



CHEMISTRY

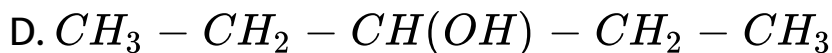
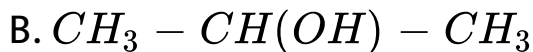
BOOKS - FULL MARKS CHEMISTRY (TAMIL ENGLISH)

HYDROXY COMPOUNDS AND ETHERS

Textbook Evaluation Choose The Correct Answer

1. An alcohol (x) gives blue colour in victormayer's test and 3.7 g of X when treated with metallic sodium

liberates 500 mL of hydrogen at 273 K and 1 atm pressure what will be the possible structure of X ?



Answer: A



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2. Which of the following compoundson reaction with methyl magnesium bromide will give tertiary alcohol.

A. benzaldehyde

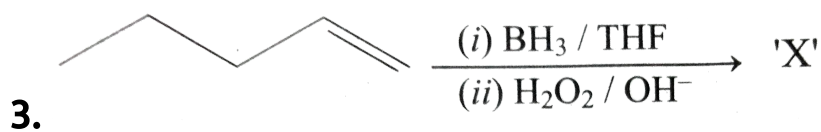
B. propanoic acid

C. methyl propanoate

D. acetaldehyde

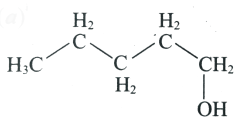
Answer: C

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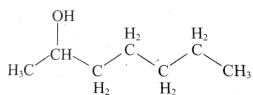


This 'X' is

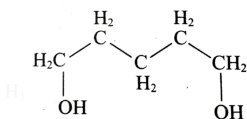
A.



B.



C.



D. None of these

Answer: A



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4. In the reaction sequence, Ethane \xrightarrow{HOCl} A \xrightarrow{X} Ethan - 1,2- diol. A and X respectively are

A. Chloroethane and NaOH

B. ethanol and H_2SO_4

C. 2 - chl or oethan - 1 - ol and $NaHCO_3$

D. ethanol and H_2O

Answer: C



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5. Which one of the following is the strongest acid

A. 2 - nitrophenol

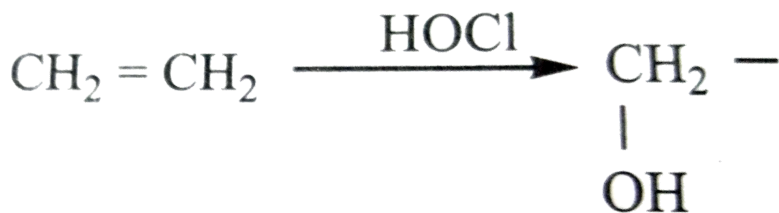
B. 4-chlorophenol

C. 4 - nitrophenol

D. 3-nitrophenol

Answer: C

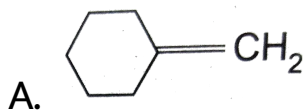
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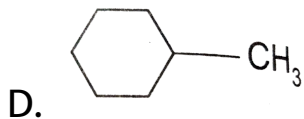
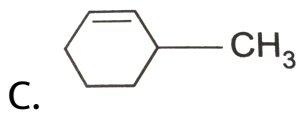
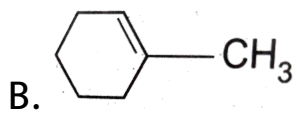


6. on

treatment with Con. H_2SO_4 , predominately gives

..... .





Answer: B



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7. Carboic acid is

A. Phenol

B. Pieric acid

C. benzoic acid

D. phenylacetic acid

Answer: A



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8. Which one of the following will react with phenol to give salicylaldehyde after hydrolysis.

A. Dichloro methane

B. trichloroethane

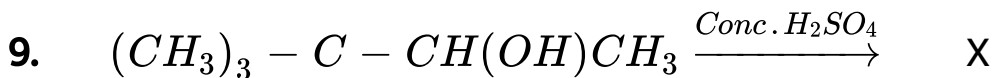
C. trichloro methane

D. CO_2

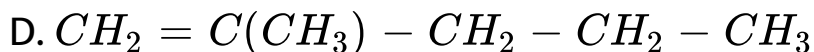
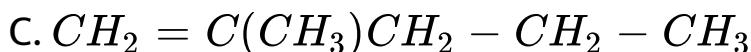
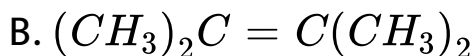
Answer: C



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(major product)





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11. Assertion : Phenol is more acidic than ethanol

Reason : Phenoxide ion is resonance stabilized

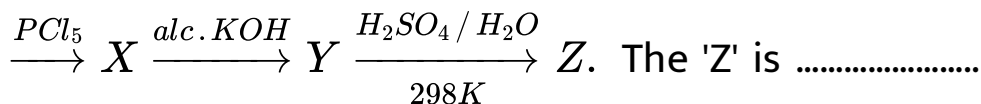
- A. if both assertion and reason are true and reason is the correct explanation of assertion.
- B. if both assertion and reason are true but reason is not the correct explanation of assertion.
- C. assertion is true but reason is false
- D. both assertion and reason are false.

Answer: A



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12. In the reaction Ethanol



.

A. ethane

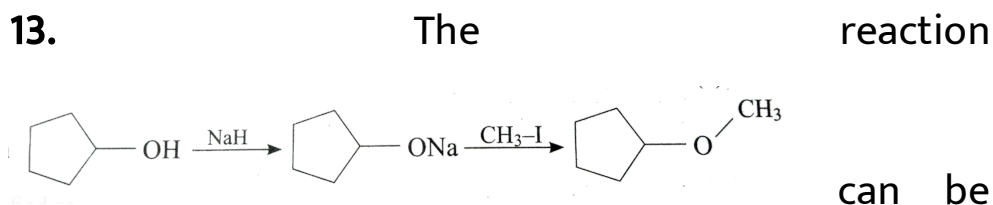
B. ethaoxyethane

C. ethylsulphite

D. ethanol

Answer: D

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classified as..... .

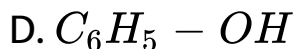
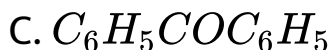
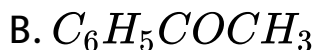
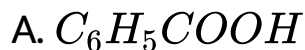
- A. dehydration
- B. Williams on alcohol synthesis
- C. Williamson ether synthesis
- D. dehydrogenation of alcohols

Answer: C



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14. Isopropylbenzene on air oxidation in the presence of dilute acid gives.....



Answer: D



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15. Assertion : Phenol is more reactive than benzene towards electrophilic substitution reaction

Reason : In the case of phenol, the intermediate arenium ion is more stabilized by resonance.

A. if both assertion and reason are true and reason is the correct explanation of assertion.

B. if both assertion and reason are true but reason is not the correct explanation of assertion.

C. assertion is true but reason is false

D. both assertion and reason are false.

Answer: A



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16. $\text{OHCH}_2\text{CH}_2 - \text{OH}$ on heating with periodic acid gives

A. methanoic acid

B. Glyoxal

C. methanol

D. CO_2

Answer: C



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17. Which of the following compound can be used as antifreeze in automobile radiators ?

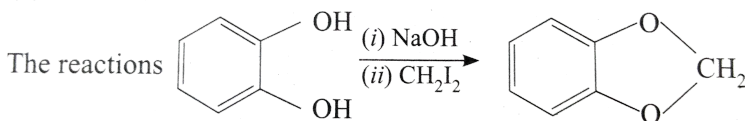
- A. methanol
- B. ethanol
- C. Neopentyl alcohol
- D. ethan-1,2- diol

Answer: D



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18. The reactions of o-cresol with CH_2I_2 and NaOH to form 2,3-dihydrobenzofuran is an example of



is an example of

- A. Wurtz reaction
- B. cyclic reaction
- C. Williamson reaction
- D. Kolbe reactions

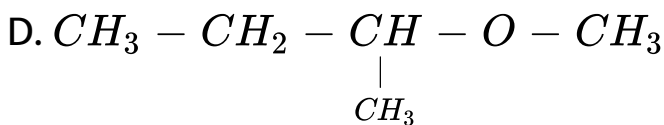
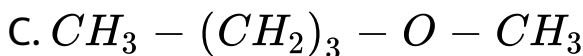
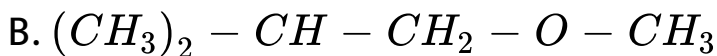
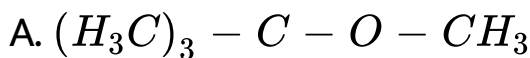
Answer: C

19. One mole of an organic compound (A) with the formula C_3H_8O reacts completely with two moles of HI to form X and Y. When Y is boiled with aqueous alkali it forms Z. Z answers the iodoform test. The compound (A) is

- A. propan - 2 - ol
- B. propan - 1-ol
- C. ethoxy ethoxy
- D. methoxy ethane

Answer: D

20. Among the following ethers which one will produce methyl alcohol on treatment with hot HI?



Answer: A

21. Williamson synthesis of preparing dimethyl ether is a/an

- A. SN^1 reactions
- B. SN^2 reaction
- C. electrophilic addition
- D. electrophilic substitution

Answer: B



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22. On reacting with neutral ferric chloride, phenol gives

- A. redcolour
- B. violet colour
- C. dark green colour
- D. no colourations

Answer: B



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Textbook Evaluation Answer The Following Questions

1. Identify the product (s) is/ are formed when 1-methoxy proane is heated with excess HI. Name the mechanism involved in the reaction



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2. Drag the major product formed when 1-ethoxyprop - 1- ene is heated with one equivalent of HI



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3. Suggest a suitable reagent to prepare secondary alcohol with identical group using Grignard reagent.



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4. What is the major product obtained when two moles of ethyl magnesium bromide is treated with methyl benzoate followed by acid hydrolysis.



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5. Predict the major product, when 2-methyl but-2-ene is converted into an alcohol in each of the

following methods.

(i) Acid catalysed hydration (ii) Hydroboration (iii)

Hydroxylation using bayers reagent

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6. Arrange the following in the increasing order of their boiling point and give a reason for your ordering

(i) Butan-2-ol, Butan -1-ol, 2-methylpropan -2-ol (ii)

Propan -1-ol, propan -1,2,3-triol, propan -1,3- diol,

propan -2-ol

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7. Can we use nucleophiles such as NH_3 , CH_3O^- for the Nucleophilic substitution of alcohols

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8. Is it possible to oxidise t - butyl alcohol using acidified dichromate to form a carbonyl compound.

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9. What happens when 1-phenyl ethanol is treated with acidified $KMnO_4$.

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10. Write the mechanism of acid catalysed dehydration of ethanol to give ethene.

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11. How is phenol prepared from (i) chloro benzene
(ii) isopropyl benzene

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12. Explain Kolbe's reaction





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13. Writes the chemical equation for Williamson synthesis of 2-ethoxy - 2- methyl pentane starting from ethanol and 2 - methyl pentan -2-ol



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14. Write the structure of the aldehyde, carboxylic acid and ester that yield 4- methylpent -2-en-1-ol



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15. What is meta merism? Give the structure and IUPAC name of metamers of 2-methoxy propane

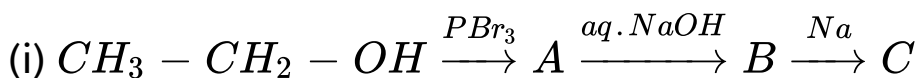
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16. How are the following conversions effected

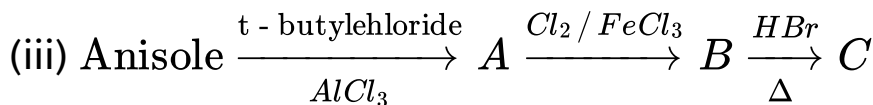
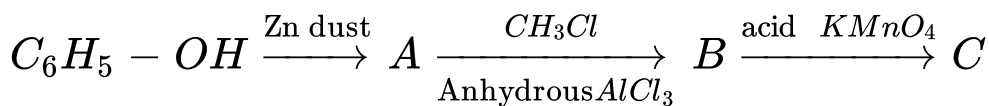
(i) benzylchloride to benzylalcohol (ii) benzyl alcohol to benzoic acid

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17. Complete the following reactions



(ii)

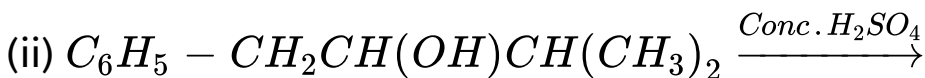
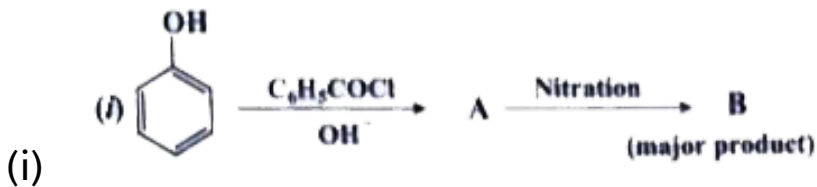


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18. 0.44 g of a monohydric alcohol when added to methyl magnesium iodide in ether liberates at STP 112 cm^3 of methane with PCC the same alcohol form a carbonyl compound that answers silver mirror test. Identify the compound.

