



CHEMISTRY

BOOKS - DISHA CHEMISTRY (HINGLISH)

ORGANIC CHEMISTRY - SOME BASIC PRINCIPLES AND TECHNIQUES

Mcqs

1. The correct decreasing order of priority for the functional groups of organic compounds in the IUPAC system of nomenclature is

A. $-COOH$, $-SO_3H$, $-CONH_2$, $-CHO$

B. $-SO_3H$, $-COOH$, $-CONH_2$, $-CHO$

C. $-CHO$, $-COOH$, $-SO_3H$, $-CONH_2$

D. $-CONH_2$, $-CHO$, $-SO_3H$, $-COOH$

Answer: A



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2. The IUPAC name of the compound



A. 1,2,3 -triformylpropane

B. Propane-1,2,3-Tricarbaldehyde

C. 3-formyl-1, 5-pentanedial

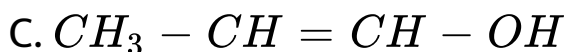
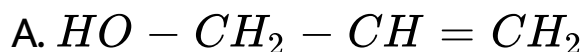
D. Propane-1,2,3-trial

Answer: B



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3. Vinylcarbinol is




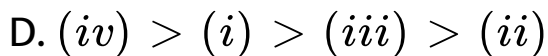
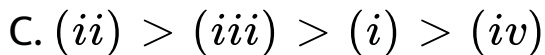
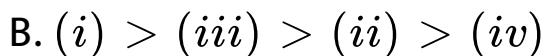
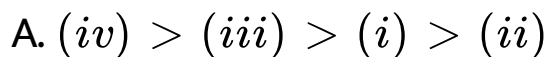


Answer: A



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4. The stability of the compounds 



Answer: A



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5. Fractional distillation is used when

- A. there is a large difference in the boiling points of liquids
- B. there is a small difference in the boiling points liquids
- C. boiling points of liquid are same
- D. liquids form a constant boiling mixture

Answer: B



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6. Rate of the reaction 

is fastest when Z is



Answer: C



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7. The order of activity of the various O- and P-director is

A.



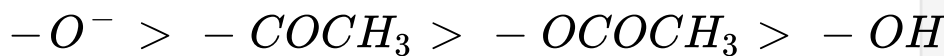
B.



C.



D.



Answer: A



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8. The general formula $C_nH_{2n}O_2$ could be for open chain

A. Carboxylic acids

B. diols

C. dialdehydes

D. diketones

Answer: A



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9. 

The product would be

A. a racemate

B. optically active

C. a meso compound

D. a mixture of diastereomers

Answer: A



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10. The number of possible open chain (acyclic) isomeric compounds for molecular formula C_5H_{10} would be

A. 8

B. 7

C. 6

D. 5

Answer: C



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11. Which one of the following is the stablest structure of cyclohexatriene?

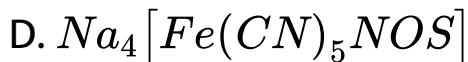
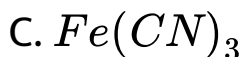
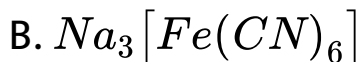
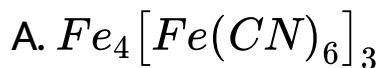
- A. Chain form
- B. Boat form
- C. Half chair form
- D. Planar form

Answer: D



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12. The compound formed in the positive test for nitrogen with the Lassaigne solution of an organic compound is



Answer: A



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13. 2.79g of an organic compound when heated in Carius tube with conc. HNO_3 and H_3PO_4 formed converted into $MgNH_4 \cdot PO_4$ ppt. The ppt. on heating gave 1.332 g of $Mg_2P_2O_7$. The percentage of P in the compound is

- A. 23.3 %
- B. 13.33 %
- C. 33.33 %
- D. 26.66 %

Answer: B



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14. The accepted IUPAC name of the camphor is



- A. 1.7.7-trimethyl bicyclo[2.2.1] heptan-2-one
- B. 1.7.7-trimethyl bicyclo[2.1.2] heptan-2-one
- C. 1.2.2-trimethyl bicyclo[2.2.1] heptan-6-one
- D. None of these

Answer: A



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15. The pair of structure given below represent 

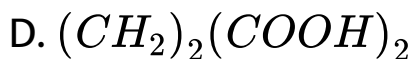
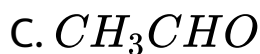
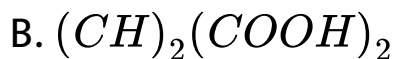
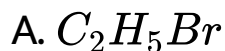
- A. enantiomers
- B. diastereomers
- C. structural isomers
- D. two molecules of the same compound.

Answer: C



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16. Which of the following exhibits geometrical isomerism?



