



CHEMISTRY

BOOKS - OMEGA PUBLICATION

ORGANIC CHEMISTRY SOME BASIC PRINCIPLES AND TECHNIQUES

Questions

1. Give the difference between alicyclic and aromatic compounds.

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2. What are hybridisation states of each carbon atom in the following compound : C_6H_6

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3. Identify the σ and π bonds in the following molecules.

i) C_6H_6 ii) C_6H_{12} iii) CH_2Cl_2 iv) $CH_2 = C = CH_2$ v) CH_3 .

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4. Define functional group?

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5. What is homologous series? Give its important characteristics.

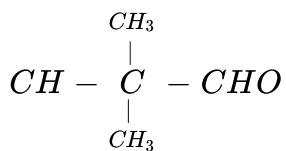
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6. Write IUPAC names of the following organic compounds.



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7. Write IUPAC names of the following organic compounds.



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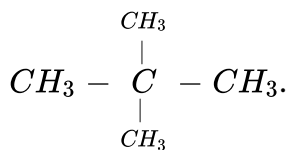
8. Define the term- Creepers and give one example?

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9. Define the term- climbers with one example?

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10. Give the IUPAC name of the following organic compounds :





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11. What are the main functions of a leaf?



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12. What are unisexual flowers? Give one example?



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13. What are bisexual flowers? Give one example?



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14. Name a plant which eat insects?

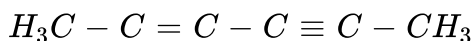


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15. What do you mean by complete and incomplete flower?

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16. Write the IUPAC name of the following organic compounds :



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17. Name the pollen producing part of the flower? Explain with the help of a well labelled diagram?

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18. Which part of the flower is known as the female reproductive part? Explain with the help of well labelled diagram?

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19. Which part of the skull bones are movable?

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20. Why our elbow cannot move in backward direction?

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21. Write IUPAC name of the following:

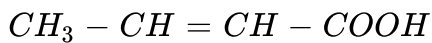


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22. Give one example of ball and socket joint?

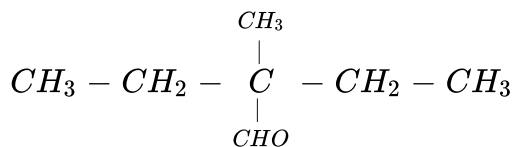
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23. Write IUPAC name of the following:



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24. Write the IUPAC name of the following organic compounds.



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25. Give one example of pivotal joint?

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26. Give one example of hinge joint?

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27. Write the structural formulae of the following compounds :

2, 3-Dimethyl-2-butene



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28. Write the structural formulae of the following compounds :

2, 2, 4-Trimethylpentane



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29. Give one example of fixed joint?



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30. Give one example of Gliding joint?



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31. Write IUPAC name of $(CH_3)_3C-C(CH_3)_3$.

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32. IUPAC name of 

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33. Explain the term habitat?

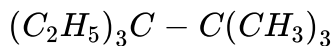
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34. IUPAC name of



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35. IUPAC name of

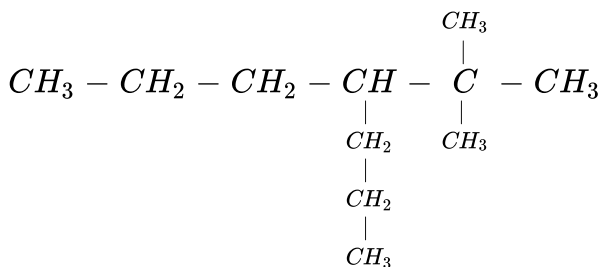


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36. Name three things which are non-living but once were a part of living things?

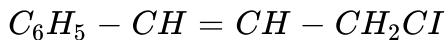
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37. Name the following compounds according to IUPAC-system.



