



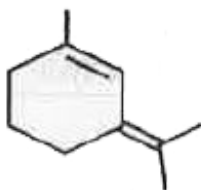
CHEMISTRY

BOOKS - DISHA PUBLICATION CHEMISTRY (HINGLISH)

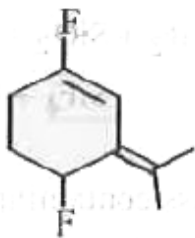
ORGANIC CHEMISTRY SOME BASIC PRINCIPLES AND
TECHNIQUES

Jee Main 5 Years At A Glance

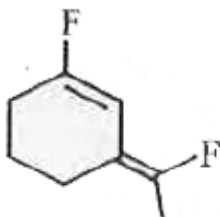
1. The most polar compound among the following is :



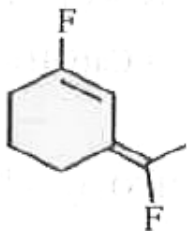
A.



B.



C.



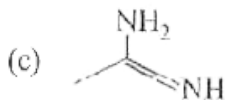
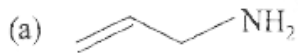
D.

Answer: C



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2. The increasing order of basicity of the following compounds is



A. (a) < (b) < (c) < (d)

B. (b) < (a) < (c) < (d)

C. (b) < (a) < (d) < (c)

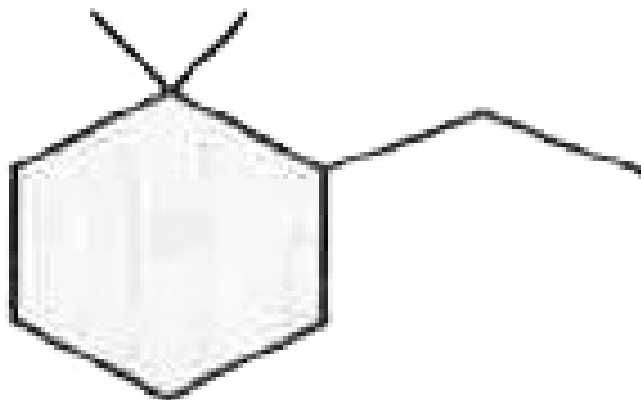
D. (d) < (b) < (a) < (c)

Answer: c



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3. The IUPAC name of the following compound is :



A. 1,1 - Dimethyl - 2- ethylcyclohexane

B. 2- Ethyl -1,1 - dimethylcyclohexane

C. 1- Ethyl -2,2 - dimethylcyclohexane

D. 2,2 Dimethyl -1- ethylcyclohexane

Answer: b



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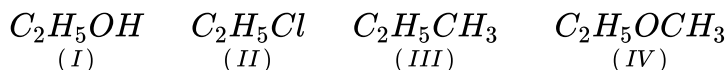
4. Which of the following statements is not true about partition chromatography?

- A. Mobile phase can be a gas
- B. Stationary phase is a finely divided solid adsorbent
- C. Separation depends upon equilibration of solute between a mobile and a stationary phase
- D. Paper chromatography is an example of partition chromatography

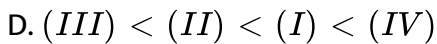
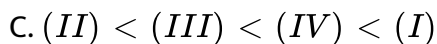
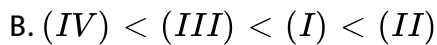
Answer: b

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5. The increasing order of the boiling points for the partition compounds is :



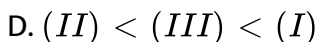
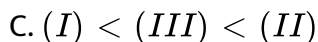
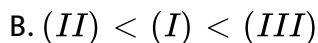
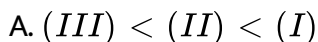
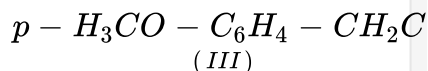
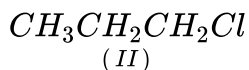
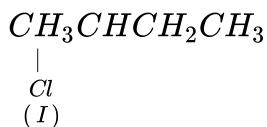
- A. $(III) < (IV) < (II) < (I)$



Answer: A

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6. The increasing order of the reactivity of the following halides for the S_N1 reaction is



Answer: B

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7. The hydrocarbon with seven carbon atoms containing a neopentyl and a vinyl group is :

- A. 2,2 - dimethyl -4- pentene
- B. 4,4 - dimethyl pentene
- C. Isopropyl -2- butene
- D. 2,2- dimethyl -3- pentene

Answer: b

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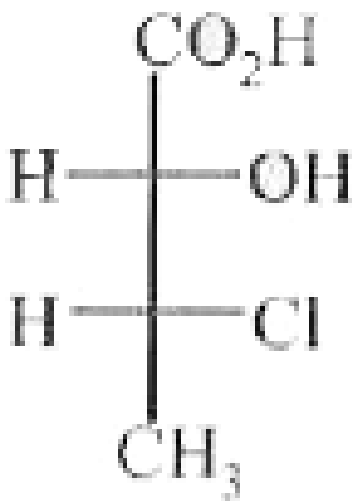
8. The distillation technique most sited for separating glycerol from spent lye in the soap industry is

- A. Steam distillation
- B. Distillation under reduced pressure.
- C. Simple distillation
- D. Fractional distillation

Answer: b

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9. The absolute configuration of



is :

A. (2S , 3S)

B. (2R , 3 R)

C. (2 R , 3 S)

D. (2 S , 3 R)

Answer: d



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10. The optically inactive compound from the following is :-

- A. 2 - chloropropanal
- B. 2 - chlorobutane
- C. 2- chloropentane
- D. 2 - chloro - 2- methylbutane

Answer: d



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11. Which of the following compounds will exhibit geometrical isomerism ?

- A. 2- Phenyl -1- butene
- B. 1,1 - Diphenyl -1- propene
- C. 1- Phenyl -2- butene

D. 3- Phenyl -1 butene

Answer: c

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12. Which of the following acids does not exhibit optical isomerism?

A. Lactic acid

B. Tartaric acid

C. Maleic acid

D. α -amino acids

Answer: c

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13. In allene (C_3H_4), the type(s) of hybridisation of the carbon atoms, is (are)

A. sp and sp^3

B. sp^2 and sp

C. only sp^2

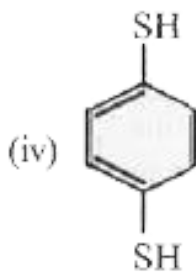
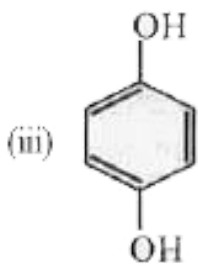
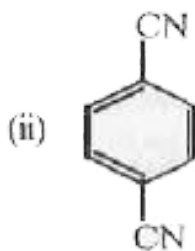
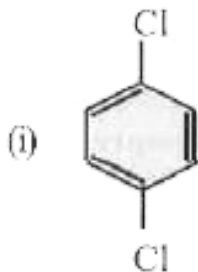
D. sp^2 and sp^3

Answer: B



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14. For which of the following molecule significant $\mu \neq 0$?