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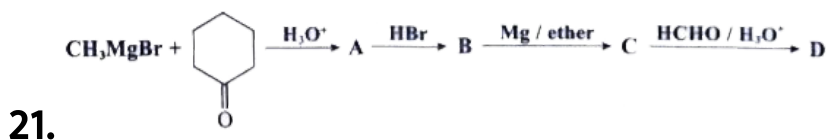
19. Complete the following reactions



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20. Phenol is distilled with Zn dust gives (A) followed by friedel-crafts alkylation with propyl chloride to give a compound B, B on oxidation gives (C). Identify A,B and C.

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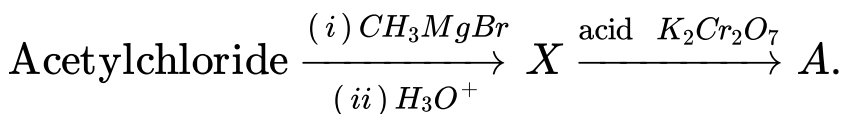


Identify A, B, C, D and write the complete equation.



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22. What will be the product for the following reaction



Identify X and A

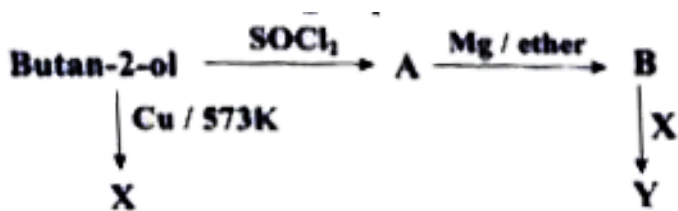


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23. How will you convert acetylene into n-butyl alcohol.

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24. Predict the product A,B,X and Y in the following sequence of reaction



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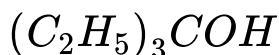
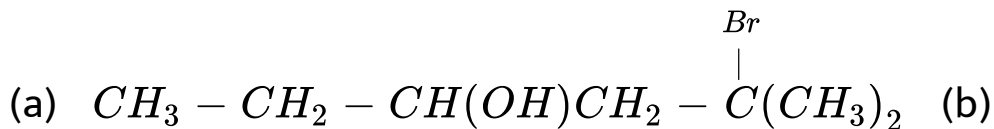
25. 3,3-dimethylbutan-2-ol on treatment with conc. H_2SO_4 to give tetramethyl ethylene as a major product. Suggest a suitable mechanisms

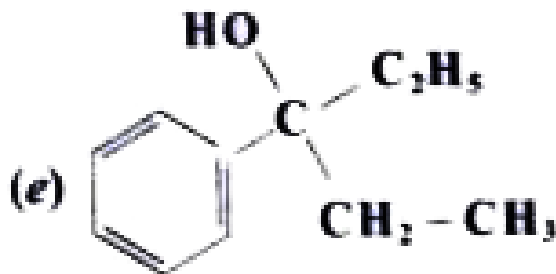
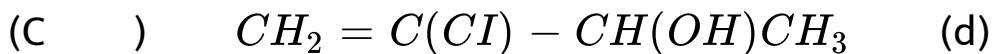


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Evaluate Yourself

1. Classify the following alcohols as 1° , 2° , and 3° and give their IUPAC names.





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2. Write all the possible isomers of an alcohol having the molecular formula $C_5H_{12}O$ and give their IUPAC names.

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3. Suggest a suitable carbonyl compound for the preparation of pent-2-en-1-ol using $LiAlH_4$.



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4. 2-methylpropan-2-ene H_2SO_4 / H_2O



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5. How will you prepare the following using Grignard reagent.

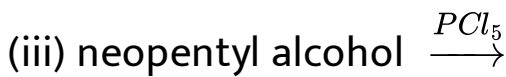
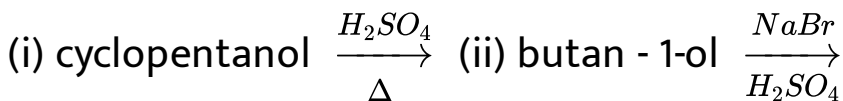
(i) t-butyl alcohol (ii) allyl alcohol



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6. Identify the products in the following reactions.

Write their IUPAC names and mention the mechanism involved in the reactions.

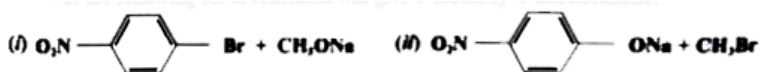


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7. What is the major product obtained when 2,3-dimethyl pentan-3-ol is heated in the presence of H_2SO_4 .

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8. Which of the following set of reactants will give 1-methoxy-4-nitrobenzene.



(i) Set-1 :

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9. What happens when m-cresol is treated with acidic solution of sodium dichromate?

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10. When phenol is treated with propan-2-ol in the presence of HF, Friedel-Craft reaction takes place. Identify the products.

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11. Give the IUPAC name for the following ethers and classify them as simple or mixed.

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12. 1. Which of the following reaction will give 1-methoxy-4-nitrobenzene.

(a) 4-nitro-1-bromobenzene + sodium methoxide.

(b) 4-nitrosodium phenoxide + bromomethane



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13. Arrange the following compounds in the increasing order of their acid strength.

propan-1-ol, 2,4, 6-trinitrophenol, 3-nitrophenol, 3,5-dinitrophenol, phenol, 4-methylphenol



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14. 1 mole of HI is allowed to react with t-butyl methyl ether. Identify the product and write down the

mechanism of the reaction.



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Additional Questions Choose The Best Answer

1. Which one of the following is a trihydrie alcohol?

A. Glycol

B. Ethanol

C. Glycerol

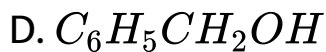
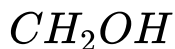
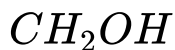
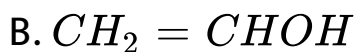
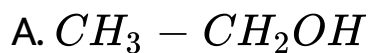
D. Sorbitol

Answer: C



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2. Identify the monohydrie unsaturated alcohol.

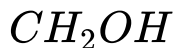


Answer: B



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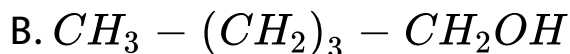
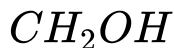
3. Which one of the following is named as sorbital ?



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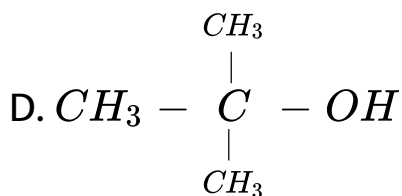
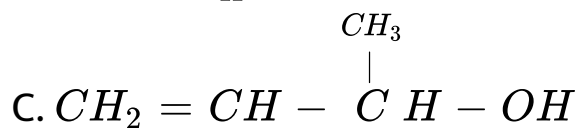
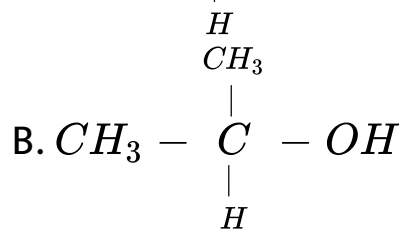
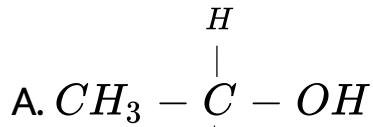


Answer: D



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4. Which one of the following is a primary alcohol?



Answer: A



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5. Which of the following is a primary alcohol ?

A. Ethenol

B. Ethanol

C. Ethane -1, 2-diol

D. Propan -2 - ol

Answer: C



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6. Which one of the following is an example of secondary (2°) alcohol? S

A. Propan-2-ol

B. Phenyl methanol

C. Ethenol

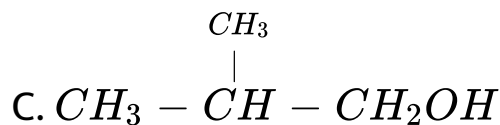
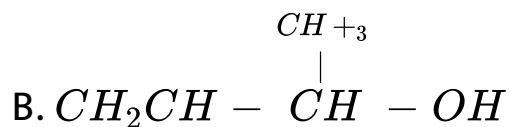
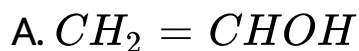
D. 2 methyl - propan -2- ol

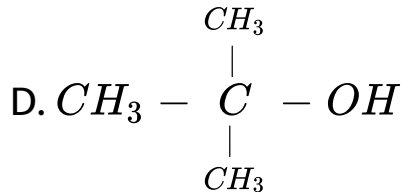
Answer: A



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7. Which one of the following is a tertiary alcohol?

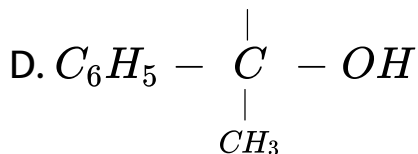
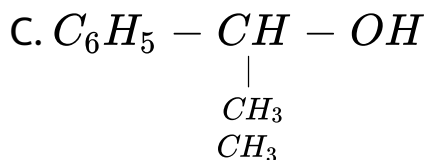
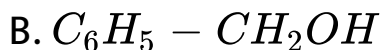
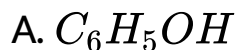




Answer: D

 [View Text Solution](#)

8. Which of the following is a primary alcohol?



Answer: B



View Text Solution

9. Which one of the following find application in proper functioning of our eyes ?

A. Cholesterol

B. Retinol

C. Phenol

D. Ethanol

Answer: B



View Text Solution



[View Text Solution](#)

10. Which is the storage of vitamin-A?

- A. Retinol
- B. Benzyl alcohol
- C. Phenol
- D. Ascorbic acid

Answer: A



[View Text Solution](#)

11. The important component in our cell membrane is

A. Retinol

B. Phenol

C. Cholesterol

D. Methanol

Answer: C



View Text Solution

12. Which acts as an additive to petrol?

A. Glycerol

B. Ethanol

C. Phenol

D. Methanol

Answer: B



View Text Solution

13. Which one of the following vitamin' is stored in Retinol?

A. Vitamin - B_{12}

B. Vitamin -A

C. Vitamin -C

D. Vitamin - D

Answer: D



View Text Solution

14. Which alcohol is used as skin cleanser for injection?

A. Methanol

B. Ethanol

C. 1-propanol

D. 2-propanol

Answer: D



View Text Solution

15. Which one of the following is used as an industrial solvent?

A. Methanol

B. Benzyl alcohol

C. Phenol

D. Cholesterol

Answer: A



View Text Solution

16. 2-methyl but-3-en-2-ol belongs to which type of alcohol?

A. 3° alcohol

B. 2° alcohol

C. 1° alcohol

D. Aromatic alcohol

Answer: A

 [View Text Solution](#)

17. The IUPAC name of $CH_3 - \overset{CH_3}{\underset{CH_3}{|C}} - OH$ is

- A. 1-methyl-2-propanol
- B. 2-methyl-propan-2-ol
- C. tertbutyl alcohol
- D. 2-propanol

Answer: B

 [View Text Solution](#)

18. The IUPAC name of $CH_2 = CH - CH_2OH$ is
..... .

- A. Allyl alcohol
- B. Propene-2-ol
- C. Prop-2-en-1-ol
- D. Isopropyl alcohol

Answer: C



View Text Solution

19. In methanol, -OH group attached to carbon is

..... .

- A. sp hybridised atom
- B. sp^3 hybridised atom
- C. sp^2 hybridised atom
- D. dsp^2 hybridised atom

Answer: B



View Text Solution

20. Which one of the following is $C - O - H$ bond angle in methanol ?

A. 109.5°

B. 104°

C. 90°

D. 108.9°

Answer: D



View Text Solution

21. Primary alkyl halides undergo substitution by

..... .

A. SN^1 reaction

B. SN_1 reaction

C. SN^2 reaction

D. SN reaction

Answer: C



View Text Solution

22. What is the product formed when propene is hydrolysed in the presence of mineral acid?

A. Propan-1-ol

B. Propan - 2- ol

C. Iso butyl alcohol

D. 2-methyl-propan-2-ol

Answer: B



View Text Solution

23. The product formed when phenyl magnesium bromide treated with methanal and hydrolysed is

..... .