Answer: B



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17. Chlorine in vinyl chloride is less reactive because

- A. sp^2 -hybridised carbon has more acidic character than sp^3 -hybridised carbon
- B. C-Cl bond develops partial double bond character
- C. of resonance
- D. All are correct

Answer: C



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18. The best method for the separation of naphthalene and benzoic acid from their mixture is,

A. distillation

B. sublimation

C. chromatography

D. crystallisation

Answer: B



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19. The percentage of sulphur in an organic compound whose 0.32g produces 0.233g of $BaSO_4$ [At. Wt. Ba=137, S=32] is

A. 1.0

B. 10.0

C. 23.5

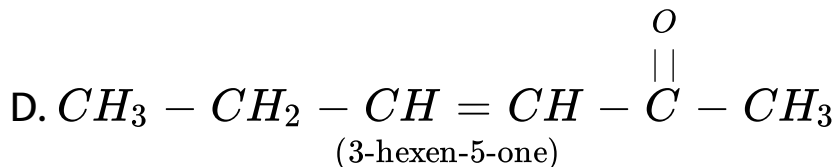
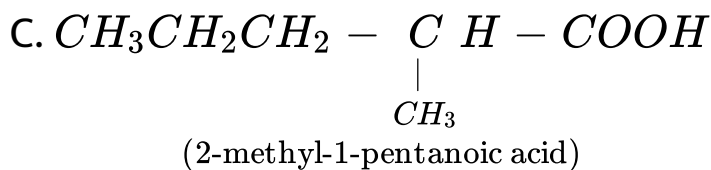
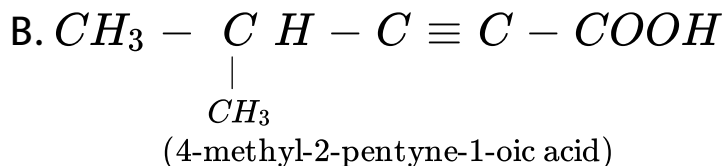
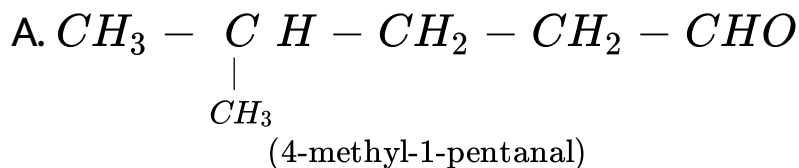
D. 32.1

Answer: B



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20. Indicate the wrongly named compound



Answer: D



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21. The (R-) and (S-) enantiomers of an optically active compound differ in

- A. their reactivity with achiral reagents
- B. their optical rotation of plane polarized light
- C. their melting points
- D. None of these

Answer: B



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22. But-2-ene exhibits cis-trans-isomerism due to

- A. rotation around $C_3 - C_4$ sigma bond
- B. restricted rotation around C=C bond
- C. rotation around $C_1 - C_2$ bond
- D. rotation around $C_2 - C_3$ double bond

Answer: B



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23. Which of the following compounds undergoes nucleophilic substitution reaction most easily?

A. 

B. 

C. 

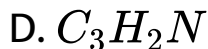
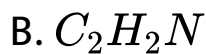
D. 

Answer: A

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24. An organic compound contains $C = 40\%$, $H = 13.33\%$ and $N = 46.67\%$. Its empirical formula would be

A. CHN

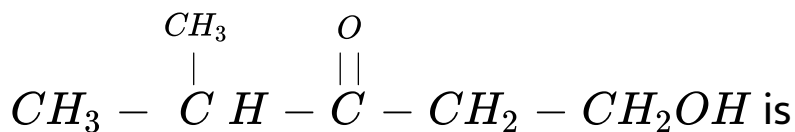


Answer: C



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25. The IUPAC name of the compound



A. 1-Hydroxy-4-methyl-3-pentanone

B. 2-Methyl-5-hydroxy-3-pentanone

C. 4-Methyl-3-oxo-1-pentanol

D. Hexanol-1-one-3

Answer: A



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26. An important chemical method to resolve a racemic mixture makes use of the formation of

A. a meso compound

B. enantiomers

C. diastereomers

D. racemate

Answer: C



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27. The lassaigine's extract is boiled with dil. HNO_3 before testing for halogens because

A. Silver halides are soluble in HNO_3

B. Na_2S and $NaCN$ are decomposed by HNO_3

C. Ag_2S is soluble in HNO_3

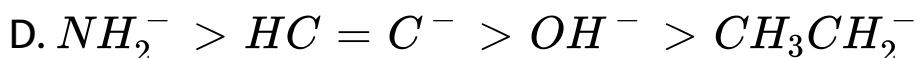
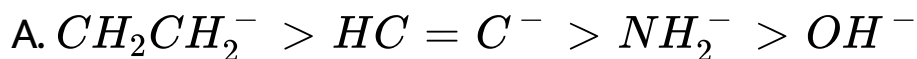
D. AgCN is soluble in HNO_3

Answer: B



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28. What is the decreasing order of strength of the bases OH^- , NH_2^- , $\text{HC} = \text{C}^-$ and CH_3CH_2^- ?