A. Only (i)

B. (i) and (ii)

C. Only (iii)

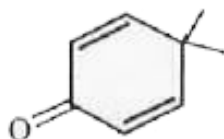
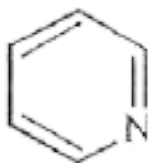
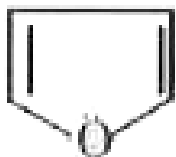
D. (iii) and (iv)

Answer: D



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15. Which of the following molecules is least resonance stabilized ?



D.

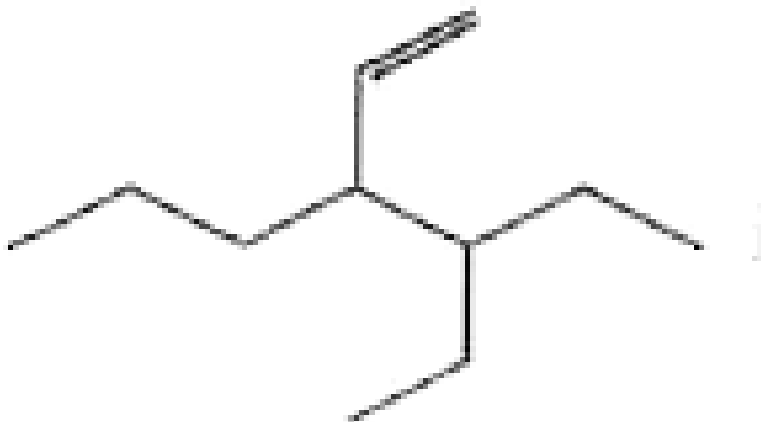
Answer: D



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Exercise 1 Concept Builder Builder Topicwise Topic 1 Classification And Nomenclature Of Organic Compounds

1. The correct IUPAC name of the compound



is

- A. 4 - ethyl -3- propyl hex -1 - ene
- B. 3 - ethyl -4- ethenyl heptane
- C. 3 - ethyl -4- propyl hex -1- ene
- D. 3 (1- ethylpropyl hex -1- ene

Answer: a



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2. The IUPAC name of



is

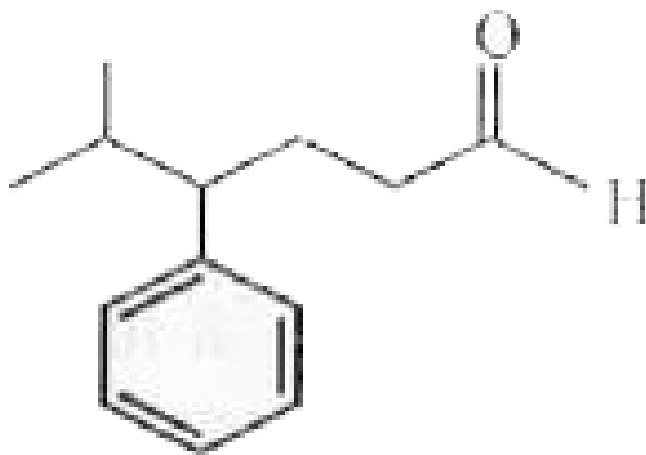
- A. 3 - ethyl -4,4 dimethylheptane
- B. 1 , 1 - diethyl -2,2 - dimethylpentane
- C. 4 ,4 - dimethyl - 5,5 - diethylpentane
- D. 5 , 5 - diethyl - 4,4- dimethylpentane.

Answer: a



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3. Identify the correct IUPAC name of compound given below



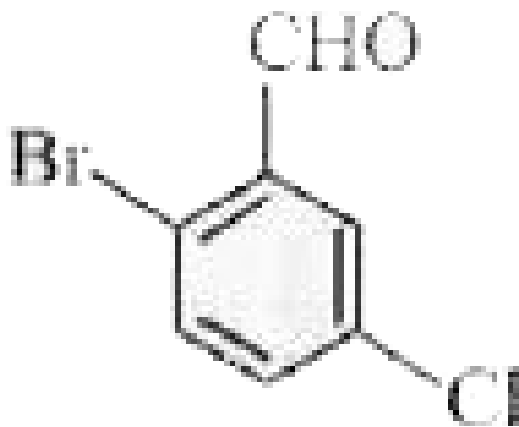
- A. 4 - benzyl - 5 - methylhexanal
- B. 2 - methyl - 3 - phenylhexanal
- C. 5 - isopropyl - 5 - phenylbutanal
- D. 5 - methyl - 4 - phenylhexanal

Answer: d



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4. Which of the following is the IUPAC name of the compound ?



- A. o - Bromo - m- chlorobenzaldehyde
- B. 2 - Bromo - 5 - chlorobenzaldehyde
- C. 6 - Bromo - 3 - chlorobenzaldehyde
- D. 1 - Bromo - 4 - chlorobenzaldehyde

Answer: b



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5. The IUPAC name of $CH_3 - CH = CH - \overset{O}{\parallel}C - OH$ is:

- A. 1 - methoxy - 1 - methylpropene
- B. 2 - methoxybut - 2 - ene
- C. dimethylpropeneether
- D. none of these

Answer: d



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6. The IUPAC name of $CH_3 - \overset{O}{\parallel}C - \underset{C_2H_5}{\underset{|}{CH}} - \underset{CH_3}{\underset{|}{CH}} - CH_3$ is:

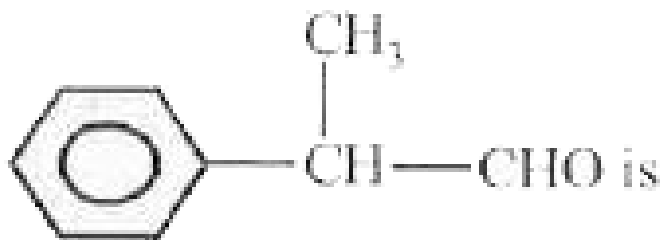
- A. 3 - (Methylethyl) pentan - 2 - one
- B. 3 - (Methylethyl) pentan -4 - one
- C. 3 - (Ethyl -4- methylpentan - 2 - one

D. 3 - Ethyl - 2 - methylpentan - 4 - one

Answer: c

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7. The IUPAC name of



A. 2 - phenylpropan - 3 - al

B. formylethylbenzene

C. 2 - phenylpropanal

D. ethylformylbenzene

Answer: c

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8. The IUPAC name of $HOOC - CH = CH - COOH$ is:

A. But - 2 ene , 4- dicarboxylic acid

B. But - 2 - ene - 1 , 4- dioc acid

C. Ethene dicarboxylic acid

D. Ethene dioic acid

Answer: b



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9. The IUPAC name of $CH_3 - \overset{\overset{OH}{|}}{\underset{\underset{H}{|}}{C}} - CH_2 - \overset{\overset{O}{||}}{C} - CH_3$ is:

A. 2 - hydroxypentan - 4 - one

B. 4 - hydroxypentan - 2 - one

C. 4 - oxopentan -2- ol

D. 2 - oxopentan -4- ol

Answer: b

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10. The IUPAC name of



A. N,N - Dimethyl aminobenzene

B. N,N - Dimethyl benzenamine

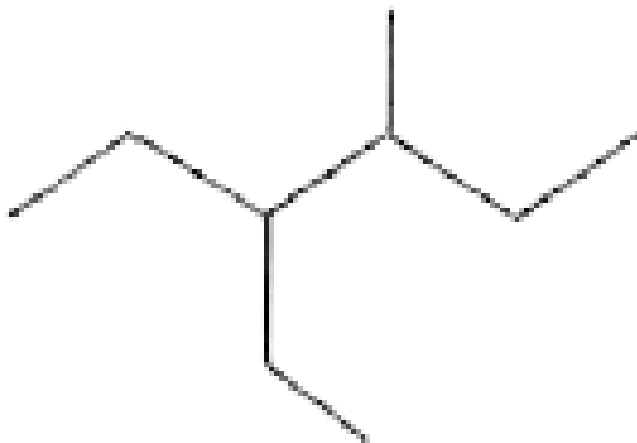
C. (a) and (b) both are correct

D. none of these

Answer: b

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11. The correct IUPAC name of the following compound



is

A. 4 - methyl - 3 - ethylhexane

B. 3-ethyl - 4 - methylhexane

C. 4 - ethyl - 3 - methylhexane

D. 4 - ethyl - 3 - methylhexane

Answer: b

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12. Cyclohexadiene contains ____ vinylic and ____ allylic hydrogen atoms

?



A. 2 and 2

B. 4 and 4

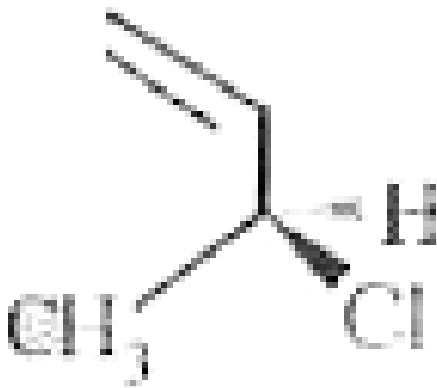
C. 2 and 4

D. 4 and 2

Answer: b

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13. What is the IUPAC name of the compound ?



A. 2 - Chloro - 2 - butene

B. 3 - Chloro - 1 - butene

C. 3 - Methyl - 3 - chloropropene - 1

D. 3 - Chloro - 3 - methyl - 1 - propene

Answer: b

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14. The C-H bond distance is the longest in:

A. C_2H_6

B. C_2H_2

C. C_2H_2

D. $C_2H_2Br_2$

Answer: a

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15. The C - H bond distance of $CH_3 - C \equiv C - CH(CH_3)_2$ is

- A. 4 - methyl - 2 - pentyne
- B. 4 , -4 - dimethyl - 2 - butyne
- C. methyl isopropyl acetylene
- D. 2 - methyl - 4 - pentyne

Answer: a



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16. The IUPAC name of compound

$CH_3OCH_2CH_2CH_2OCH_2CH_3$ is

- A. 3 - ethoxy - 1 - methoxypropane
- B. 1 - ethoxy - 3 - methoxypropane
- C. 2 , - 5 dioxyhexane
- D. ethoxypane oxymethane

Answer: a

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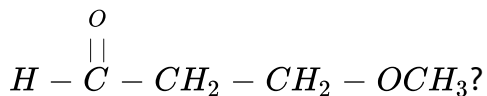
17. The *IUPAC* name of $CH_3COCH(CH_3)_2$ is

- A. 2 - methyl - 3- butanone
- B. 4 - methylisopropyl ketone
- C. 3 - methyl - 2- butanone
- D. isopropylmethyl ketone

Answer: c

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18. What is the IUPAC name of



A. 2 - methoxypropanal

B. methoxypropanal

C. 3 - methoxypropanal

D. 2 - formyl methoxyethane

Answer: c



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19. The IUPAC name of

$CH_3 - CH = CH - C \equiv CH$ is

A. pent - 2 - ene - 4 - yne

B. pent - 1 - yne - 3 - ene

C. pent - 3 - ene - 1 - yne

D. none of these

Answer: c

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20. The number of secondary hydrogens in 2, 2- dimethylbutane is :

A. 8

B. 6

C. 4

D. 2

Answer: d

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21. 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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22. The compound named trichloroethene is -

A. westron

B. perclene

C. westrosol

D. orlon

Answer: c



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1. The optically inactive compound from the following is :-

- A. 2 - chloropropanal
- B. 2 - chlorobutane
- C. 2 - chloropentane
- D. 2 - chloro - 2 - methylbutane

Answer: d



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2. Maleic acid and fumaric acid are :

- A. chain isomers
- B. functional isomers
- C. tautomers
- D. geometrical isomers

Answer: d

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3. During debromination of meso – dibromobutane, the major compound formed is

A. n - butane

B. 1 - butane

C. cis - 2 - butene

D. trans - 2 - butene

Answer: d

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4. Which of the following is optically active

A. n - Propanol

B. 2 - chlorobutane

C. n - Butanol

D. 3 - Hydroxy pentane

Answer: b

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5. Only two isomeric monochloro derivatives are possible for

A. n - butane

B. 2, 4 - dimethylpentane benzene

C. benzene

D. 2 - methylbutane

Answer: a

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6. Which of the following is true ?

- A. An achiral compound can have chiral centers.
- B. An optically inactive species must be achiral.
- C. A compound with the R configuration is always the (+) – enantiomer.
- D. The change from R configuration of a reactant to S configuration of the product always indicates an inversion of configuration.

Answer: a



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7. The process of separation of racemic modifications into *d* and *l* enantiomers is called:

- A. resolution

B. dehydration

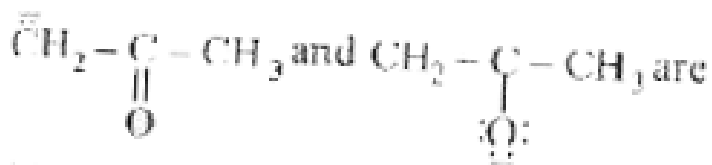
C. revolution

D. dehydrohalogenation

Answer: a

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8. Complete the following reaction



A. resonating structures

B. tautomers

C. geometrical isomers

D. optical isomers

Answer: A



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9. Geometrical isomers differ in:

- A. position of functional group.
- B. position of atoms.
- C. spatial arrangement of atoms.
- D. length of carbon chain.

Answer: c



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10. The number of chiral carbons in $\beta - D(+) -$ glucose is:

- A. five
- B. six
- C. three

D. four

Answer: a

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11. which one of the following pairs represents the stereoisomerism?

A. Structural isomerism and geometrical isomerism

B. Optical isomerism and geometrical isomerism

C. Chain isomerism and rotational isomerism

D. Linkage isomerism and geometrical isomerism

Answer: b

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12. Which of the following will have a meso-isomer also ?