A. Phenyl methanal

B. Phenol

C. Phenyl methanol

D. enzy l benzoate

Answer: C



View Text Solution

24. To get Butan-2-ol, Ethyl magnesium bromide is treated with followed by hydrolysis.

A. HCHO

B. CH_3COCH_3

C. CO_2

D. CH_3CHO

Answer: D



View Text Solution

25. Which one of the following is formed when Butyl magnesium bromide is treated with propanone followed by hydrolysis?

- A. Tertiary butyl alcohol
- B. Isopropyl alcohol
- C. 2-methyl hexan-2-ol
- D. Propan-1-ol

Answer: C



View Text Solution

26. Which one of the following is used to get propan-2-ol by the reaction with CH_3MgBr ?

- A. Ethanol
- B. Ethanal
- C. Ethyl methanoate
- D. Propanone

Answer: C





[View Text Solution](#)

27. Crotonaldehyde on reaction with $LiAlH_4$ and water produces

- A. Ethanol
- B. Propan-2-ol
- C. Methanol
- D. But-2-en-1-ol

Answer: D



[View Text Solution](#)

28. Which one of the following is used as a catalyst in the conversion of Benzoic acid to Benzyl alcohol?

A. Ni

B. $LiAlH_4 / H_2O$

C. Sn / HCl

D. $ZnNaOH$

Answer: B



[View Text Solution](#)

29. What is the product formed when acetone is treated with $LiAlH_4$ and H_2O ?

A. Isobutyl alcohol

B. n-butyl alcohol

C. Propan-2-ol

D. Propan-1-ol

Answer: C



View Text Solution

30. Which one of the following is formed when ethene reacts with Baeyer's reagent?

A. Ethane

B. Ethylene glycol

C. Propane-1.2-diol

D. Glycerol

Answer: B



View Text Solution

31. Which one of the following is named as Baeyer's reagent?

A. acidified $K_2Cr_2O_7$

B. acidified $KMnO_4$

C. Cold dilute alkaline $KMnO_4$

D. $LiAlH_4$

Answer: C



View Text Solution

32. The alkaline hydrolysis of fats to give glycerol is known as

A. Esterification

B. Hydroboration

C. Hydration

D. Saponification

Answer: D



View Text Solution

33. Which one of the following alcohol reacts immediately with Lucas reagent?

- A. Primary alcohol
- B. Tertiary alcohol
- C. Phenol
- D. Secondary alcohol

Answer: B



View Text Solution

34. Which one of the following is called Lucas reagent?

A. Conc. HCl + Anhydrous $ZnCl_2$

B. Conc. HCl + Anhydrous $AlCl_3$

C. $LiAlH_4 + H_2O$

D. Cold dilute alkaline $KMnO_4$

Answer: A





[View Text Solution](#)

35. Which alcohol gives red colour in Victor Meyer's test?

A. 2° alcohol

B. 3° alcohol

C. Phenol

D. 1° alcohol

Answer: D



[View Text Solution](#)

36. Which colour is given by secondary alcohol in Victor Meyer's test?

A. Red

B. Green

C. Blue

D. Yellow

Answer: C



View Text Solution

37. Which mechanism is followed in the reaction of 2-methyl-2-propanol with HBr?

- A. E_1 mechanism
- B. E_2 mechanism
- C. SN^2 mechanism
- D. SN^1 mechanism

Answer: D



View Text Solution

38. Which mechanism is followed in the conversion of ethanol to bromoethane by HBr?

- A. SN^1 mechanism

B. SN^2 mechanism

C. E_1 mechanism

D. E_2 mechanism

Answer: C



View Text Solution

39. Which one of the following is used as a catalyst in the reaction of methanol with thionyl chloride ?

A. Pyridine

B. Pyrrole

C. THF

D. Nickel

Answer: A



View Text Solution

40. The mechanism of the reaction of ethanol with PCl_3 is

A. SN^1

B. SN^2

C. E_2

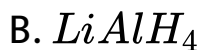
D. E_1

Answer: B



View Text Solution

41. Which one of the following reagent is used in the conversion of Ethanol to ethene?



Answer: D



View Text Solution

42. Primary alcohol undergo dehydration by

- A. E_1 mechanism
- B. E_2 mechanism
- C. SN^1 mechanism
- D. SN^2 mechanism

Answer: B





[View Text Solution](#)

43. Tertiary alcohols undergo dehydration by..... .

A. SN^1 mechanism

B. E_2 mechanism

C. E_1 mechanism

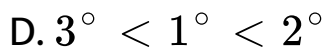
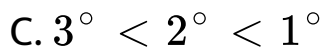
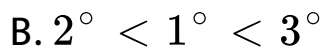
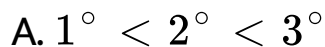
D. SN^2 mechanism

Answer: C



[View Text Solution](#)

44. Which one of the following is the correct order of relative reactivities of alcohols in the dehydration reaction?



Answer: A



View Text Solution

45. Which of the following is the product formed when 3,3-dimethyl-2-butanol reacts with conc. H_2SO_4 ?

A. 2,3-dimethyl but-1-ene

B. 2,3-dimethyl but-2-ene

C. 3,3-dimethyl but-1-ene

D. all the above

Answer: D



View Text Solution

46. The oxidising agent used to prepare aldehyde (or) ketone from alcohol, the reagent used is

A. acidified $Na_2Cr_2O_7$

B. alkaline $KMnO_4$

C. Pyridinium chlorochromate

D. conc. H_2SO_4

Answer: C



View Text Solution

47. The product formed when propan-2-ol is treated with dimethyl sulfoxide (DMSO) and oxalyl chloride followed by the addition of Et_3N is

A. Oxalyl chloride

B. Propanal

C. Ethanoic acid

D. Propanone

Answer: D



View Text Solution

48. Which reaction is used to convert alcohol to ketone/ aldehyde in the presence of DMSO?

- A. Lucas test
- B. Swern oxidation
- C. Biological oxidation
- D. Kolbe's reaction

Answer: B



View Text Solution

49. Which product is formed when propan-1-ol is oxidised by pyridinium chlorochromate (PCC)?

A. Propanal

B. Propanone

C. Propane

D. Propene

Answer: A



View Text Solution

50. Which one of the enzyme is produced in liver to detoxify the alcohol?

A. Diastase

B. Zymase

C. Invertase

D. Dehydrogenase alcohol

Answer: D



[View Text Solution](#)

51. What is ADH and NAD?

A. Alcohol dehydrogenase and nicotinamide adenine dinucleotide

B. Acid dehydration and Nitrogen addition

C. Alcohol dehydration and Nicotine addition

D. Adenine hydrogenase and Nicotinamide adenine dinucleotide

Answer: A



[View Text Solution](#)

52. What is the main reaction take place when 2-methyl propan-2-ol reacts with Cu at 573 K?

A. Dehydrogenation

B. Oxidation

C. Dehydration

D. Hydrogenation

Answer: C



View Text Solution

53. Name the product formed when tertiary butyl alcohol is treated with Cu at 573 K?

A. 2-methyl prop-1-ene

B. 2-methyl prop - 2- ene

C. propene

D. 1-butene

Answer: A



View Text Solution

54. Which one of the following product is formed when propan-2-ol is treated with Cu at 573 K?

A. Propanal

B. Propanone

C. Propan-1-ol

D. Propane

Answer: B



View Text Solution

55. What is the name of the reaction between ethanol and ethanoic acid?

A. Esterification

B. Saponification

C. Etherification

D. Hydroxylation

Answer: A



View Text Solution

56. Which one of the following is formed when ethan-1, 2-diol is treated with PI_3 ?

A. Ethane

B. Ethyne

C. Ethene

D. Ethanol

Answer: C



View Text Solution

57. Which reagent is used to convert ethylene glycol to ethylene?

A. HI

B. I_2

C. PI_3

D. conc. H_2SO_4

Answer: C





[View Text Solution](#)

58. What is the product formed when ethylene glycol is heated at 773 K?

- A. Ethanal
- B. Ethene
- C. Ethene
- D. Oxirane

Answer: D



[View Text Solution](#)

59. Which reagent is used to convert ethan-1,2-diol into Ethanal?

A. Anhydrous $ZnCl_2$

B. Dilute. H_2SO_4

C. Either (a) or (b)

D. conc. H_2SO_4

Answer: C



View Text Solution

60. Name the product formed when ethan-1, 2-diol is treated with anhydrous $ZnCl_2$.

A. Ethanol

B. Ethene

C. Ethane

D. Ethanal

Answer: D



View Text Solution

61. Which one of the following is formed when ethane-1, 2- diol is treated with Conc. H_2SO_4 ?

A. 1,4-dioxane

B. Ethanal

C. Ethanoic acid

D. Ethene

Answer: A



View Text Solution

62. Which one of the following is formed when ethylene glycol is treated with periodic acid?

A. Methanal

B. Methanol

C. Ethanol

D. Ethanal

Answer: A



View Text Solution

63. Identify the product formed when glycerol is treated with nitric acid and conc. H_2SO_4 ?

A. Nitroglycerine

B. Glyceryl triacetate

C. Prop-2-enal

D. Glyceric acid

Answer: A



View Text Solution

64. What will be the product formed when propan-1,2,3-triol is treated with $KHSO_4$?

A. Nitroglycerine

B. TNG

C. Prop - 2 - enal

D. Allyl alcohol

Answer: C



View Text Solution

65. Oxidation of glycerol with dil. HNO_3 gives
..... .

A. Meso oxalic acid

B. Glyceric acid and tartronic acid

C. Glycerose

D. Glyceraldehyde and dihydroxy acetone

Answer: B





[View Text Solution](#)

66. Oxidation of glycerol with Fenton reagent gives

..... .

A. Glyceraldehyde + Dihydroxy acetone

B. Glyceric acid + Tartronic acid

C. Meso oxalic acid

D. Oxalic acid

Answer: A



[View Text Solution](#)

67. Which one of the following product is formed when glycerol is oxidised with acidified $KMnO_4$?

A. Meso oxalic acid

B. Oxalic acid

C. Formic acid

D. Glyceric acid

Answer: B



View Text Solution

68. Which one of the following is used as a solvent for paints, varnishes and gum?

A. Ethanol

B. Methanol

C. Methanal

D. Ethanal

Answer: B



View Text Solution

69. Which one of the following is used as fuel for aeroplane?

A. Methanol + Ethanol

B. Ethanol + Petrol

C. Ethanol + Propanol

D. Butanol +Methanol

Answer: B



View Text Solution

70. Which one of the following is used as beverage as well as preservative for biological specimens?

A. Ethanol

B. methanol

C. Phenol

D. Benzyl alcohol

Answer: A



View Text Solution

71. Which one of the following is used as an anti-freezer in automobile radiator?

A. Glycerol

B. Phenol

C. Benzyl alcohol

D. Ethylene glycol

Answer: D



View Text Solution

72. Which one of the following is used as a sweetening agent in confectionery and beverages?

A. Glycerol

B. Phenol

C. Benzyl alcohol

D. Ethylene glycol

Answer: A



View Text Solution

73. Which one of the following is used in the manufacture of cosmetics and transparent soaps?

A. Methanol

B. Ethanol

C. Glycerol

D. Phenol

Answer: C





[View Text Solution](#)

74. Which one of the following is used in the manufacture of explosive dynamite and cordite by mixing it with clay?

A. Glycol

B. Glycerol

C. Ethanol

D. Benzaldehyde

Answer: B



[View Text Solution](#)

75. Which alcohols is used in making printing inks and stamp pad ink?

A. Glycol

B. Ethanol

C. Glycerol

D. Phenol

Answer: C



View Text Solution

76. Except which alcohol, other alcohols are weaker acid than water?

A. Ethanol

B. Phenol

C. Methanol

D. Propanol

Answer: C



View Text Solution

77. Which one of the following is the correct decreasing order of acidity in alcohol?

A. 1° alcohol $>$ 2° alcohol $>$ 3° alcohol

B. 3° alcohol $>$ 2° alcohol $>$ 1° alcohol

C. 2° alcohol $>$ 1° alcohol $>$ 3° alcohol

D. 3° alcohol $>$ 1° alcohol $>$ 2° alcohol

Answer: A



[View Text Solution](#)

78. Which one of the following is more acidic?

A. Benzyl alcohol

B. Phenol

C. Ethanol

D. Methanol

Answer: B



View Text Solution

79. The IUPAC name of Phloroglucinol is

A. 4-methyl phenol

B. 1,4- dihydroxy benzene

C. 1,3,5 trihydroxy benzene

D. 1,2,3 -trihydroxy benzene

Answer: C



View Text Solution

80. The other name of 1,2,3-trihydroxy benzene is called

A. Pholoroglucinol

B. Quinol

C. Pyrogallol

D. Hydroxy quinol

Answer: C



View Text Solution

81. The other name of 3,5-dihydroxy toluene is known as

A. Orcinol

B. Quinol

C. Pyrogallol

D. Resorcinol

Answer: A



View Text Solution

82. The IUPAC name of Catechol is known as

- A. 1,3-dihydroxy benzene
- B. 1,2-dihydroxy benzene
- C. 1,4-dihydroxy benzene
- D. 1,3,5-trihydroxy benzene

Answer: B



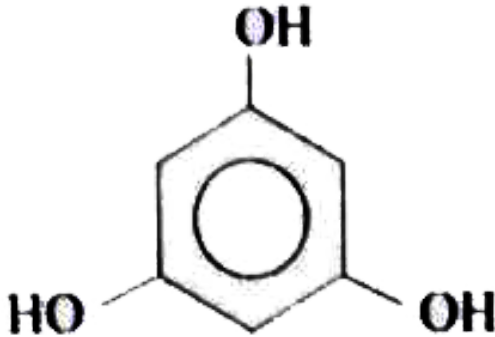
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83.

The

name

of



is

(a) Phloroglucinol (b) Pyrogallol

is

A. Phloroglucinol

B. Pyrogallol

C. Quinol

D. Resorcinol

Answer: A



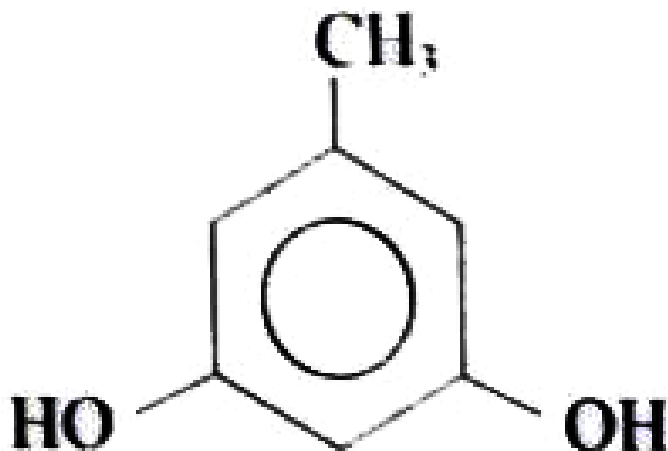
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84.

The

name

of



is

is

.....

