methyloctane.
6. Which one of the following names does not fit a real name?
 a) 3 - Methyl -3-hexanone
 b) 4-Methyl -3- hexanone
 c) 3- Methyl -3- hexanol
 d) 2- Methyl cyclo hexanone.
7. The IUPAC name of the compound $\text{CH}_3\text{-CH=CH-C}\equiv\text{CH}$ is
 a) Pent - 4 - yn-2-ene
 b) Pent -3-en-1-yne
 c) pent - 2- en - 4 - yne
 d) Pent - 1 - yn -3 -ene

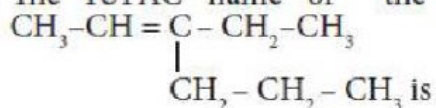


- a) 3,4,4 - Trimethylheptane
 b) 2 - Ethyl -3, 3- dimethyl heptane
 c) 3, 4,4 - Trimethyloctane
 d) 2 - Butyl -2 -methyl - 3 - ethyl-butane.

9. The IUPAC name of $\text{H}_3\text{C}-\overset{\text{I}}{\underset{\text{CH}_3}{\text{C}}}-\text{CH}=\text{C}(\text{CH}_3)_2$ is

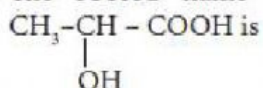
- a) 2,4,4 - Trimethylpent -2-ene
- b) 2,4,4 - Trimethylpent -3-ene
- c) 2,2,4 - Trimethylpent -3-ene
- d) 2,2,4 - Trimethylpent -2-ene

10. The IUPAC name of the compound



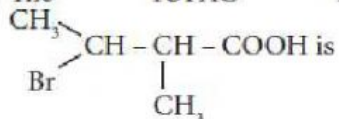
- a) 3 - Ethyl -2- hexene
- b) 3 - Propyl -3- hexene
- c) 4 - Ethyl - 4 - hexene
- d) 3 - Propyl -2-hexene

11. The IUPAC name of the compound



- a) 2 - Hydroxypropionic acid
- b) 2 - Hydroxy Propanoic acid
- c) Propan - 2- ol -1 - oic acid
- d) 1 - Carboxyethanol.

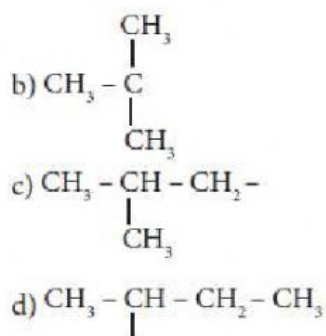
12. The IUPAC name of



- a) 2 - Bromo -3 - methyl butanoic acid
- b) 2 - methyl - 3- bromobutanoic acid
- c) 3 - Bromo - 2 - methylbutanoic acid
- d) 3 - Bromo - 2, 3 - dimethyl propanoic acid.

13. The structure of isobutyl group in an organic compound is

- a) $\text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{CH}_2 -$



14. The number of stereoisomers of 1, 2 - dihydroxy cyclopentane

- a) 1 b) 2 c) 3 d) 4

15. Which of the following is optically active?

- a) 3 - Chloropentane
 b) 2 Chloro propane
 c) Meso - tartaric acid
 d) Glucose

16. The isomer of ethanol is

- a) acetaldehyde b) dimethylether
 c) acetone d) methyl carbinol

17. How many cyclic and acyclic isomers are possible for the molecular formula $\text{C}_3\text{H}_6\text{O}$?

- a) 4 b) 5 c) 9 d) 10

18. Which one of the following shows functional isomerism?

- a) ethylene b) Propane
 c) ethanol d) CH_2Cl_2

19. $\overset{\ominus}{\text{C}}\text{H}_2 - \overset{\text{O}}{\underset{\parallel}{\text{C}}} - \text{CH}_3$ and $\text{CH}_2 = \overset{\text{O}}{\underset{\mid}{\text{C}}}\text{CH}_3$ are

- a) resonating structure b) tautomers
 c) Optical isomers d) Conformers.