- A. 2, 3 - Dichloropentane
- B. 2, 3 - Dichlorobutane
- C. 2 - chloropentane
- D. 2 - Hydroxypropanoic acid

Answer: b

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13. An aromatic compound of formula C_7H_7Cl has in all Isomers :

- A. 5
- B. 2
- C. 4
- D. 3

Answer: c

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14. How many optically active stereoisomers are possible for lactic acid ?

A. 1

B. 2

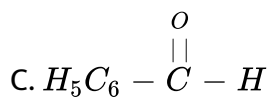
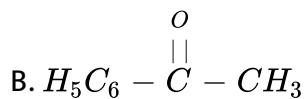
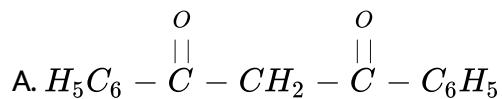
C. 4

D. 3

Answer: b

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15. Keto - enol tautomerism is observed in :



D. Both (a) and (b)

Answer: d

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16. The molecular formula of diphenylmethane is



How many structural isomers are possible when one of the hydrogens is replaced by a chlorine atom ?

A. 6

B. 4

C. 8

D. 7

Answer: b

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17. Which one of the following conformations of cyclohexane is chiral?

- A. Boat
- B. Twist boat
- C. Rigid
- D. Chair

Answer: b



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Exercise 1 Concept Builder Topicwise Topic 3 Concepts Of Reaction Mechanism In Organic Compounds And Purification

1. In the mechanism of Hoffmann reaction which intermediate rearranges to alkyl isocyanate ?

A. Bromamide

B. Nitrene

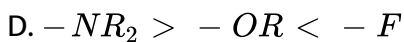
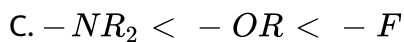
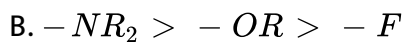
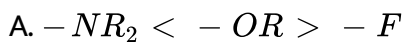
C. Nitroso

D. Amide

Answer: b

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2. Which one of the following orders is correct regarding the inductive effect of the substituents



Answer: c

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3. Hyperconjugation is most useful for stabilizing which of the following carbocations?

A. neo - Pentyl

B. tert - Butyl

C. iso - Propyl

D. Ethyl

Answer: b

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4. 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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5. In the following group :

$-OAc(I)$, $-OMe(II)$, $-OSO_2(III)$, $-OSO_2CF_3(IV)$

The order of leaving group ability is :

A. $I > II > III > IV$

B. $IV > III > I > II$

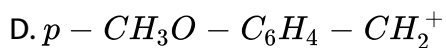
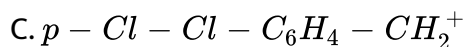
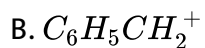
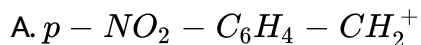
C. $III > II > I > IV$

D. $II > III > IV > I$

Answer: b

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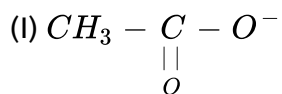
6. Most stable carbocation is :

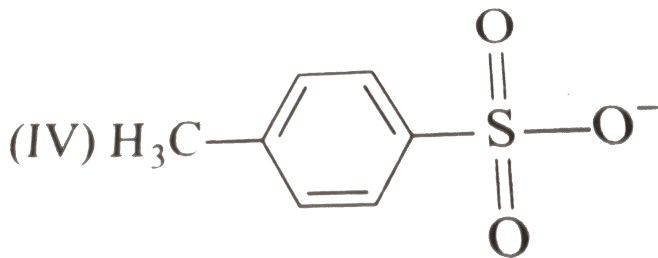
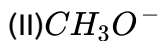


Answer: d

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7. The decreasing order of nucleophilicity among the nucleophiles is :





A. (C), (B), (A), (D)

B. (B), (C), (A), (D)

C. (D), (C), (B), (A)

D. (A), (B), (C), (D)

Answer: B

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8. Decreasing order of reactivity towards nucleophilic addition to carbonyl group among cyclopentanone, 3-pentanone and n-pentanal is

A. 3-pentanone, cyclopentanone, n-pentanal

B. n - pentanal , 3 - pentanone , cyclopentanone.

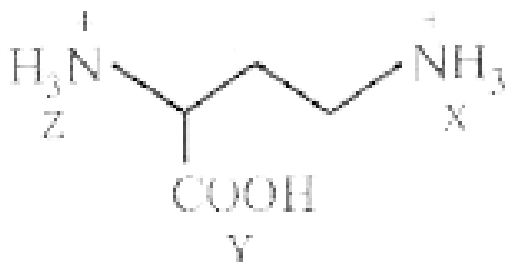
C. n - pentanal , cyclopentanone , 3 - pentanone.

D. cyclopentanone , 3 - pentanone , n- pentanal.

Answer: c

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9. Select the appropriate relation with respect to acidity of X, Y, Z for the given compound ,with increasing order .



A. $Z > X > Y$

B. $Y > Z > X$

C. $Z < X < Y$

D. $X > Y > Z$

Answer: B

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10.

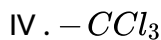
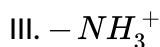
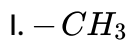
the reaction is not possible because

- A. Nu^- faces steric hinderance on attacking the leaving group.
- B. electrons are delocalised in the benzene ring.
- C. reaction is thermodynamically controlled.
- D. C - X bond possesses a double bond character .

Answer: d

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11. Which among the following group when attached to benzene ring will direct the incoming electrophile predominantly to the meta position ?



A. III only

B. I,II and V

C. III and V only

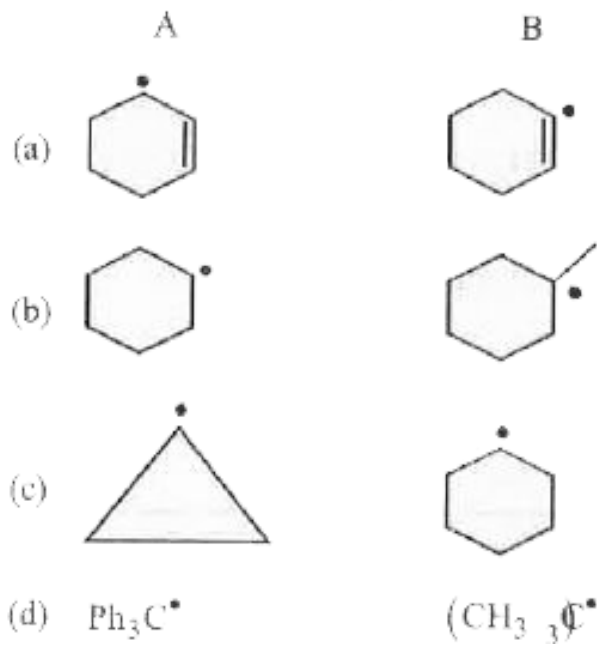
D. III and IV only

Answer: d



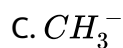
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12. In which of the following pairs A is more stable than B ?



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13. Which of the following has the highest nucleophilicity ?