A. Pyrogallol

B. Hydroxy cresol

C. Orcinol

D. Phloroglucinol

Answer: C



View Text Solution

85. The reaction of chlorobenzene with NaOH is known as

A. Kolbe's reaction

B. Riemer-Tiemann reaction

C. Dow's process

D. Cumene synthesis

Answer: C



View Text Solution

86. Which one of the product is formed when benzene and propene is heated at 523 K?

A. Cumene

B. 2-ethyl benzene

C. 2-propyl benzene

D. Ethyl ethanoate

Answer: A



View Text Solution

87. What will be the product formed when phenol is treated with zinc dust?

A. Cumene

B. Toluene

C. Ethyl benzene

D. Benzene

Answer: D



View Text Solution

88. The acetylation and benzylation of phenol are called

A. Dow's process

B. Schotten-Baumann reaction

C. Reimer-Tiemann reaction

D. Williamson ether synthesis

Answer: B



View Text Solution



[View Text Solution](#)

89. Name the product formed when phenol is heated with ammonia in the presence of anhydrous $ZnCl_2$.

A. Benzene

B. Aniline

C. Anisole

D. Phenyl acetate

Answer: B



[View Text Solution](#)

90. What will be the product formed when phenol is treated with benzoyl chloride in the presence of a base?

- A. Phenyl acetate
- B. Phenyl ethanoate
- C. Phenyl benzoate
- D. Benzyl acetate

Answer: C



[View Text Solution](#)

91. Which one of the following is formed when phenol is treated with acidified $K_2Cr_2O_7$?

- A. Benzoic acid
- B. Phenyl amine
- C. Phenyl acetate
- D. 1,4 - benzo quinone

Answer: D



View Text Solution

92. Hydrogenation of phenol in the presence of Nickel gives

- A. cyclo hexane
- B. eyclo hexanol
- C. benzene
- D. cumene

Answer: B



View Text Solution

93. Which one of the following is formed when phenol reacts with a mixture of Conc. HNO_3 and Conc. H_2SO_4 ?

- A. Ortho nitro phenol
- B. Para nitro phenol
- C. 1,2- dinitro phenol
- D. 2,4,6 trinitro phenol

Answer: D



View Text Solution

94. What will be the product formed when phenol reacts with bromine water?

- A. O - bromo phenol
- B. P-bromo phenol
- C. 1,3,5 - tri bromo phenol
- D. 2,4, 6 - tri bromo phenol

Answer: D



View Text Solution

95. The conversion reaction of phenol to salicylic acid is known as

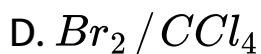
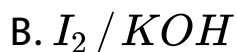
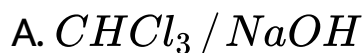
- A. Schotten-Baumann reaction
- B. Reimer-Tiemann reaction
- C. Kolbe's Schmitt reaction
- D. Williamson's synthesis

Answer: C



View Text Solution

96. The reagent used for the conversion of phenol into salicylaldehyde is



Answer: A



View Text Solution

97. What is the name of the reaction of phenol with chloroform and aqueous alkali?

- A. Kolbe's reaction
- B. Cumene synthesis
- C. Reimer-Tiemann reaction
- D. Schottan Baumann reaction

Answer: C



View Text Solution

98. Which one of the following is formed when phenol is treated with chloroform and sodium hydroxide.

A. Chlorobenzene

B. Salicylaldehyde

C. Salicylic acid

D. Aniline

Answer: B



View Text Solution

99. What are the reagents required to prepare phenolphthalein?

A. Phenol +Phthalic acid

B. Phenol+ Benzene

C.

D. Phenol + Aniline

Answer: C



View Text Solution

100. Which one of the following is formed when Phenol reacts with benzene diazonium chloride?

- A. P- hydroxy diazo phenol
- B. P - hydroxy azo benzene
- C. O- hydroxy benzene
- D. O - hydroxy azo benzene

Answer: B



View Text Solution

101. Which reagent gives purple colouration with phenol?

A. Anhydrous $AlCl_3$

B. Anhydrous $ZnCl_2$

C. Neutral $FeCl_3$

D. $HCl + ZnCl_2$

Answer: C



View Text Solution

102. Bakelite is formed when phenol reacts with

..... .

A. Methanol

B. Methanal

C. Ethanal

D. Ethanol

Answer: B



View Text Solution

103. Which one of the following is used as an antiseptic - carbolic lotion and carbolic soaps?

A. Benzyl alcohol

B. Methanol

C. Glycol

D. Phenol

Answer: D



View Text Solution

104. The product formed when formaldehyde reacts with phenol is

A. Bakelite

B. Phenolphthalein

C. Azodye

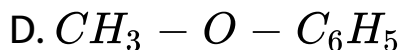
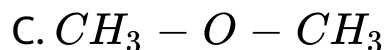
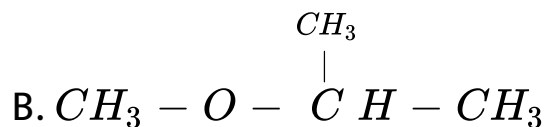
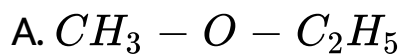
D. Aniline

Answer: A



View Text Solution

105. Which one of the following is a simple ether?



Answer: C



View Text Solution

106. Which one of the following is an example for mixed ether?

A. Methoxy methane

B. Phenoxy benzene

C. Methoxy benzene

D. Ethoxy ethane

Answer: C



View Text Solution

107. The IUPAC name of $CH_3 - O - \begin{array}{c} CH_3 \\ | \\ C \\ | \\ CH_3 \end{array} - CH_3$ is

..... .

A. 1 methoxyl isopropyl ethane

B. 2 methoxy - 2 - methyl propane

C. 2, 2- dimethyl 2- methoxy ethane

D. Methoxy tertiary butane

Answer: B



View Text Solution

108. The IUPAC name of $C_6H_5 - O - C_6H_5$ is

..... .

A. Diphenyl ether

B. Phenoxy methane

C. Phenoxy benzene

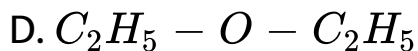
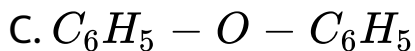
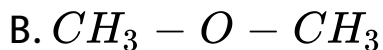
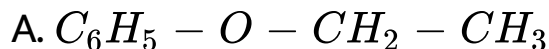
D. Ethoxy benzene

Answer: C



View Text Solution

109. Which one of the following is not a simple ether?



Answer: A



[View Text Solution](#)

110. What is the name of the reaction when ethanol is treated with Conc. H_2SO_4 at 413 K?

- A. Intermolecular dehydration
- B. Intra - molecualr dehydration
- C. Dehydrogenation
- D. Dehydro halogenation

Answer: A



[View Text Solution](#)

111. What is the name of the reaction when ethanol is treated with Conc. H_2SO_4 at 413 K?

A. Ethene

B. Ethane

C. 2-butanol

D. Diethyl ether

Answer: D



View Text Solution

112. The reaction of sodium methoxide with ethyl bromide follows

A. SN^1 mechanism

B. SN^2 mechanism

C. E_1 reaction

D. E_2 reaction

Answer: B



View Text Solution

113. The product formed when tertiary butyl bromide and sodium methoxide are reacted together is

.

A. 2 - methyl - 2 - methoxy propane

B. ethoxy ethane

C. 2- methyl -prop -1 ene

D. 2 - methyl but -1- ene

Answer: C



View Text Solution

114. Identify the product formed when diazomethane reacts with Ethanol in the presence of HBF_4 ?

A. Methoxy ethane

B. Ethoxy ethane

C. Diethyl ether

D. Ethyl isopropyl ether

Answer: A



View Text Solution

115. What are the products formed when methoxy ethane is treated with hydroiodic acid?

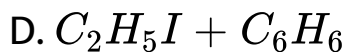
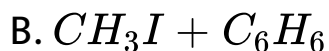
- A. Phenol+ iodomethane
- B. Iodomethane + Ethanol
- C. Iodoethane + Methanol
- D. Iodobenzene + Methane

Answer: B



View Text Solution

116. What are the products formed when methoxy benzene is treated with H?



Answer: C



View Text Solution

117. The mechanism involved in Williamson's synthesis is

A. E_1

B. E_1

C. SN^2

D. SN^1

Answer: C



View Text Solution

118. When diethyl ether is exposed to excess oxygen, the reaction taken place is

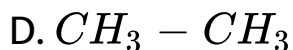
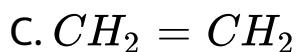
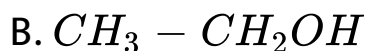
- A. reduction
- B. hydrogenation
- C. dehydrogenation
- D. auto oxidation

Answer: D



View Text Solution

119. Which one of the following is formed when Diethyl ether is treated with dil. H_2SO_4 ?

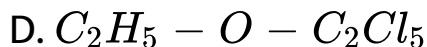
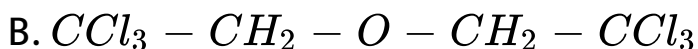
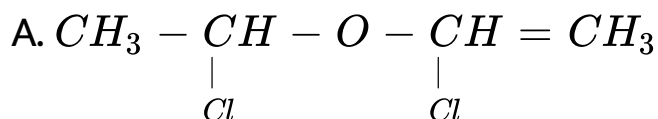


Answer: B



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120. Which one of the following is formed when diethyl ether reacts with Cl_2 in the presence of light?

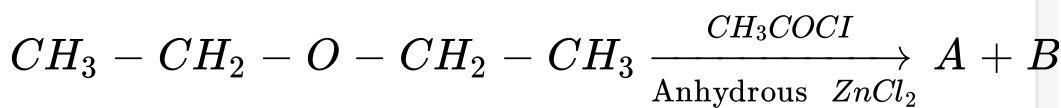


Answer: C

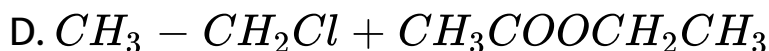
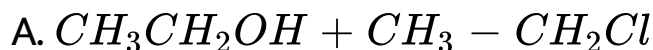


View Text Solution

121.



In the above reaction A and B are



Answer: D



View Text Solution

122. Anisole undergoes bromination with Br_2 in acetic acid in the absence of catalyst, the major product formed is

- A. O- bromoanisole
- B. P- bromoanisole
- C. Benzyl bromide
- D. Bromo benzene

Answer: B



[View Text Solution](#)

123. Anisole reacts with methyl chloride in the presence of anhydrous $AlCl_3$ and CS_2 to give

- A. 2-methoxy toluene
- B. 4 - methoxy toluene
- C. Either (a) or (b)
- D. both (a) and (b)

Answer: D



View Text Solution

124. Which one of the following is used as a surgical anesthetic agent in surgery?

A. Ethanol

B. Ethoxy ethane

C. Methoxy ethane

D. Methoxy propane

Answer: B



View Text Solution

125. Which one of the following is a precursor to the synthesis of perfumes and insecticide pheromones?

A. Phenol

B. Benzyl alcohol

C. Anisole

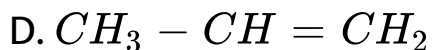
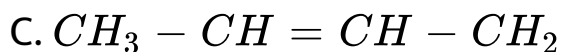
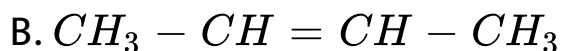
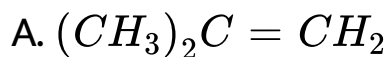
D. Diethyl ether

Answer: C



View Text Solution

126. Among the alkenes which one produces tertiary butyl alcohol on acid hydration?



Answer: A



View Text Solution

127. An ether is more volatile than an alcohol having the same molecular formula. This is due to

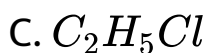
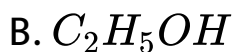
- A. dipolar character of ethers
- B. alcohols having resonance structures
- C. inter molecular hydrogen bonding in ethers
- D. inter molecular hydrogen bonding in alcohols

Answer: D



View Text Solution

128. An organic compound A containing C, H and O has a pleasant odour. On boiling A with Conc. H_2SO_4 a colourless gas is produced which decolourises bromine water and alkaline $KMnO_4$. The organic liquid A is



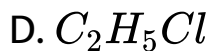
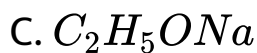
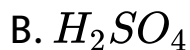
Answer: B



View Text Solution

129. Chloroethane reacts with X to form diethyl ether.

What is X?