20. Nitrogen detection in an organic compound is carried out by Lassaigne's test. The blue colour formed is due to the formation of.

- a) $\text{Fe}_3[\text{Fe}(\text{CN})_6]_2$
- b) $\text{Fe}_4[\text{Fe}(\text{CN})_6]_3$
- c) $\text{Fe}_4[\text{Fe}(\text{CN})_6]_2$
- d) $\text{Fe}_3[\text{Fe}(\text{CN})_6]_3$

21. Lassaigne's test for the detection of nitrogen fails in

- a) $\text{H}_2\text{N} - \text{CO} - \text{NH} \cdot \text{NH}_2 \cdot \text{HCl}$
- b) $\text{NH}_2 - \text{NH}_2 \cdot \text{HCl}$
- c) $\text{C}_6\text{H}_5 - \text{NH} - \text{NH}_2 \cdot \text{HCl}$
- d) $\text{C}_6\text{H}_5 \text{CONH}_2$

22. Connect pair of compounds which give blue colouration / precipitate and white precipitate respectively, when their Lassaigne's test is separately done.

- a) $\text{NH}_2 \text{NH}_2 \text{HCl}$ and $\text{ClCH}_2 - \text{CHO}$
- b) $\text{NH}_2 \text{CS NH}_2$ and $\text{CH}_3 - \text{CH}_2\text{Cl}$
- c) $\text{NH}_2 \text{CH}_2 \text{COOH}$ and $\text{NH}_2 \text{CONH}_2$
- d) $\text{C}_6\text{H}_5\text{NH}_2$ and $\text{ClCH}_2 - \text{CHO}$.

23. Sodium nitropruside reacts with sulphide ion to give a purple colour due to the formation of

- a) $[\text{Fe}(\text{CN})_5 \text{NO}]^{3-}$
- b) $[\text{Fe}(\text{NO})_5 \text{CN}]^+$
- c) $[\text{Fe}(\text{CN})_5 \text{NOS}]^+$
- d) $[\text{Fe}(\text{CN})_5 \text{NOS}]^{3-}$

24. An organic Compound weighing 0.15g gave on carius estimation, 0.12g of silver bromide. The percentage of bromine in the Compound will be close to

- a) 46%
- b) 34%
- c) 3.4%
- d) 4.6%

25. A sample of 0.5g of an organic compound was treated according to Kjeldahl's method. The ammonia evolved was absorbed in 50mL of 0.5M H_2SO_4 . The remaining acid after neutralisation by ammonia consumed 80mL of 0.5 MNaOH, The percentage of nitrogen in the organic compound is.
- 14%
 - 28%
 - 42%
 - 56%
26. In an organic compound, phosphorus is estimated as
- $\text{Mg}_2\text{P}_2\text{O}_7$
 - $\text{Mg}_3(\text{PO}_4)_2$
 - H_3PO_4
 - P_2O_5
27. Ortho and para-nitro phenol can be separated by
- azeotropic distillation
 - destructive distillation
 - steam distillation
 - cannot be separated
28. The purity of an organic compound is determined by
- Chromatography
 - Crystallisation
 - melting or boiling point
 - both (a) and (c)
29. A liquid which decomposes at its boiling point can be purified by
- distillation at atmospheric pressure
 - distillation under reduced pressure
 - fractional distillation
 - steam distillation.
30. Assertion: $\text{CH}_3 - \text{C} = \text{CH} - \text{COOH}$ is 3-carbethoxy -2- butenoic acid.
 COOC_2H_5

Reason: The principal functional group gets lowest number followed by double bond (or) triple bond.

- both the assertion and reason are true and the reason is the correct explanation of assertion.
- both assertion and reason are true and the reason is not the correct explanation of assertion.
- assertion is true but reason is false
- both the assertion and reason are false.