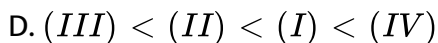
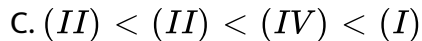
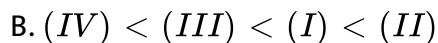
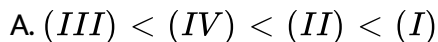
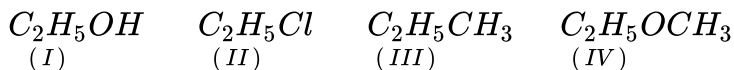




Answer: c

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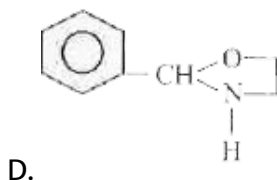
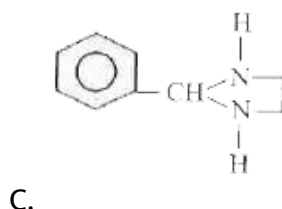
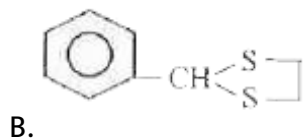
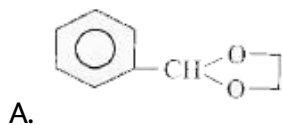
14. The increasing order of the boiling points for the following compound is :



Answer: a

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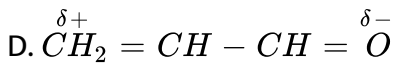
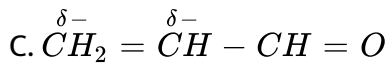
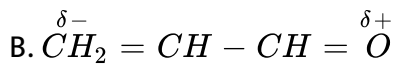
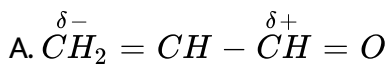
15. Which of the following compounds has most acidic hydrogen ?



Answer: b

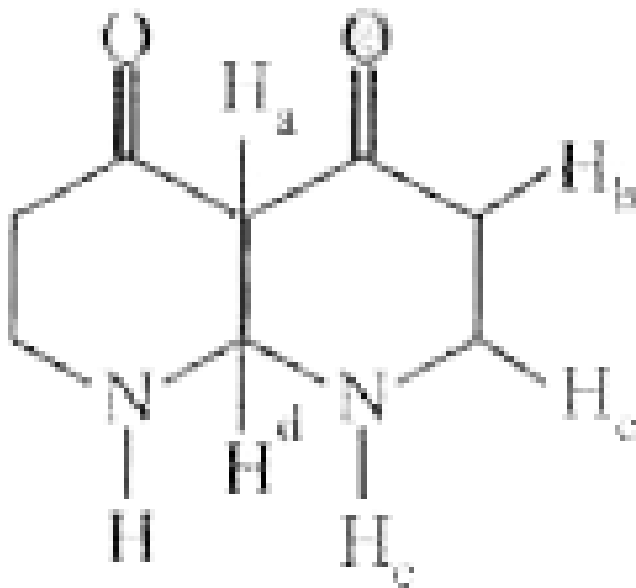
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16. Polarization of electrons in acrolein may be written as:



Answer: d

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17.

Identify most acidic hydrogen present in the above compound :

A. a

B. b

C. c

D. d

Answer: a



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18. Of the following compounds, which will have a zero dipole moment ?

A. 1, 1 - Dichloroethylene

B. cis - 1, 2 - Dichloroethylene

C. trans - 1, 2 - Dichloroethylene

D. None of these compounds

Answer: c



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19.

Which statement is incorrect in respect of the above reaction ?

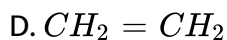
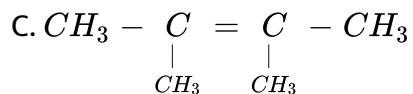
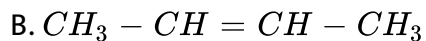
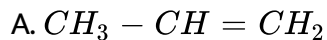
- A. Product is aromatic .
- B. Product has high dipole moment.
- C. Product has less resonance energy.
- D. Product is soluble in polar solvent .

Answer: c



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20. Carbon-carbon double bond length will be maximum in which of the following compounds ?



Answer: c



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21. The structure of $CH_2 = C = CH_2$ is :

A. linear

B. planar

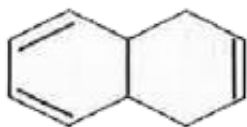
C. non - planar

D. has several resonance structures

Answer: C

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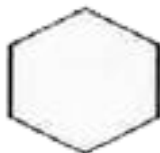
22. Which of the following will show aromatic behaviour ?



A.



B.



C.

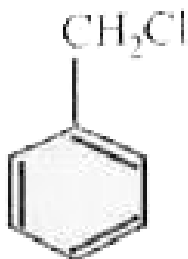


D.

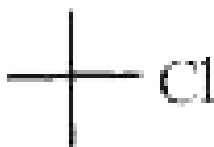
Answer: b

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23. Which of the following reactions cannot proceed by S_N1 mechanism ?



A.



B.



C.



D.

Answer: d

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24. Ketene $CH_2 = C = O$ has

- A. only sp^2 hybridized carbon atom.
- B. only sp hybridized carbon atom.
- C. sp^2 and sp hybridized carbon atoms.
- D. sp^2 , sp and sp^3 hybridized carbon atoms.

Answer: c

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25. Which one of the following does not have sp^2 hybridised carbon ?

A. Acetonitrile

B. Acetic acid

C. Acetone

D. Acetamide

Answer: a



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26. How many π - bonds are present in naphthalene ?

A. 4

B. 5

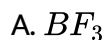
C. 6

D. 7

Answer: b

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27. The shape of methyl carbanion is similar to that of -



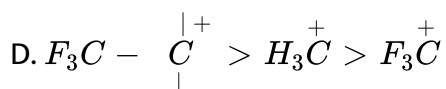
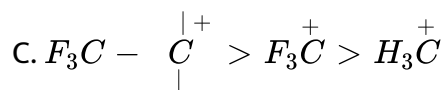
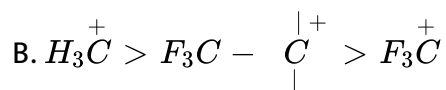
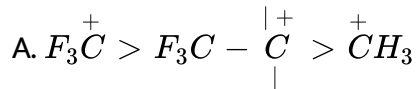
C. methyl free radical

D. methyl carbocation

Answer: b

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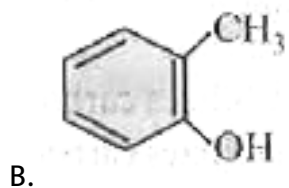
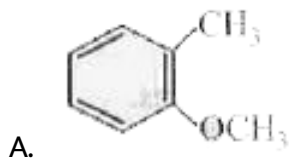
28. Which of the following represents the correct order of stability of carbocations ?

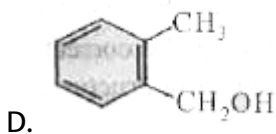
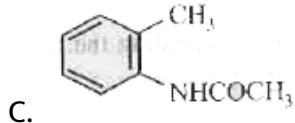


Answer: b

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29. Which one of the following is most reactive towards electrophilic reagent ?