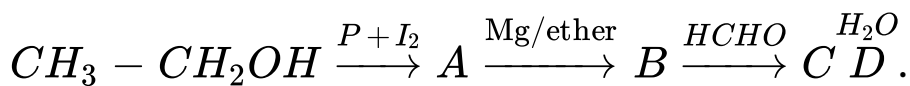


Answer: C



View Text Solution

130. In the following sequence of reactions,



the compound D is

- A. Butanal
- B. n-butyl alcohol
- C. propan-1-ol
- D. Propanal

Answer: C



[View Text Solution](#)

131. Propan-1 - ol and Propan-2- ol can be chemically distinguished by which reagent?

A. PCl_5

B. Reduction

C. Oxidation with $K_2Cr_2O_7$

D. Ozonolysis

Answer: C



View Text Solution

132. Phenol can be distinguished from ethanol by the following reagents except

A. Sodium

B. $NaOH / I_2$

C. Neutral $FeCl_3$

D. Br_2 / H_2O

Answer: A



View Text Solution

133. In cold countries, ethylene glycol is added to water in the radiators to

- A. bring down the specific heat of water
- B. lower the viscosity
- C. reduce the viscosity
- D. make water a better lubricant

Answer: A



[View Text Solution](#)

134. Main constituent of dynamite is

A. nitro benzene

B. nitro glycerine

C. Picric acid

D. TNT

Answer: B



View Text Solution

135. Diethyl ether finds use in medicinc as

A. a pain killer

B. a hypnotic

C. an antiseptic

D. an anaesthetic

Answer: D



View Text Solution

136. Benzene diazonium chloride on reaction with phenol in weakly basic medium gives

A. Diphenyl ether

B. P-hydroxy azo benzene

C. Chlorobenzene

D. Benzene

Answer: B



View Text Solution

137. The alcohol that produces turbidity immediately with $ZnCl_2 + Conc\ HCl$ at room temperature is

A. Butan - 1- ol

B. Butan - 2- ol

C. 2-methyl-propan-1 -ol

D. 2-methyl-propan-2-ol

Answer: D



View Text Solution

138. Propanone is the product obtained by dehydrogenation of

- A. Propan-2-ol
- B. Propan-1-ol
- C. Propanal
- D. n-propyl alcohol

Answer: A



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139. Which of the following statement is correct?

- A. Phenol is less acidic than ethanol
- B. Phenol is more acidic than ethanol
- C. Phenol is more acidic than carboxylic acid
- D. Phenol is less acidic than carboxylic acid

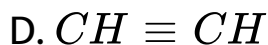
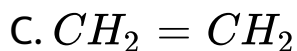
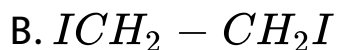
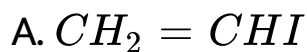
Answer: B



[View Text Solution](#)

140. The reaction of ethylene glycol with PI_3 gives

..... .



Answer: C



View Text Solution

141. During dehydration of alcohols to alkenes by heating with Conc. H_2SO_4 , the initiation step is

- A. protonation of alcohol
- B. formation of carbocation
- C. elimination of water
- D. formation of carbonion

Answer: A



[View Text Solution](#)

142. Sodium phenoxide reacts with CO_2 at 400 K and 4 - 7 bar pressure to give

A. Sodium salicylate

B. Salicylaldehyde

C. Catechol

D. Pyrogallol

Answer: A



View Text Solution

143. The reaction of C_2H_5OH with Conc. H_2SO_4 does not give

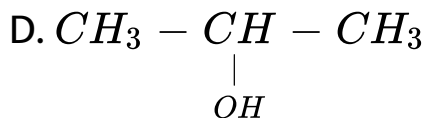
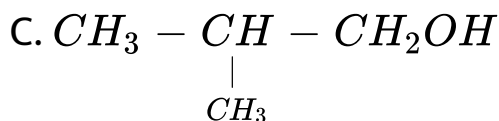
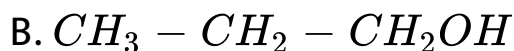
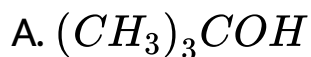
- A. Ethylene
- B. Diethyl ether
- C. Acetylene
- D. Ethy hydrogaen sulphate

Answer: C



View Text Solution

144. Which of the following gives ketone on oxidation?



Answer: D



View Text Solution

145. Phenol is treated with Br_2/H_2O and shaken well. The white precipitate formed during the process is

- A. m-bromo phenol
- B. 2,4- dibromophenol
- C. 2,4,6 - tribromo phenol
- D. 1,2- dibromo benzene

Answer: C



View Text Solution

146. Which compound has the highest boiling point?

A. Acetone

B. Diethyl ether

C. Methanol

D. Ethanol

Answer: D



View Text Solution

147. When phenol reacts with NH_3 in the presence of

$ZnCl_2$ at $300^\circ C$, it gives

A. 1° amine

B. 2° amine

C. 3° amine

D. Both (b) and (c)

Answer: A



View Text Solution

148. Azo dyes are prepared from

A. Aniline + Phenol

B. Phenol+ Phthalic anhydride

C. Phenol + Benzene diazonium chloride

D. Aniline + Phthalic anhydride

Answer: C

 [View Text Solution](#)

149. A compound that easily undergoes bromination is

A. Phenol

B. Toluene

C. benzene

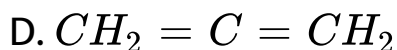
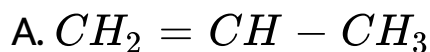
D. Diethyl ether

Answer: A



View Text Solution

150. When glycerol is treated with P_2O_5 (or) $KHSO_4$ the product formed is

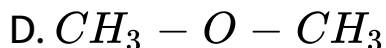
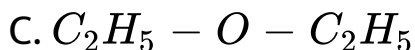
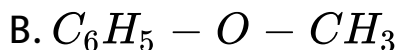
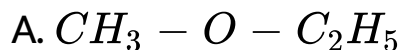


Answer: C



View Text Solution

151. The ether that undergoes electrophilic substitution reactions is



Answer: B





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152. With anhydrous $ZnCl_2$, ethylene glycol gives

..... .

A. Formaldehyde

B. Acetylene

C. Acetaldehyde

D. Dioxan

Answer: C



[View Text Solution](#)

153. Fats on alkaline hydrolysis give

A. Oil+Soap

B. Soap +Glycol

C. Soap +Ester

D. Soap +Glycerol

Answer: D



View Text Solution

154. $A \xleftarrow{Cu / 573K} CH_3 - CH_2OH \xrightarrow{Al_2O_3 / \Delta} B$. In this

reaction A and B are respectively

A. Alkene, Alkyne

B. Alkanal, Alkene

C. Alkyne, Alkanal

D. Alkyne, Alkene

Answer: B



View Text Solution

155. Oxygen atom in ether is

A. very active

B. replacable

C. comparatively inert

D. less active

Answer: C



View Text Solution

156. Chlorination of toluene in the presence of light and heat followed by treatment with aqueous NaOH gives

A. O - cresol

B. P - cresol

C. Phloroglucinol

D. Benzyl alcohol

Answer: D



View Text Solution

157. Primary alcohols can be obtained from the reaction of RMgX with

A. CO_2

B. HCHO

C. CH_3CHO

D. H_2O

Answer: B



View Text Solution

158. The dehydration of alcohol is an example of
..... .

- A. Bimolecular elimination reaction
- B. Nucleophilic substitution reaction
- C. Uimolecular elimination reaction
- D. Internal substitution reaction

Answer: C





[View Text Solution](#)

159. Ethanol is converted into Ethoxy ethane

..... .

A. by heating with conc. H_2SO_4 at $443K$ s

B. by heating with conc. H_2SO_4 at 413 K

C. by heating with excess oxygen

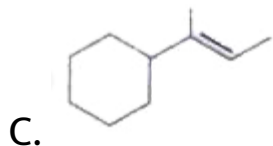
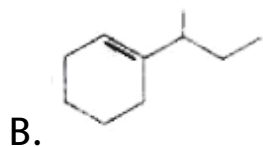
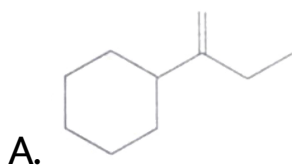
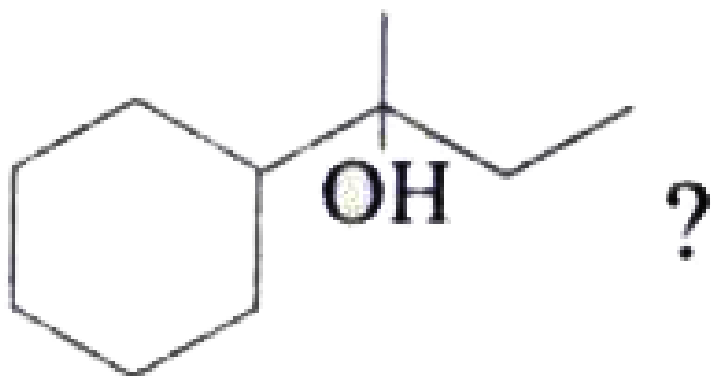
D. by heating with hydrogen

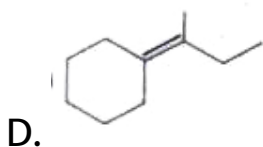
Answer: B



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160. Which of the following is not the product of dehydration of





Answer: C

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Additional Questions Fill In The Blanks

1. Cholesteryl alcohol commonly known as
is an important component in our

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2. the storage form of vitamin A, finds application in proper functioning of our eyes.

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3. Methanol is used as an solvent.

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4. Isopropyl alcohol is used as For injection.

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5. $CH_2 = CHOH$ is called as



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6. An example of hexahydric alcohol is



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7. The IUPAC name of glycerol is



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8. The IUPAC name of Neopentyl alcohol is

..... .

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9. The IUPAC name of $CH_2 = CH - CHOH$ is

..... .

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10. The bond angle C- OH in methanol is

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11. alkyl halides undergo substitution by SN^2 reaction whereasand alkyl halides undergo substitution by SN^1 reaction.



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12. Addition of H_2O to an unsymmetric alkene in the process of sulphuric acid follows



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13. Nucleophilic addition of Grignard reagent to aldehydes/ketones take place in the presence of

..... followed by acid hydrolysis gives

.....



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14. With RMgX ,, gives 1° alcohol.



[View Text Solution](#)

15. Butyl Magnesium bromide reacts with propanone to give



[View Text Solution](#)

16. IS used to prepare a secondary alcohol with identical group.

 [View Text Solution](#)

17. Hydroboration yields anproduct.

 [View Text Solution](#)

18. is the best reagent to prepare unsaturated alcohol by reduction reaction of carbonyl compound.





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19. occurs in natural fats and in long chain fatty acids in form of triglycerides.



[View Text Solution](#)

20. The alkaline hydrolysis of fats gives glycerol and the reaction is known as



[View Text Solution](#)

21. In Lucas test alcohol do not react at room temperature.

 [View Text Solution](#)

22. In Victor Meyer's test no colouration will be observed in case of

 [View Text Solution](#)

23. alcohols undergo dehydration by E_2 mechanism whereas Alcohols undergo dehydration by E_1 mechanism.



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24. To stop the oxidation reaction of alcohol at aldehyde / ketone stage is used as an oxidising agent.



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25. The fermentation of food consumed by an animal produces



[View Text Solution](#)

26. To detoxify the alcohol, the liver produces an enzyme called



[View Text Solution](#)

27. present in the animals act as an oxidising agent and catalyses the oxidation of toxic alcohol, the liver produces an enzyme called



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28. Ethylene glycol, when heated to 773 K, it forms
..... .

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29. The reagent used to convert ethane 1,2-diol to ethanal is

 [View Text Solution](#)

30. When Ethane-1, 2-diol is treated with conc. H_2SO_4 it forms

 [View Text Solution](#)

[View Text Solution](#)

31. The intermediate product formed when ethylene glycol is treated with periodic acid is

 [View Text Solution](#)

32. The final product formed when glycol reacts with periodic acid is

 [View Text Solution](#)

33. The IUPAC name of Acrolein (or)

$CH_2 = CH - CHO$ is..... .



[View Text Solution](#)

34. Oxidation of glycerol with dilute nitric acid gives

.....and



[View Text Solution](#)

35. Oxidation of glycerol with bismuth nitrate gives

..... .



[View Text Solution](#)

View Text Solution

36. Oxidation of glycerol with Fenton's reagent gives

..... .



View Text Solution

37. LTA is known as..... .



View Text Solution

38. Oxidation of glycerol with acidified $KMnO_4$ gives

..... .





[View Text Solution](#)

39. $FeSO_4 + H_2O_2$ is called



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40. is used as a substitute for petrol under the name and used as fuel for aeroplane.



[View Text Solution](#)

41. is used as an anti-freezer in automobile radiators.

 [View Text Solution](#)

42. is used as a sweetening agent in confectionery and beverages.

 [View Text Solution](#)

43. is used in the manufacture of transparent soap, printing ink and stamp pad ink.

 [View Text Solution](#)

[View Text Solution](#)

44. Glycerol is used in the manufacture of explosives likeandby mixing with

.



[View Text Solution](#)

45. Except all other alcohols are weaker acid than water.



[View Text Solution](#)

46. The electron withdrawing groups such as $-NO_2$ – Cl enhances the acidic nature of phenol especially when they are present at positions.



[View Text Solution](#)

47. The IUPAC name of hydroxy quinol is



[View Text Solution](#)

48. The IUPAC name of orcinol is



[View Text Solution](#)

[View Text Solution](#)

49. The other name of 1, 2, 3-trihydroxy benzene is

 [View Text Solution](#)

50. The reaction of chloro benzene with aqueous NaOH to give phenol is known as

 [View Text Solution](#)

51. The IUPAC name of cumene is





[View Text Solution](#)

52. Phenol is converted to benzene on heating with

..... .



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53. The acetylation and benzoylation of phenol are

called



[View Text Solution](#)

54. The reagent used in the conversion of phenol to 1, 4 -benzo quinone is

 [View Text Solution](#)

55. When phenol is treated with Conc. HNO_3 and conc. H_2SO_4 , the product formed is

 [View Text Solution](#)

56. Phenol reacts with bromine water to give a precipitate of

 [View Text Solution](#)

[View Text Solution](#)

57. The conversion reaction of phenol to salicylic acid is known as

 [View Text Solution](#)

58. The conversion reaction of phenol into salicylaldehyde is known as

 [View Text Solution](#)

59. The product formed when phenol is treated with phthalic anhydride in the presence of Conc. H_2SO_4 is



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60. dye is formed when phenol couples with benzene diazonium chloride in an alkaline solution.