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38. Write IUPAC name of the following compounds



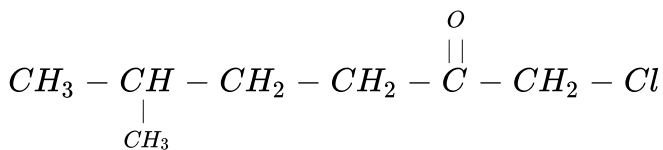
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39. Name the following compounds according to IUPAC-system.



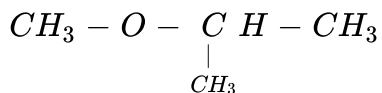
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40. Write the IUPAC name of the following organic compounds :



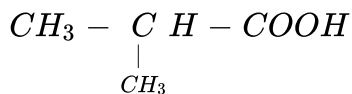
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41. Write the IUPAC name of the following organic compounds :



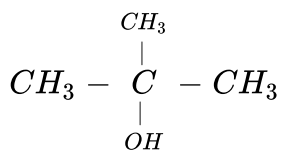
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42. Write the IUPAC name of the following organic compounds :



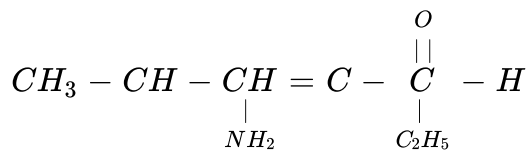
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43. Write the IUPAC name of the following organic compounds :



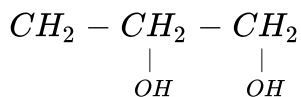
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44. Give the IUPAC name of the following organic compounds :



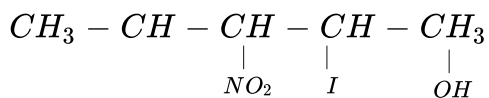
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45. Give the IUPAC name of the following organic compounds :



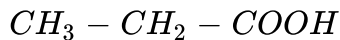
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46. Give the IUPAC name of the following organic compounds :



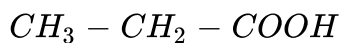
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47. Give the IUPAC name of the following organic compounds :



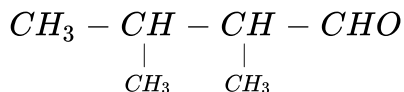
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48. Give the IUPAC name of the following organic compounds :



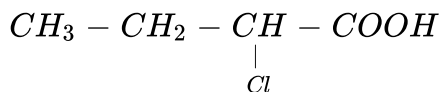
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49. Give the IUPAC name of the following organic compounds :



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50. Assign IUPAC name of the following compounds:





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51. Assign IUPAC name of the following compounds:



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52. Give the IUPAC names of the following compounds.



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53. Give the IUPAC names of the following compounds.



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54. Give the IUPAC names of the following compounds.



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55. Give the IUPAC names of the following compounds.



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56. Give the IUPAC names of the following compounds.



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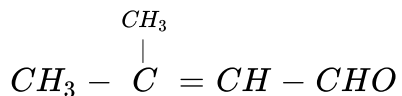
57. Give the IUPAC names of the following compounds.





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58. Give the IUPAC names of the following compounds.



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59. Explain the followings with an example :

Position isomerism .



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60. Explain the followings with an example :

Functional isomerism



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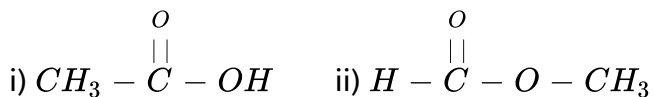
61. Explain the followings with an example :

Chain isomerism

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62. Explain the followings with an example :

Which structural isomerism is exhibited by the following pairs ?



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63. Write a note on geometrical isomerism.

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64. What is metamerism ? Give an example.

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65. $CH_3OC_3H_7$ and $C_2H_5OC_2H_5$ represent which type of isomers?

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66. What is reaction mechanism ?

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67. Explain the following terms :

Carbocation

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68. Explain the following terms :

Carbanion

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69. Explain the following terms :

Free radical.

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70. Explain the following term :

Carbenes

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71. Give the different types of carbocations and their order of stability.

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72. Why tertiary carbocations are more stable than, secondary and primary carbocations? Explain.