Answer: b

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30. The pair of electron in the given carbanion, $CH_3C \equiv C^\ominus$, is present in which of the following orbitals

A. 2p

B. sp^3

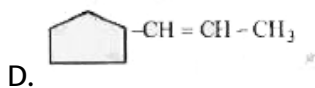
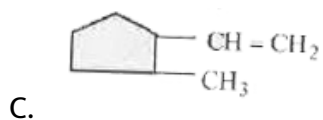
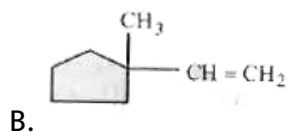
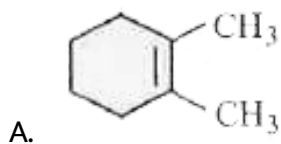
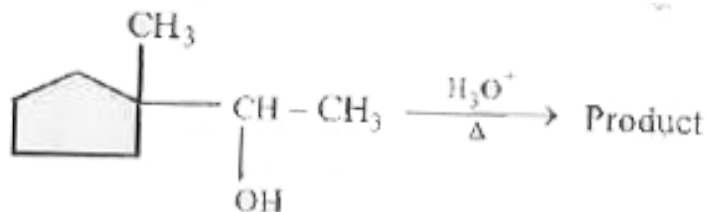
C. sp^2

D. sp

Answer: b

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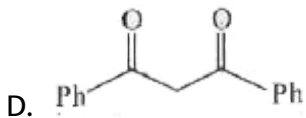
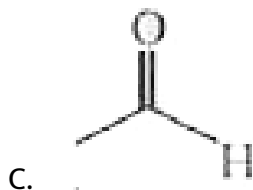
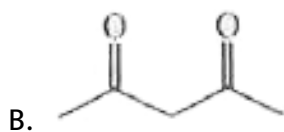
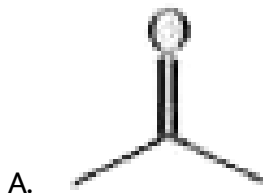
31. The major product of dehydration of the following



Answer: a

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1. Maximum enol content is in :

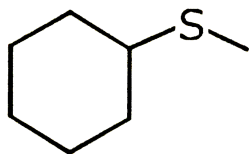


Answer: d

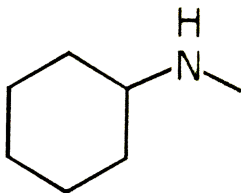


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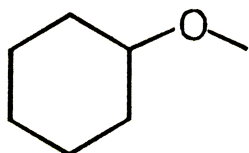
2. A mixture containing the following four compounds is extracted with 1 M HCl. The compound that goes to aqueous layer is :



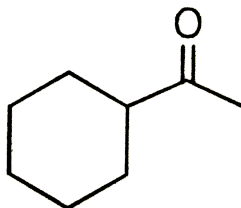
(I)



(II)



(III)



(IV)

(1) IV

(2) II

A. (I)

B. (II)

C. (III)

D. (IV)

Answer: b

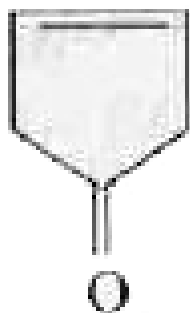


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3. Dipole moment of which ketone is maximum ?



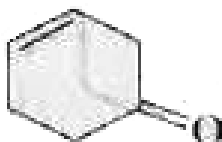
A.



B.



C.



D.

Answer: c

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4. Which of the following compound is resistant to nucleophilic attack by hydroxyl ions?

A. Methyl acetate

B. Acetonitrile

C. Diethyl ether

D. Acetamide

Answer: c

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5. Presence of electron - withdrawing substituents

- A. stabilizes carbocations , carbanions as well as free radicals.
- B. stabilizes carbocations and carbonions.
- C. stabilizes carbocations and free radicals.
- D. stabilizes carbanions.

Answer: d

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6. Pick up the correct statement regarding the following resonating structures of the anilinium ion



A. Structure II is not acceptable because carbonium ions are less stable than ammonium ions.

B. It is not acceptable because it is non - aromatic.

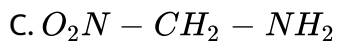
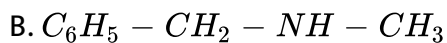
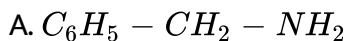
C. It is not acceptable because here nitrogen has 10 valence electrons.

D. It is an acceptable canonical structure.

Answer: c

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7. Which is the weakest base among the followings ?



Answer: d

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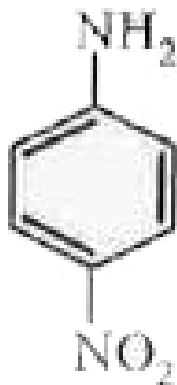
8. Which of the following will have largest dipole moment?



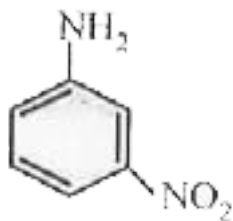
A.



B.



C.

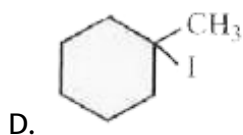
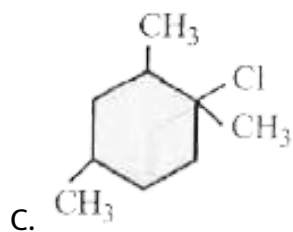
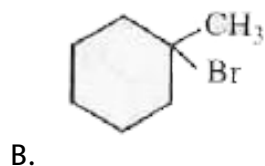
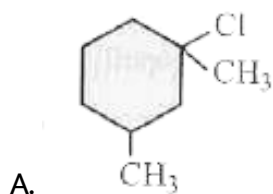


D.

Answer: d

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9. Which one is the most reactive towards S_N1 reaction ?



Answer: d



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10. $(CH_3)_4N^+$ is neither an electrophile, nor a nucleophile because it

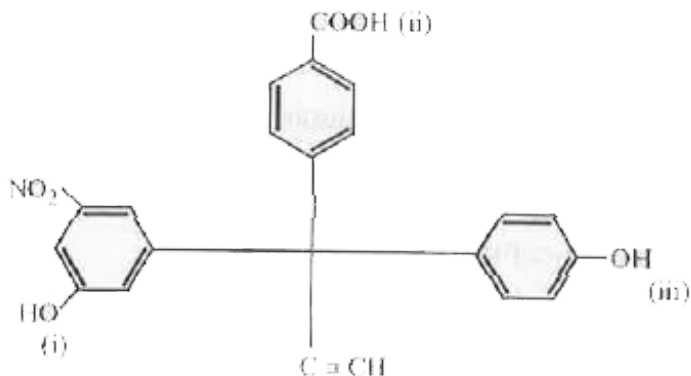
- A. does not have electron pair for donation as well as cannot attract electron pair
- B. neither has electron pair available for donation nor can accommodate electron since all shells of N are fully occupied
- C. can act as Lewis acid and base
- D. none of these

Answer: b



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11. Which of the following represents the decreasing order of K_a values ?