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61. Phenol formaldehyde is known as



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[View Text Solution](#)

62. The IUPAC name of tertiary butyl methyl ether is known as

 [View Text Solution](#)

63. $C_6H_5 - O - CH_2 - CH_3$ is known as

 [View Text Solution](#)

64. The reaction take place when ethers are exposed to oxygen is

 [View Text Solution](#)

65. is used as a surgical anesthetic agent in surgery.

 [View Text Solution](#)

66. is used as refrigerant.

 [View Text Solution](#)

Additional Questions Match The Following Column I With Column II Using The Code Given Below

- | Column-I | Column-II |
|----------------------|-------------------------------|
| A. Retinol | 1. Skin cleanser |
| B. Methanol | 2. Additive to petrol |
| C. Isopropyl alcohol | 3. Proper functioning of eyes |
| D. Ethanol | 4. Industrial solvent |
- 1.

A. $A \ B \ C \ D$
3 4 1 2

B. $A \ B \ C \ D$
1 2 3 4

C. $A \ B \ C \ D$
4 3 2 1

D. $A \ B \ C \ D$
2 1 4 3

Answer: A



View Text Solution

	Column-I	Column-II
	A. Propan-2-ol	1. Primary alcohol
	B. 2-methyl -propan-2-ol	2. Secondary alcohol
	C. Butan-1-ol	3. Aromatic alcohol
2.	D. Phenyl methanol	4. Tertiary alcohol

A. $\begin{matrix} A & B & C & D \\ 3 & 4 & 1 & 2 \end{matrix}$

B. $\begin{matrix} A & B & C & D \\ 1 & 2 & 3 & 4 \end{matrix}$

C. $\begin{matrix} A & B & C & D \\ 4 & 3 & 2 & 1 \end{matrix}$

D. $\begin{matrix} A & B & C & D \\ 2 & 1 & 4 & 3 \end{matrix}$

Answer: A



View Text Solution

Column-I	Column-II
A. $\text{CH}_2 = \text{CH} - \text{CH}_2\text{-OH}$	1. 1 - Phenyl ethanol
B. $\text{CH}_2 = \text{CH} - \text{OH}$	2. Propan-1-ol
C. $\text{CH}_3 - \text{CH}_2 - \text{CH}_2\text{-OH}$	3. Ethenol
D. $\text{C}_6\text{H}_5 - \text{CH} - \text{OH}$	4. Prop-2-en-1-ol

3. CH_3

A. $\begin{matrix} A & B & C & D \\ 1 & 2 & 3 & 4 \end{matrix}$

B. $\begin{matrix} A & B & C & D \\ 2 & 4 & 1 & 3 \end{matrix}$

C. $\begin{matrix} A & B & C & D \\ 4 & 3 & 2 & 1 \end{matrix}$

D. $\begin{matrix} A & B & C & D \\ 3 & 1 & 4 & 2 \end{matrix}$

Answer: C



View Text Solution

Column-I

Column-II

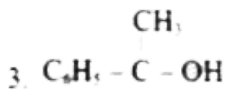
A. 2-phenyl propan-2-ol



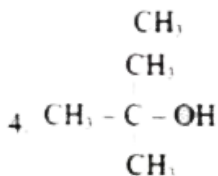
B. Prop-3-en-1-ol



C. 2-methyl propan-2-ol



D. Propan-1, 2, 3-triol



4.

A.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
3	1	4	2

B.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
4	3	2	1

C.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
1	2	3	4

D.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
2	4	1	3

Answer: A



View Text Solution

- | Column-I | Column-II |
|---------------------------|------------------------------|
| A. Isopropyl alcohol | 1. 2, 2-dimethyl propan-1-ol |
| B. Tertiary butyl alcohol | 2. 2-methyl propan-1-ol |
| C. Neopentyl alcohol | 3. 2-methyl propan-2-ol |
| D. Isobutyl alcohol | 4. Propan-2-ol |
- 5.

A.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
1	2	3	4

B.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
4	3	1	2

C.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
3	4	2	1

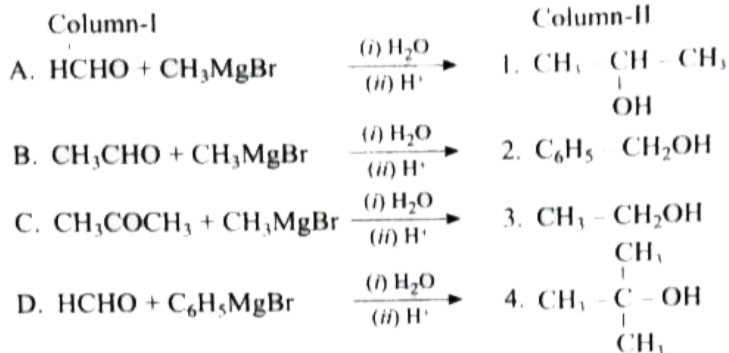
D.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
2	1	4	3

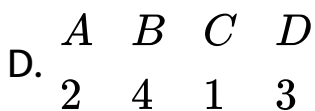
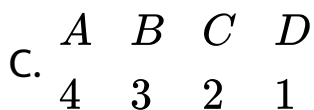
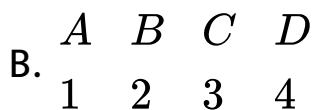
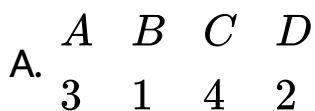
Answer: B



View Text Solution



6.



Answer: A



View Text Solution

	Column-I	Column-II
7.	A. Baeyer's reagent	1. Conc. HCl + Anhydrous ZnCl ₂
	B. Lucas reagent	2. RMgX
	C. Fenton's reagent	3. Cold dilute alkaline KMnO ₄
	D. Grignard reagent	4. FeSO ₄ + H ₂ O ₂

A. *A B C D*
3 1 4 2

B. *A B C D*
1 2 3 4

C. *A B C D*
4 3 2 1

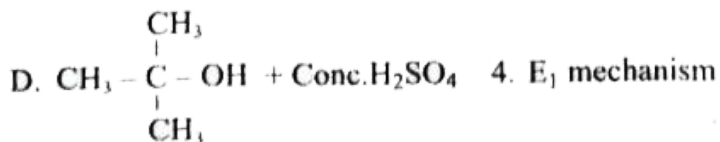
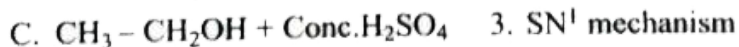
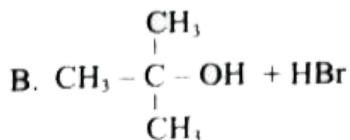
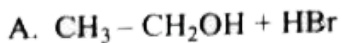
D. *A B C D*
2 4 1 3

Answer: A



View Text Solution

Column-I



Column-II

1. E_1 mechanism

2. SN^2 mechanism

3. SN^1 mechanism

4. E_1 mechanism

8.

A. $\begin{array}{cccc} A & B & C & D \\ 2 & 3 & 4 & 1 \end{array}$

B. $\begin{array}{cccc} A & B & C & D \\ 1 & 2 & 3 & 4 \end{array}$

C. $\begin{array}{cccc} A & B & C & D \\ 4 & 1 & 2 & 3 \end{array}$

D. $\begin{array}{cccc} A & B & C & D \\ 3 & 4 & 1 & 2 \end{array}$

Answer: A



View Text Solution

Column-I

Column-II

A. Propan-1-ol $\xrightarrow{?}$ Propanal

1. Copper

B. Ethanol + NAD $\xrightarrow{?}$ Ethanal

2. Conc. H₂SO₄

C. Ethanol $\xrightarrow[573\text{ K}]{?}$ Ethanal

3. PCC

D. Ethanol $\xrightarrow[443\text{ K}]{?}$ Ethene

4. ADH

9.

A.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
3	4	1	2

B.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
2	3	4	1

C.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
1	2	3	4

D.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
4	1	2	3

Answer: A



View Text Solution

	Column-I		Column-II
10.	A. Glycol	$\xrightarrow{PI_3}$? 1. 1, 4-dioxane
	B. Glycol	$\xrightarrow[\text{ZnCl}_2]{\text{Anhydrous}}$? 2. Ethene
	C. Glycol	$\xrightarrow{HIO_4}$? 3. Ethanal
	D. Glycol	$\xrightarrow{\text{Conc. H}_2\text{SO}_4}$? 4. Methanal

A. $\begin{matrix} A & B & C & D \\ 2 & 3 & 4 & 1 \end{matrix}$

B. $\begin{matrix} A & B & C & D \\ 1 & 2 & 3 & 4 \end{matrix}$

C. $\begin{matrix} A & B & C & D \\ 4 & 1 & 2 & 3 \end{matrix}$

D. $\begin{matrix} A & B & C & D \\ 3 & 4 & 1 & 2 \end{matrix}$

Answer: A



View Text Solution

- 11.
- | Column-I | Column-II |
|---|-----------------------------------|
| A. Glycerol + dil. HNO_3 | 1. Meso oxalic acid |
| B. Glycerol + bismuth nitrate | 2. Oxalic acid |
| C. Glycerol + Fenton's reagent | 3. Glyceric acid + Tartronic acid |
| D. Glycerol + acidified KMnO_4 | 4. Glycerose |

A.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
3	1	4	2

B.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
1	2	3	4

C.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
4	3	2	1

D.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
2	4	1	3

Answer: A



View Text Solution

12.

Column-I	Column-II
A. Methanol	1. Printing Ink and Stamp pad ink
B. Ethanol	2. Industrial solvent
C. Glycol	3. Beverage
D. Glycerol	4. Anti-freezer in automobile radiator

A.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
2	3	4	1

B.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
1	2	3	4

C.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
4	1	2	3

D.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
3	4	1	2

Answer: A



View Text Solution

- | Column-I | Column-II |
|------------------------------|--------------------|
| A. Dow's process | 1. Salicylaldehyde |
| B. Schotten-Baumann reaction | 2. Phenol |
| C. Kolbe's reaction | 3. Phenyl benzoate |
| D. Reimer Tiemann Reaction | 4. Salicylic acid |
- 13.

A. $A \ B \ C \ D$
2 3 4 1

B. $A \ B \ C \ D$
4 2 1 3

C. $A \ B \ C \ D$
1 4 3 2

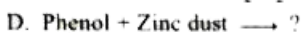
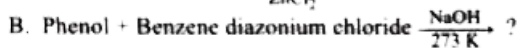
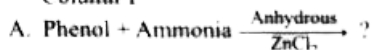
D. $A \ B \ C \ D$
3 1 2 4

Answer: A



View Text Solution

Column-I



Column-II

1. Red orange dye

2. 1, 4, benzoquinone

3. Benzene

4. Aniline

14.

A.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
4	1	2	3

B.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
1	2	3	4

C.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
3	4	1	2

D.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
2	3	4	1

Answer: A



View Text Solution

Column-I

- A. $\text{CH}_3 - \text{O} - \overset{\text{CH}_3}{\underset{|}{\text{CH}}} - \text{CH}_3$
B. $\text{CH}_3 - \text{CH}_2 - \text{O} - \text{CH}_2 - \text{CH}_3$
C. $\text{C}_6\text{H}_5 - \text{O} - \text{CH}_3$
D. $\text{CH}_3 - \text{O} - \overset{\text{CH}_3}{\underset{\text{CH}_3}{|}{\text{C}}} - \text{CH}_3$

Column-II

1. Ethoxy ethane
2. 2-methoxy 2-methyl propane
3. 2-methoxy propane
4. Methoxy benzene

15.

- A.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
3	1	4	2
- B.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
1	2	3	4
- C.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
4	3	2	1
- D.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
2	4	1	3

Answer: A



View Text Solution

- | | Column-I | Column-II |
|-----|--------------------------|-------------------------------------|
| 16. | A. Anisole | 1. $C_6H_5 - O - CH_2 - CH_3$ |
| | B. Phenatole | 2. $CH_3 - O - CH_2 - CH_2 - OCH_3$ |
| | C. Dimethyl glycolate | 3. $C_6H_5 - O - (CH_2)_6 - CH_3$ |
| | D. n-heptyl phenyl ether | 4. $C_6H_5 - O - CH_3$ |

A.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
4	1	2	3

B.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
1	2	3	4

C.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
2	3	4	1

D.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
3	4	1	2

Answer: A



View Text Solution

Column-I

- A. $\text{CH}_3 - \text{CH}_2\text{OH} \xrightarrow[413\text{ K}]{\text{Conc. H}_2\text{SO}_4} ?$
 B. $\text{CH}_3 - \text{CH}_2\text{OH} \xrightarrow[443\text{ K}]{\text{Conc. H}_2\text{SO}_4} ?$
 C. $\text{CH}_3 - \text{CH}_2\text{OH} + \text{CH}_2\text{N}_2 \xrightarrow[\Delta]{\text{HBF}_4} ?$
 D. $\text{C}_2\text{H}_5 - \text{O} - \text{C}_2\text{H}_5 + \text{PCl}_5 \longrightarrow ?$

Column-II

1. $\text{CH}_3 - \text{CH}_2 - \text{O} - \text{CH}_3$
 2. $\text{C}_2\text{H}_5 - \text{Cl}$
 3. $\text{CH}_2 = \text{CH}_2$
 4. $\text{C}_2\text{H}_5 - \text{O} - \text{C}_2\text{H}_5$

17.