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73. Give the structure of carbocation.

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74. Give the different types of carbanions, also their order of stability.

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75. Why primary carbanions are more stable than the secondary and tertiary carbanions ?

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76. Explain the stability order of free radicals.

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77. Differentiate between electrophiles and nucleophiles.

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78. Which of the two : $O_2NCH_2CH_2O^-$ or $CH_3CH_2O^-$ is expected to be more stable and why?

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79. What is resonance ? Explain with the help of one example.

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80. What do you mean by resonance energy ?

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81. What is resonance effect ? Give the different types of resonance effect.

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82. Name some common characteristics of living things?

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83. Name some plants found on mountains and their characteristics?

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84. Define sublimation.

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85. Define crystallisation. Give its importance.



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86. Discuss various steps involved in crystallisation.

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87. Name few habitats?

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88. Name two living organisms that live in deserts?

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89. Name few plants that are found in ponds?

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90. What are predators?



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91. Name the habitat where various types of fish live?



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92. What are the common things found in all fish?



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93. Write two applications of chromatographic methods.



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94. Name the technique which could be used to separate petrol from crude oil.

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95. How will you separate a mixture of o-nitrophenol and p-nitrophenol ?

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96. Give two examples of ketone.

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97. Name the components of a habitat?

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98. What do you mean by the germination of seed?

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99. How will you detect the presence of carbon and hydrogen in an organic compound ?

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100. Will CCl_4 give white precipitate of $AgCl$ on heating with silver nitrate ? Give reason for your answer. .

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101. Why is an organic compound fused with sodium for testing halogens, nitrogen, sulphur and phosphorus ?

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102. Lassaigne's test is not shown by diazonium salts, though they contain nitrogen. Why?

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103. Name a few terrestrial habitats?

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104. Name some aquatic habitats?

 [Watch Video Solution](#)

105. What is a prey?

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106. Give the chemistry of Lassaigne's test for detection of N in an organic compound.

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107. What do you mean by breathing?

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108. Name two animals which have no gills?

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109. Define the term- Respiration?

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110. what is the difference between Desert and Sea regions?

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111. Describe the chemistry of detection of S by Lassaigne's method.

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112. Give the test for detection of P in an organic compound.

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113. How will you detect the presence of carbon and hydrogen in an organic compound ?

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114. How oxygen is estimated in a given organic compound ?

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115. Discuss Dumas method for estimation of nitrogen in an organic compound.

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116. Explain the features of a fish which help them to live them in water?

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117. Discuss Dumas method for estimation of nitrogen in an organic compound.

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118. How are camels adapted to live in desert?

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119. In what form is nitrogen estimated in Kjeldahl's method ?

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120. Why abiotic factors are important?

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121. How is sulphur estimated in a given organic compound ?

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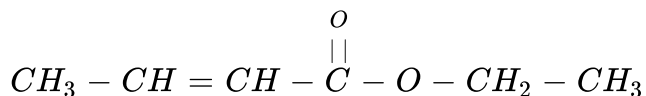
122. Give the test for detection of P in an organic compound.



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Multiple Choice Questions

1. The I.U.P.A.C name of



- A. ethylbut - 1- enoate
- B. ethylbut -2-enoate
- C. ethyl prop-2-enoate
- D. none of above

Answer: B



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2. The I.U.P.A.C. name of $CH_2 = CH_2 - CN$ is

- A. ethenenitrile
- B. vinyl cyanide
- C. cyanoethene
- D. 2-propenenitrile

Answer: D

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3. The most stable conformation of n-butane is

- A. skew boat
- B. eclipsed
- C. gauche
- D. staggered or anti

Answer: D

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4. Which process is suitable for the purification of aniline?

- A. Simple distillation
- B. Steam distillation
- C. Fractional distillation
- D. Fractional crystallisation,

Answer: B



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5. Anthracene is purified by

- A. filtration
- B. crystallisation
- C. distillation

D. sublimation

Answer: D

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6. Which of the following compounds does not give Lassaigne's test for nitrogen ?