- A. $(ii) > (i) > (iii) > (iv)$
- B. $(ii) > (iii) > (i) > (iv)$
- C. $(i) > (ii) > (iii) > (iv)$
- D. $(ii) > (iv) > (i) > (iii)$

Answer: a



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12. Which of the following compound has wrong IUPAC name?

A. $CH_3 - CH_2 - CH_2 - COO - CH_2CH_3 \rightarrow$ ethyl butanoate

B. $CH_3 - \underset{\substack{| \\ CH_3}}{CH} - CH_2 - CHO \rightarrow$ methyl butanal

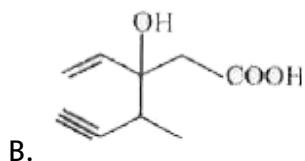
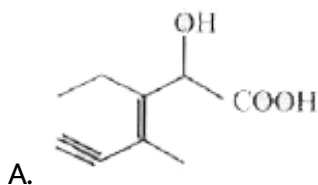
C. $CH_3 - \underset{\substack{| \\ OH}}{CH} - \underset{\substack{| \\ CH_3}}{CH} - CH_3 \rightarrow$ 2 - methyl 3 - butanol

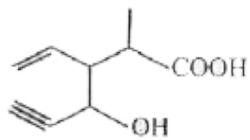
D. $CH_3 - \underset{\substack{| \\ CH_3}}{CH} - \overset{\substack{|| \\ O}}{C} - CH_2 - CH_3 \rightarrow$ 2 - methyl - 3 - pentanone

Answer: c

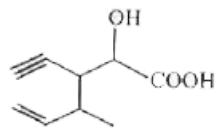
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13. Structure of the compound whose *IUPAC* name is 3 - ethyl - 2 - hydroxy - 4 - methylhex - 3 - en - 5 - ynoic acid is





C.



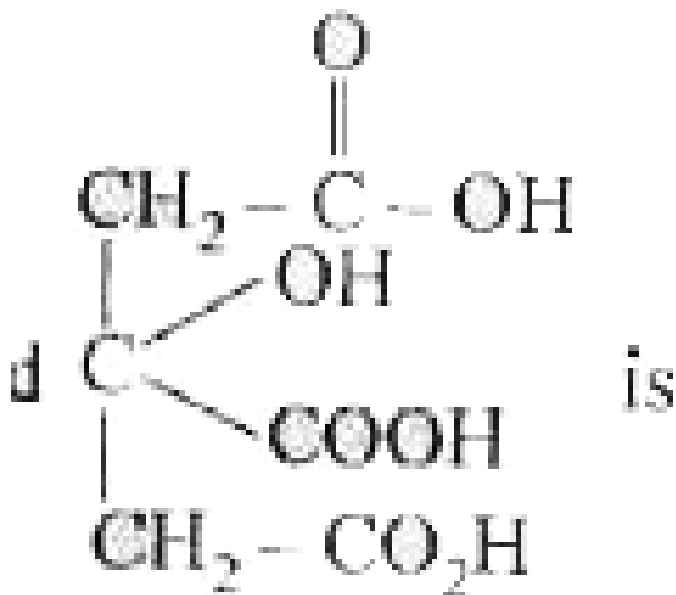
D.

Answer: a



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14. The IUPAC name of compound



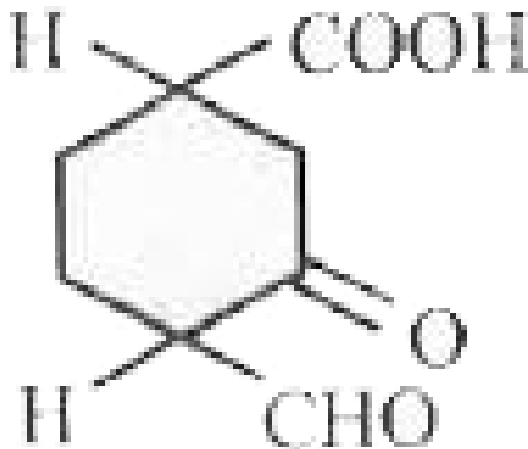
- A. 1,2,3 - tricarboxy - 2 , 1 - propane
- B. 3 - carboxy - 1 , 5 - pentanedioic acid
- C. 3 - hydroxy propane - 1 , 5 tricarboxylic acid .
- D. 2 - hydroxy propane - 1 , 2 , 3 - tricarboxylic acid.

Answer: d



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15. The IUPAC name of the compound



A. 4 - formyl - 3 - oxo cyclohexane - 1 - carboxylic acid

B. 2 , 4 - dioxo cyclohexanoic acid

C. 2 , 4 - dioxo heptanoic acid

D. none of these

Answer: a

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16. The correct IUPAC name of the compound



A. 2, 6 - dimethyl octa - 2, 6 - dien - 1 - al

B. 3,7 - dimethyl hepta - 2, 6 - dien - 1 - al

C. 3, 7 - dimethyl octa - 2, 6 - dien - 1 - al

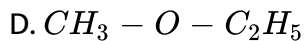
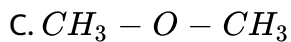
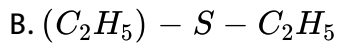
D. 2, 6 - dimethyl - 2, 6 - dien - 8 - al

Answer: c

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17. Which of the following compounds will show metamerism ?

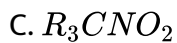
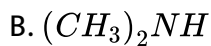
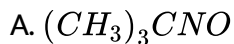
A. $CH_3 - CO - C_2H_5$



Answer: b

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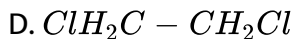
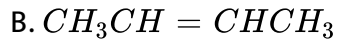
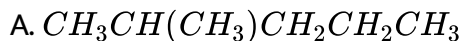
18. Tautomerism will be exhibited by



Answer: d

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19. Geometrical isomerism is possible in :



Answer: b

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20. A compound with molecular formula C_7H_{16} shows optical isomerism, the compound will be

A. 2, 3 - dimethylpentane

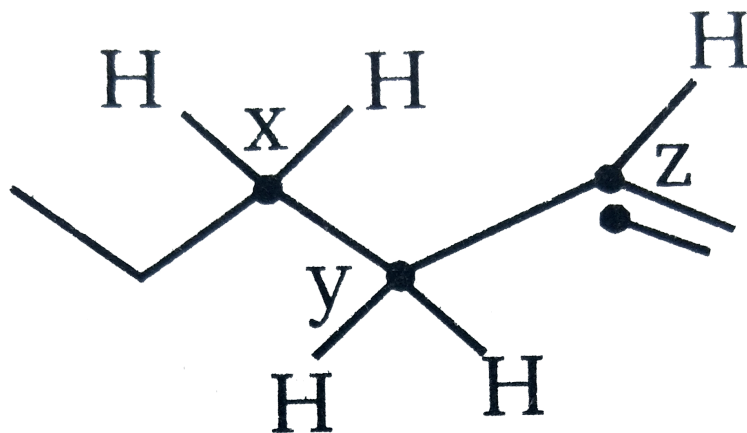
B. 2, 2 - dimethylpentane

C. 2, 4 - dimethylpentane

D. none of these

Answer: a

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21.