Answer: A



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29. Given . 

Which of the given compounds can exhibit tautomerism?

A. I and III

B. II and III

C. I, II and III

D. I and II

Answer: C



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30. Cyclohexanol (I), acetic acid (II), 2,4,6-trinitrophenol(III) and phenol(IV) are given. In these the order of decreasing acidic character will be.

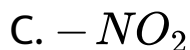


Answer: A



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31. Some meta-directing substituents in aromatic substitution are given. Which one is most deactivating?



Answer: D



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32. Consider thiol anion (RS^-) and alkoxy anion (RO^-). Which of the following statements is correct?

A. RS^- is less basic but more nucleophilic than



B. RS^- is more basic and more nucleophilic



C. RS^- is more basic and less nucleophilic than RO^-

D. RS^- is less basic and less nucleophilic than RO^-

Answer: A



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33. Consider the following compounds 

The correct decreasing order of their reactivity towards hydrolysis is

A. $(i) > (ii) > (iii) > (iv)$

B. $(iv) > (ii) > (i) > (iii)$

C. $(ii) > (iv) > (i) > (iii)$

D. $(ii) > (iv) > (iii) > (i)$

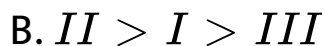
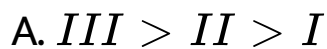
Answer: C



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34. The order of stability of the following tautomeric compounds is :



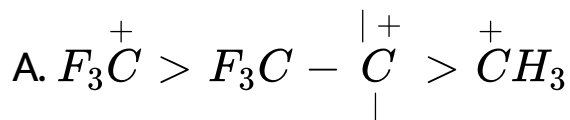


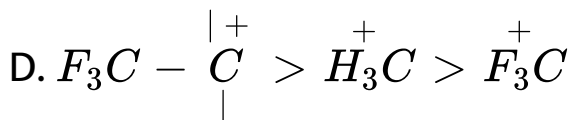
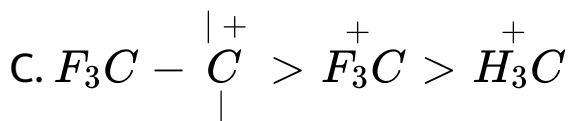
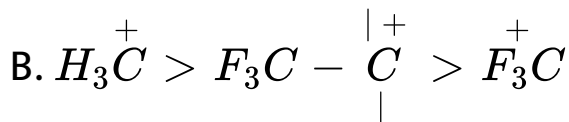
Answer: A



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35. Which of the following represent the correct order of stability of the given carbocations?





Answer: B



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36. $(\text{CH}_3)_4\text{N}^+$ is neither an electrophile, nor nucleophilic because it

A. Does not have electron pair for donation as well as can not attract electron pair

B. neither has electron pair available for donation nor can accommodate electron since all shells of N are fully occupied

C. can act as Lewis acid and base

D. None of these

Answer: B



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37. In Kjeldahl's method for the estimation of N_2 , potassium sulphate and copper sulphate are used.

On the basis of their functions which of the following statement(s) is /are correct?

(i). Potassium sulphate raises the b.pt. and ensures complete reaction (ii). Copper sulphate act as Catalyst

(iii). Potassium sulphate acts as catalyst and copper sulphate raises the b.pt.

- A. Only (iii) is correct
- B. (i) and (ii) are correct
- C. Only (ii) is correct
- D. None of these

Answer: B



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38. What is the relationship between open chain forms of D-glucose and D-altrose?

A. enantiomers

B. constitutional isomers

C. diastereomers

D. different conformations of the same compounds

Answer: B





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39. The production of an optically active compound from a symmetric molecule without resolution is termed

- A. Walden inversion
- B. Partial racemisation
- C. Asymmetric synthesis
- D. Partial resolution

Answer: C



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40. The number of asymmetric C-atom created and number of possible stereoisomers when benzil (Ph CO CO Ph) is reduced with $LiAlH_4$.

A. 2, 3

B. 2, 2

C. 2, 4

D. 3, 2

Answer: A



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41. Among the following, the true property about



is

- A. it is non-planar
- B. its C^+ is sp^2 hybridized
- C. an electrophile can attack on its C^+
- D. it does not undergoes hydrolysis

Answer: B



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42. The compounds which contains all the four 1° , 2° , 3° and 4° carbon atoms is

- A. 2,3-dimethylpentane
- B. 3-chloro-2,3-dimethylpentane
- C. 2,3,4-trimethylpentane
- D. 3,3-dimethylpentane

Answer: B



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