- A.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
4	3	1	2
- B.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
1	2	3	4
- C.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
3	4	2	1
- D.

<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
2	1	4	3

Answer: A



View Text Solution

1. Assertion(A): P-nitro phenol is having lower pK_a value than phenol.

Reason (R): The electron withdrawing group $-NO_2$ at para position enhances the acidic nature.

A. Both A and R are correct and R is the correct explanation of A.

B. Both A and R are wrong

C. A is wrong but R is correct

D. A is correct but R is wrong

Answer: A



View Text Solution

2. Assertion(A): Alcohols cannot be used as solvent for Grignard reagent.

Reason (R): Alcohols are decomposed by Grignard reagents to give alkane.

A. Both A and R are correct and R is the correct explanation of A.

B. A is correct but R is wrong

C. A is wrong but R is correct

D. Both A and R are correct but R is not correct explanation of A.

Answer: A



View Text Solution

3. Assertion(A): Phenols are soluble in alcohols.

Reason (R): Phenols are soluble in alcohol due to the formation of inter molecular hydrogen bonding.

- A. Both A and R are correct and R is the correct explanation of A.
- B. Both A and R are wrong
- C. A is correct but R is wrong
- D. A is wrong but R is correct

Answer: A



View Text Solution

4. Assertion(A): Phenol is insoluble in $NaHCO_3$ solution but acetic acid is soluble.

Reason (R): Phenols are weakly acidic and hence they dissolve only in strong base and insoluble in weak base like $NaHCO_3$. But acetic acid is a stronger acid than phenol and so it is soluble in weak base $NaHCO_3$.

A. Both A and R are correct and R is the correct explanation of A.

B. Both A and are correct but R is not the correct explanation of A.s

C. Both A and R are wrong

D. A is correct but R is wrong

Answer: A



[View Text Solution](#)

5. Assertion(A): Glycol is more viscous than ethanol.

Reason (R): Glycol contains two hydroxyl groups and the inter molecular hydrogen bonding is made much

stronger resulting in a polymeric structure. This leads to high viscosity than ethanol.

- A. Both A and R are correct and R is the correct explanation of A.
- B. Both A and are correct but R is not the correct explanation of A.
- C. Both A and R are wrong
- D. A is correct but R is wrong

Answer: A



View Text Solution

6. Assertion(A): Ethanol is a weaker acid than Phenol.

Reason (R): Sodium ethoxide may be prepared by the reaction of ethanol with sodium metal but phenol reacts with NaOH.

A. Both A and R are correct and R is the correct explanation of A.

B. Both A and R are correct but R is not the correct explanation of A

C. A is correct but R is wrong

D. A is wrong but R is correct

Answer: A



7. Assertion(A): Both alcohol and ether have higher boiling point.

Reason (R): Both are having intermolecular hydrogen bonding.

A. Both A and R are correct and R is the correct explanation of A.

B. Both A and R are wrong

C. A is correct but R is wrong

D. A is wrong but R is correct

Answer: B



[View Text Solution](#)

8. Assertion(A): Bond angle in ethers is slightly less than the tetra hedral angle.

Reason (R): There is a repulsion between the two bulkier R groups.

A. Both A and R are correct but R is not the correct explanation of A.

B. Both A and are wrong

C. Both A and R are correct and R is the correct explanation of A

D. A is correct but R is wrong

Answer: C



View Text Solution

9. Assertion(A): P-nitro phenol is a stronger acid than o-nitro phenol.

Reason (R): Intra molecular hydrogen bonding in o-nitro phenol make it as a weaker acid.

A. Both A and R correct and R is the correct explanation of A.

B. Both A are wrong

C. A is correct but R is wrong

D. A is wrong but R is correct

Answer: A



View Text Solution

10. Assertion(A): Phenol is more reactive towards electrophilic substitution reaction.

Reason (R): In the case of phenol, the intermediate carbo cations is more resonance stabilized.

A. Both A and R are correct and R is the correct explanation of A.

B. Both A and R are wrong

C. A is correct but R is wrong

D. A is wrong but R is correct

Answer: A



View Text Solution

11. Assertion(A): Phenol forms 2,4, 6 - tribromo phenol on treatment with Br_2 in CS_2 at 273 K.

Reason (R): Bromine polarizes in CS_2 .

A. Both A and R are correct and R is the correct explanation of A.

B. Both A and are incorrect

C. A is correct but R is wrong

D. A is wrong but R is correct

Answer: B



[View Text Solution](#)

12. Assertion(A): Phenol is more acidic than ethanol.

Reason (R): Phenoxide ion is more stable than ethoxide due to resonance.

A. Both A and R are correct and R is the correct explanation of A.

B. Both A and R are correct but R is not the correct explanation of A

C. A is correct but R is wrong

D. A is wrong but R is correct

Answer: A



View Text Solution

13. Assertion(A): Boiling point of ethanol is higher in comparison to methoxy methane.

Reason (R): Ethanol is associated with inter molecular

hydroxide bonding whereas in methoxy methane, inter molecular hydrogen bonding is not present.

- A. Both A and R are correct and R is the correct explanation of A.
- B. Both A and R are correct but R is not the correct explanation of A
- C. Both A and R are not correct
- D. A is correct but R is wrong

Answer: A



View Text Solution

14. Assertion(A): $(CH_3)_3C - O - CH_3$ on reaction with HI gives CH_3OH and $(CH_3)_3C - I$ as the main products and not $(CH_3)_3C - OH$ and CH_3I .
Reason (R): $(CH_3)_3C +$ Tertiary carbo cation) is more stable and reacts with HI to form $(CH_3)_3C - I$ as main product.

- A. Both A and R are correct and R is the correct explanation of A.
- B. Both A and R are wrong
- C. A is correct but R is wrong
- D. A is wrong but R is correct

Answer: A



[View Text Solution](#)

15. Assertion(A): The bond angle (C-O-H) in methanol is reduced to 108.9° from the regular tetrahedral bond angle of 109.5° .

Reason (R): In methanol, two lone pairs of electrons are present in oxygen atom and due to lone pair - lone pair repulsion, the bond angle is reduced.

A. Both A and R are correct and R is the correct explanation of A.

B. Both A and R are correct but R is not the correct explanation of A

C. A is correct but R is wrong

D. A is wrong but R is correct

Answer: A



View Text Solution

16. Assertion(A): $LiAlH_4$ is the best reagent to prepare unsaturated alcohols from carbonyl compounds.

Reason (R): $LiAlH_4$ does not reduce the carbon-carbon double bond present in the carbonyl compound.

A. Both A and R are correct and R is the correct explanation of A.

B. Both A and R are correct but R is not the correct explanation of A

C. A is correct but R is wrong

D. A is wrong but R is correct

Answer: A



[View Text Solution](#)

17. Assertion(A): Primary alcohols are more acidic than tertiary alcohol.

Reason (R): Alkyl groups (electron releasing group) increases the electron density on oxygen and decreases the polar nature of- OH bond. Hence it results in the decrease in acidity.

A. Both A and R are correct and R is the correct explanation of A.

B. Both A and R are not correct

C. A is correct but R is wrong

D. A is wrong but R is correct

Answer: A



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18. Assertion(A): P-cresol is less acidic than phenol.

Reason (R): Alkyl substituted phenols show a decreased acidity due to the electron releasing +I effect of alkyl group.

- A. Both A and R are correct and R is not the correct explanation of A.
- B. Both A and R are correct and R is the correct explanation of A.
- C. Both A and R are wrong
- D. A is correct but R is wrong

Answer: B



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19. Assertion(A): O-nitro phenol is slightly soluble in water whereas P-nitro phenol is more soluble in water.

Reason (R): O-nitro phenol has intra molecular hydrogen bonding whereas P-nitro phenol has inter molecular hydrogen bonding.

- A. Both A and R are correct and R is the correct explanation of A.
- B. Both A and are wrong
- C. A is correct but R is wrong

D. A is wrong but R is correct

Answer: A



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20. Assertion(A): Inter molecular dehydration of alcohol is not a suitable method of prepare mixed ethers.

Reason (R): When a mixture of two different alcohols are used, mixture of different ethers are formed and they are difficult to separate.

A. Both A and R are correct and R is the correct explanation of A.

B. Both A and R are correct but R is not the correct explanation of A

C. A is correct but R is wrong

D. A is wrong but R is correct

Answer: A



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Additional Questions Answer The Following

1. Write the molecular formula and IUPAC name of the following compounds.

(i) Vinyl alcohol (ii) Sorbitol



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2. Write the structural formula of the following compounds.

(i) Prop-2-en-1-ol (ii) Prop-3-en-1-ol



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3. Write the structural formula of the following compound.

(i) Phenyl methanol (ii) 2-methyl-but-3-en-2-ol



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4. Write the possible isomers for the formula (i) C_2H_6O (ii) C_3H_8O



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5. Explain about the structure of methanol.



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6. Convert phenyl magnesium bromide to phenyl methanol (or) How would you prepare phenyl methanol from Grignard reagent?



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7. How will you prepare Butan-2-ol from ethanal? (or)
Convert Ethyl Magnesium bromide into 2-Butanol (or)
Starting from acetaldehyde, how would you obtain butan-2-ol?



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8. Convert propanone into 2-methyl-propan-2-ol.



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9. Starting from butyl magnesium bromide, how would you obtain 2-methyl hexan-2-ol?



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10. What happens when methyl magnesium bromide reacts with ethyl methanoate followed by acid hydrolysis?



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11. $LiAlH_4$ is a best reagent to prepare unsaturated alcohol. Prove it.



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12. Convert acetone into propan-2-ol.



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13. How would you get Benzyl alcohol from Benzoic acid.





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14. Starting from ethyl ethanoate, how would you prepare ethanol?



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15. How will you prepare 4-alkyl-4-hydroxy butanoic acid?



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16. What is saponification? Explain with equation.

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17. What happens when thionyl chloride is treated with methanol?

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18. Explain Swern oxidation.

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19. Explain biological oxidation with an example.

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20. What is esterification? Explain with equation.

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21. How would you convert ethylene glycol into ethene?

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22. Explain the action of conc. HNO_3 and conc. H_2SO_4 with ethan-1,2-diol.





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23. What happens when ethylene glycol is treated with periodic acid?



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24. How is glycerol reacts with fuming nitric acid? (or)
How would you convert glycerol into nitroglycerine?



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25. What happens when conc. H_2SO_4 or $KHSO_4$ is heated with glycerol ?

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26. Mention the uses of methanol.

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27. What are the uses of ethylene glycol?

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28. Write a note about acidity of aliphatic alcohols.



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29. Alcohol can act as Bronsted base. Prove this statement.



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30. What are cresols? Give examples.



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31. How is phenol obtained from benzene sulphonie acid?

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32. How is Aniline converted into Phenol?

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33. How will you convert phenol into benzene?

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34. What happens when Phenol is heated with NH_3 ?



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35. What happens when phenol is heated with acidified $K_2Cr_2O_7$?



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36. How is phenol treated with Nickel?



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37. O-nitro phenol is slightly soluble in water where as P-nitro phenol is more soluble. Give reason.

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38. Explain Reimer Tiemann reaction.

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39. How is phenolphthalein prepared from phenol?

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40. What is Coupling reaction ? Give equation.



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41. Write a note about the structure of ethereal oxygen.



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42. Write the structure and common name of (i) Ethoxy benzene (ii) Phenoxy benzene



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43. What happens when ethanol reacts with cone. Sulphuric acid at 413 K?

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44. Explain the action of diazomethane with ethanol.

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45. Ether are miscible with water. Justify this statement.

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46. Ether bottle should not be kept open. Why?



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47. Explain the action of hydrogen iodide with anisole
(or) methoxy benzene.



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48. What are the uses of anisole?



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49. Alcohols are comparatively more soluble in water than hydrocarbons of comparable molecular masses.

Explain this fact.



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50. Explain why is ortho nitrophenol more acidic than ortho methoxyphenol?



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51. Give reason for the higher boiling point of ethanol in comparison to methoxymethane





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52. What happens when phenol is treated with ice cold bromine dissolved in CS_2 ?



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53. What happens when phenol is treated with excess of nitrating mixture? (Give equation only).



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54. Describe the mechanism by which the hydroxyl group attached to an aromatic ring is more acidic than the hydroxyl group attached to an alkyl group. How does the presence of nitro group in phenol affects its acidic character?

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55. Give two reactions that show the acidic nature of phenol. Compare the acidity of phenol with that of ethanol.

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56. Give one example for each of the following with their structure and IUPAC name.

(i) 1° alcohol (ii) 2° alcohol (iii) 3° alcohol



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57. Write the structure of the following compounds.

(i) Phenyl methanol (ii) 1-Phenyl ethanol (iii) 2-Phenyl propan-2-ol



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58. Write the structures and IUPAC names of the following compounds

(i) Tertiary butyl alcohol (ii) Neopentyl alcohol (iii) Isobutyl alcohol



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59. Draw the structures and write the IUPAC name of the following compounds. (i) Benzyl alcohol (ii) Allyl alcohol (iii) Cyclohexyl alcohol



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60. Describe Lucas test used to distinguish Primary, Secondary and Tertiary alcohols.

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61. Explain the mechanism of the reaction of alkyl halide formation from primary alcohol.

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62. Explain SN^1 mechanism of Tertiary alcohols reaction with HBr.

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63. Explain the mechanism involved in the reaction of phosphorous trichloride with Ethanol.