Arrange the (C-H) bonds x,y and z in decreasing order of their bond dissociation energies in homolysis .

A. $y > x > z$

B. $z > x > y$

C. $z > y > x$

D. $y > z > x$

Answer: b



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22. The number of stereoisomers obtained by bromination of trans-2-butane is

A. 1

B. 2

C. 3

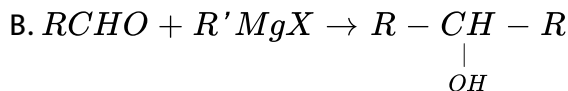
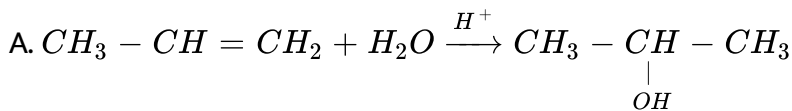
D. 4

Answer: a

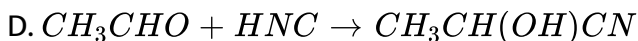
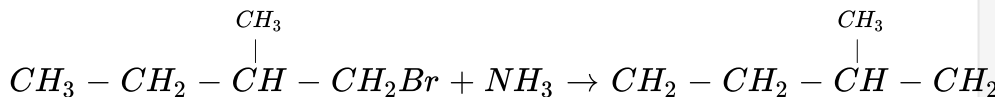


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23. Which one is a nucleophilic substitution reaction among the following ?

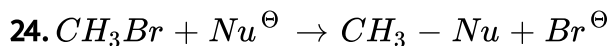


C.



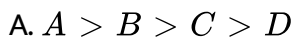
Answer: c

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The decreasing order of the rate of the above reaction with nucleophiles

Nu^\ominus A to D is-



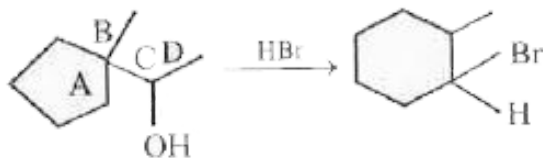
C. $D > C > A > B$

D. $D > C > B > A$

Answer: c

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25. In the reaction shown below the six membered ring is generated by shifting which bond



A. A

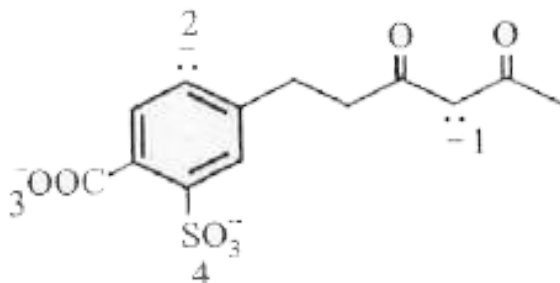
B. B

C. C

D. D

Answer: a

26. The structures drawn below has four nucleophilic sites , arrange them in order of decreasing nucleophilicity .



A. $3 > 4 > 1 > 2$

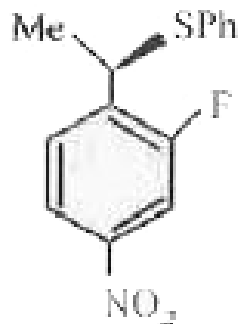
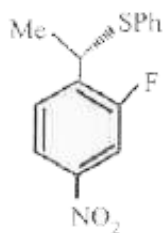
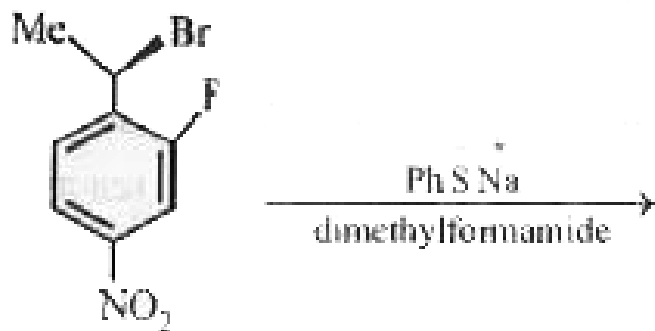
B. $4 > 3 > 2 > 1$

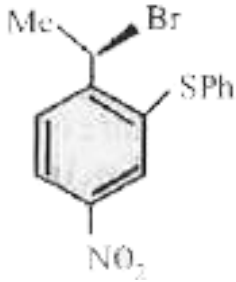
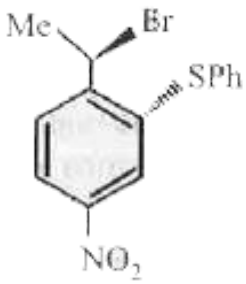
C. $4 > 3 > 1 > 2$

D. $3 > 4 > 2 > 1$

Answer: c

27. The major product of the following is -

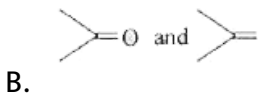
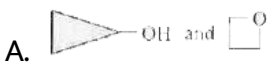




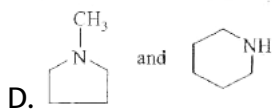
Answer: a

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28. In the given pair compounds in which pair second compound has higher boiling point than first compound?



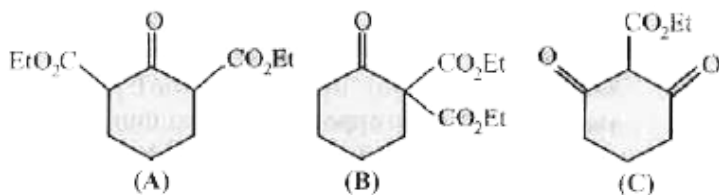
c. $HO - CH_2 - CH_2 - OH$ and $CH_3 - CH_2 - CH_2 - OH$



Answer: d

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29. Arrange in the order of increasing acidic strength :



A. $A < B < C$

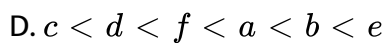
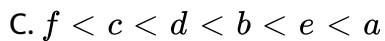
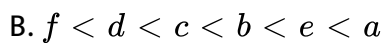
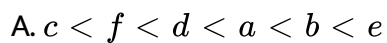
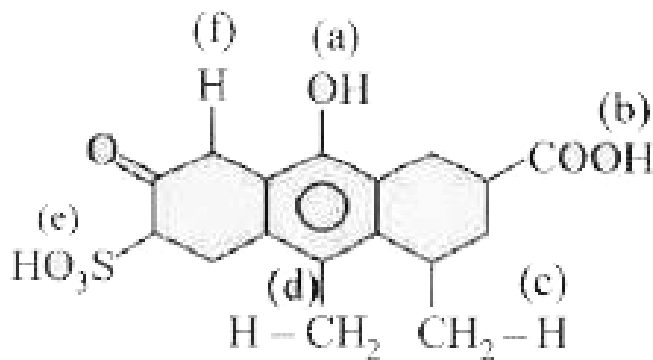
B. $A < C < B$

C. $B < A < C$

D. $B < C < A$

Answer: c

30. Arrange 'a' to 'e' types of H atoms in increasing acidic order.



Answer: d