A. Urea

B. Hydrazine

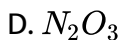
C. Phenylhydrazine

D. Azobenzene

Answer: B

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7. In Kjeldahl method, the presence of nitrogen is estimated as



Answer: B



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8. Molecular mass of volatile substance may be determined by

A. Kjeldahl's method

B. Duma's method

C. Victor-Meyer's method

D. Liebig's method

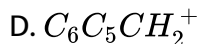
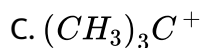
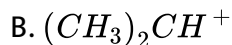
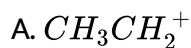
Answer: C

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9. Convey the following information in the form of a balanced chemical equation : On adding an aqueous solution of sodium hydroxide to an aqueous solution of copper sulphate , copper hydroxide is precipitated and sodium sulphate remains in the solution .

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10. The most stable ion is



Answer: C

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11. The functional group for aldehydes is

A. $-OH$

B. $-CHO$

C. $-COOH$

D. $>CO$

Answer: C

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12. The functional group -O- belongs to the family of

A. ketones

B. aldehydes

C. ethers

D. alcohols

Answer: B



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13. The word root 'oct' is for

A. C_6

B. C_7

C. C_8

D. C_9

Answer: C



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14. Steam distillation is applied for the separation of those compounds which are

- A. steam volatile and soluble in water..
- B. steam volatile and decompose in water
- C. steam volatile and insoluble in water
- D. capable of chemical reaction in water

Answer: D



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15. The process of differential extraction is based upon

- A. different solubilities
- B. different molecular masses
- C. different boiling points
- D. different chemical properties

Answer: A

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16. A substance which decomposes below its boiling point can be best purified by

- A. steam distillation
- B. simple distillation
- C. fractional distillation
- D. distillation under reduced pressure

Answer: D

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17. In Duma's method, the gas which is collected in nitrometer is

A. N_2

B. NO

C. NH_3

D. H_2

Answer: A



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18. The first organic compound prepared is

A. ammonia

B. methane

C. urea

D. ethane

Answer: C



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19. General formula C_nH_{2n+1} , OH is of

- A. alcohol
- B. aldehyde
- C. ketone
- D. carboxylic acid.

Answer: A

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20. Which of the following compound will give blood red colour while doing the Lassaigne's test for N?

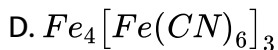
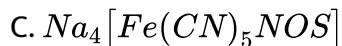
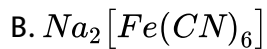
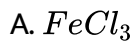
- A. $(NH_2)_2C = O$
- B. $H_2N(C_6H_4)SO_3H$
- C. $C_6H_5SO_3H$



Answer: B

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21. The violet colour in the Lassaigne's test of sulphur is due to



Answer: C

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22. In ethene ($CH_2 = CH_2$) each C-atom undergoes

A. sp - hybridization

B. sp^2 – hybridization

C. sp^3 -hybridization

D. sp^2 and sp^3 -hybridization

Answer: B

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23. Which of the following compound contains aldehydic functional group ?

A. CH_3COOH

B. CH_3CHO

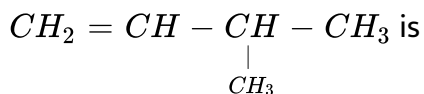
C. CH_3CONH_2

D. None of these,

Answer: B

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24. The IUPAC name of the compound



- A. 1, 1 dimethyl-2 propene
- B. 3-methyl but-1-ene
- C. 2-Vinyl propene
- D. 1-Isopropyl ethene

Answer: B

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25. The common name of 2-butanone is

- A. acetone
- B. butyraldehyde

C. ethylmethyl ketone

D. none of these

Answer: D

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26. The IUPAC name of the compound. $CH_3 - CH = CH - C \equiv CH$

A. Pent-2-en-4-yne

B. Pent-1-en-4-yne

C. Pent-3-en-1-yne

D. Pent-2-en-5-yne

Answer: A

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