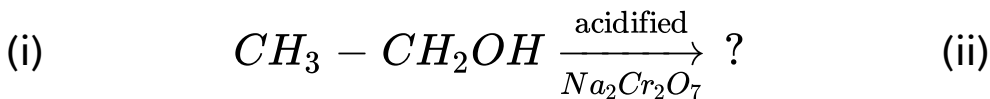
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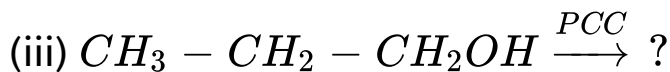
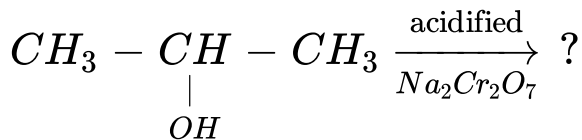
64. Describe Saytzeff's rule with example.



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65. Explain the following reactions.





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66. Explain about catalytic dehydrogenation of 1° , 2° and 3° alcohols.



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67. Describe about the oxidation reaction of ethylene glycol with dilute nitric acid.



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68. Explain about the oxidation reaction of Glycerol with different oxidising reagents.

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69. What are the uses of ethanol.

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70. Mention the uses of Glycerol.

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71. Compare the acidity of 1° , 2° and 3° alcohols.



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72. What are dihydric phenols? Give three examples.



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73. What are Trihydric phenols. Give example.



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74. Write the possible isomers for the formula C_7H_8O with their names.

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75. Explain about the bromination of pheno.

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76. Differentiate phenols from alcohol.

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77. What are the uses of phenol?



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78. Write the structure formula and IUPAC name of the following.

(i) n-heptyl phenyl ether (ii) Isopentyl phenyl ether (iii)

Dimethyl glycolate



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79. Explain about the mechanism of intermolecular dehydration of ethanol with conc. H_2SO_4 at 413 K.





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80. Explain about the mechanism involved in Williamson's synthesis.



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81. Explain the mechanism involved in the reaction between Tertiary alkyl halide and primary alkoxide with example.



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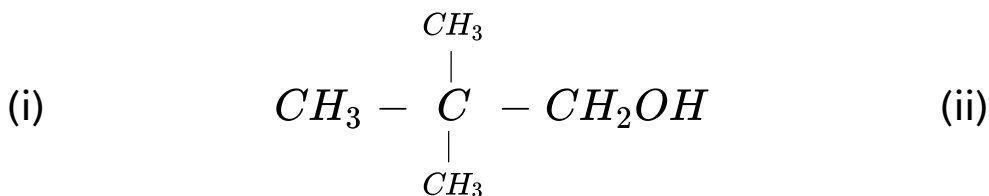
82. Explain about the reaction mechanism of methoxy ethane with HI.

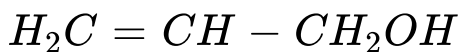
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83. What are the uses of diethyl ether.

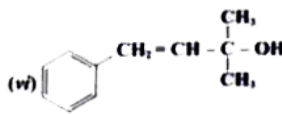
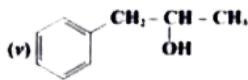
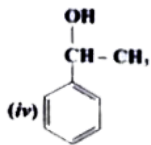
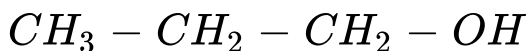
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84. Classify the following as primary, secondary and tertiary alcohols.



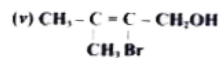
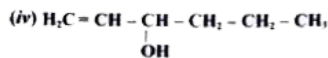
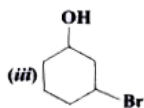
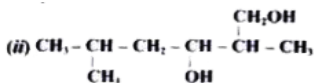
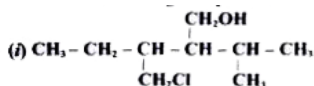


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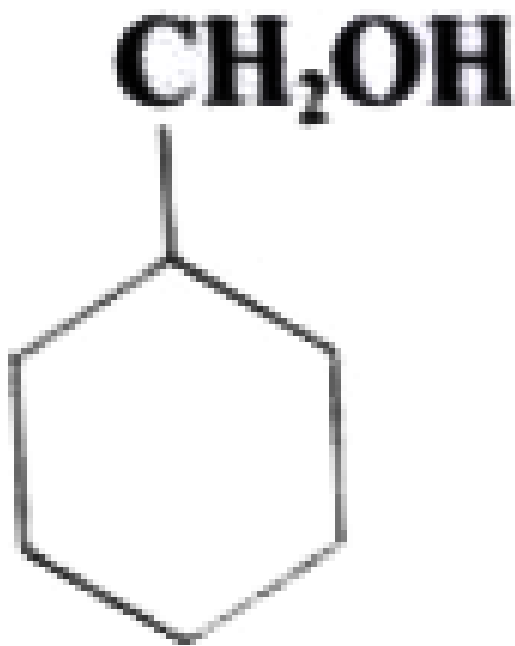
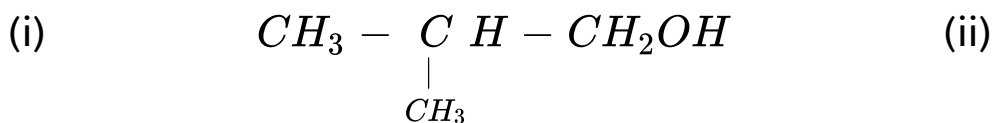
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85. Name the following compounds according to IUPAC system.



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86. Show how are the following alcohols prepared by the reaction of a suitable Grignard reagent on methanal?



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87. You are given benzene, conc. H_2SO_4 and NaOH.

Write the equations for the preparation of phenol using these reagents.

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88. How will you convert ethanol to acetone?

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89. How are the following conversions carried out?

(i) Phenol to Toluene (ii) Ethanol to 1, 1-dichloroethane.



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90. How are the following conversions carried out?

(Write the reactions and conditions in each case):

(i) Ethanol to 2-propanol (ii) Phenol to Acetophenone



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91. Explain Victor Meyer's test used to distinguish 1° , 2° and 3° alcohols.

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92. Write the possible isomers for the formula C_2H_4O , write their IUPAC names and structures.

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93. Explain about mechanism involved in the dehydration of tertiary alcohols.

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94. Explain about the various dehydration reactions of ethylene glycol.



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95. Explain the following reactions.

- (i) Schotten-Baumann reaction
- (ii) Kolbe's reaction
- (iii) Reimer Tiemann reaction



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96. Describe the following electrophilic substitution reaction using phenol.

(i) Nitrosation (ii) Nitration (iii) Sulphonation



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97. What happens when diethyl ether reacts with following reagents.

(i) excess O_2 (ii) Cl_2 /light (iii) PCl_5 (iv)

dil. H_2SO_4 / H_2O

(v) CH_2COCl /Anhydrous $ZnCl_2$.



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98. Explain the aromatic electrophilic substitution reactions of anisole with equations. Aromatic electrophilic substitution reactions:

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99. Starting from phenol, how would you prepare the following compounds.

(i) Benzene (ii) Aniline (iii) Anisole (iv) 1,4, benzoquinone (v) Cyclohexanol

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100. A compound 'A' with molecular formula $C_4H_{10}O$ is unreactive towards sodium metal. It does not add Bromine water and does not react with $NaHSO_3$ solution. On refluxing 'A' with excess of HI, it gives 'B' which reacts with aqueous NaOH to form 'C'. 'C' can be converted into 'B' by reacting with red P and I_3 . 'C' on treating with conc. H_2SO_4 forms 'D'. 'D' decolourises bromine water. Identify A to D and write the reactions involved.



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101. An organic compound (A) of molecular formula C_2H_6O on reaction with conc. H_2SO_4 at 443 K gives an unsaturated hydrocarbon (B). (B) on reaction with Baeyer's reagent produces (C) of molecular formula $C_2H_6O_2$. (C) on reaction with anhydrous $ZnCl_2$ produces (D) of molecular formula C_2H_4O . (D) reduces Tollen's reagent. Identify A,B, C and D, and explain the reactions involved.



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102. An organic compound (A) of molecular formula C_2H_6O liberates H_2 gas with metallic sodium and

gives (B). (B) on reaction with methyl bromide produces (C) of molecular formula C_3H_8O . (C) on reaction with excess HI produces (D) and (E). Identify A, B, C, D and E and explain the reactions involved.



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103. An organic compound (A) of molecular formula CH_4O on mild oxidation gives (B) of formula CH_2O that reduces Tollen's reagent. (B) on reaction with methyl magnesium bromide followed by acid hydrolysis will give (C) of molecular formula C_2H_6O

which liberates H_2 gas with metallic sodium. Identify A, B, C and explain the reactions involved.



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104. An organic compound (A) of molecular formula C_2H_6O reacts with metallic Na and liberates H_2 gas. (A) on mild oxidation with Cu at 573 K gives (B) of molecular formula C_2H_4O . (B) on reaction with methyl magnesium bromide followed by acid hydrolysis gives (C) of molecular formula C_3H_8O , (C) gives Blue colour in Victor Meyer's test. (C) on mild oxidation with Cu at 573 K gives (D) of formula C_3H_6O . Identify A, B, C, D and explain the reactions.



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105. An organic compound (A) of molecular formula C_3H_8O gives blue colour in Victor Meyer's test. (A) on reaction with Cu at 573 K gives (B) which further reacts with Methyl magnesium bromide followed by acid hydrolysis yields (C) of molecular formula $C_4H_{10}O$. (C) on reaction with Cu at 573 K gives (D) of formula C_4H_8 . Identify A, B, C, D and explain the reactions involved.



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106. An organic compound (A) of molecular formula C_3H_6 on reaction with Conc. H_2SO_4 and H_2O gives C_3H_8O as (B) as a Markownikoff's product. (B) on oxidation with Cu at 573 K gives (C) of formula C_3H_6O . (C) on reaction with CH_3MgBr followed by acid hydrolysis yields (D) as $C_4H_{10}O$ which will not give any colour in Victor Meyer's test. Identify A, B, C, D and explain the reactions involved.



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107. An aromatic compound (A) of molecular formula C_6H_5Cl on reaction with aqueous NaOH gives (B) of

formula C_6H_6O that give violet colouration with neutral $FeCl_3$. (B) on reaction with ammonia in presence of anhydrous $ZnCl_2$ gives (C) of formula C_6H_7N . Identify A, B, C and explain the reactions.



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108. An organic compound (A) of molecular formula C_6H_6O gives white precipitate with bromine water. (A) on reaction with NaOH gives (B). (B) reacts with methyl iodide in presence of dry ether gives (C) of molecular formula C_7H_8O which will not liberate H_2 gas with metallic Na. (C) on reaction with acetyl chloride gives (D) and (E) of formula which are

position isomers. Identify A, B, C, D & E and explain the reaction.



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109. An organic compound (A) of molecular formula C_6H_5Cl on reaction with aqueous NaOH gives (B) of formula C_6H_6O . (B) on reaction with NaOH gives (C) of formula C_6H_5ONa . (C) on treatment with CO, followed by acid hydrolysis yield (D) of formula $C_7H_6O_3$ an aromatic hydroxy acid. Identify A, B, C, D and explain the reactions involved. s



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110. An organic compound (A) of molecular formula C_6H_5Cl on boiling with hot water gives (B) of molecular formula C_6H_6O . (B) on reaction with Zinc dust gives (C) a simplest aromatic hydrocarbon. (C) on reaction with methyl chloride in the presence of anhydrous $AlCl_3$ gives (D) of molecular formula C_7H_8 . Identify A, B, C, D and explain the reaction.



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111. An organic compound (A) of molecular formula C_6H_6O gives violet colour with neutral $FeCl_3$. (A) reacts benzene diazonium chloride in basic medium

to give (B) as an azo dye. (A) reacts with acidified $K_2Cr_2O_7$ gives (C) of formula $C_6H_4O_2$. (A) on reaction with H, in the presence of nickel gives (D) of formula $C_6H_{12}O$. Identify A, B, C, D and explain the reaction involved.



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112. An organic compound (A) of molecular formula C_6H_6 reacts with propylene in the presence of H_3PO_4 at 532 K gives (B) formula C_9H_{12} . (B) on air oxidation gives $C_9H_{12}O_2$ as (C). (C) on acidification with H_2SO_4 gives (D) of formula C_6H_6O and (E) of

formula C_3H_6O . Identify A,B,C,D and E and explain the reaction.



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113. An organic compound (A) of molecular formula C_2H_6O reacts P/I_2 gives (B) which on further reaction with silver nitrite gives (C) of formula $C_2H_5NO_2$. (C) on treatment with nitrous acid yield (D) of formula $C_2H_4N_2O_3$. (D) on reaction with KOH give red color product (E). Identify A, B, C, D and E.



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114. An organic compound (A) of molecular formula C_3H_8O on reaction P / I_2 gives C_3H_7I as (B). (B) on reaction with $AgNO_2$ produces (C) with formula $C_3H_7NO_2$. (C) on reaction with nitrous acid gives (D) of molecular formula $C_3H_6N_2O_3$. (D) on reaction with KOH produces blue colour. Identify A, B, C, D and explain the reaction.



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115. An organic compound (A) of molecular formula $C_4H_{10}O$ gives no colouration in Victor Meyer's test. (A) on reaction with P / I_2 gives (B) of formula C_4H_9I

. (B) on treatment with nitrous acid gives (C) of formula $C_3H_9NO_2$. (C) does not react with KOH.

Identify A, B, C and explain.



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