NEET : CHAPTER WISE TEST-8

SUBJECT :- CHEMISTRY **DATE.....**

CLASS :- 12th **NAME.....**

CHAPTER :- ALCOHOL, PHENOL & ETHER **SECTION.....**

(SECTION-A)

1. The hydroboration of 2-Methyl propene yields-
(A) 1º alcohol (B) 2º alcohol
(C) 3º alcohol (D) None

2. $LiAlH_4$ converts acetic acid into-
(A) Acetaldehyde (B) Methane
(C) Ethyl alcohol (D) Methyl alcohol

3. To prepare 3-ethylpentan-3-ol, the reactants needed are-
(A) $CH_3CH_2MgBr + CH_3COCH_2CH_3$
(B) $CH_3MgBr + CH_3CH_2CH_2COCH_2CH_3$
(C) $CH_3CH_2MgBr + CH_3CH_2COCH_2CH_3$
(D) $CH_3CH_2CH_2MgBr + CH_3COCH_2CH_3$

4. Identify Z in the series, $CH_2 = CH_2 \xrightarrow{HBr} X \xrightarrow{aqKOH} Y \xrightarrow[I_2 \text{ excess}]{Na_2CO_3} Z$ -
(A) C_2H_5I (B) C_2H_5OH
(C) CHI_3 (D) CH_3CHO

5. Action of nitrous acid on ethyl amine gives -
(A) C_2H_6 (B) C_2H_5OH
(C) NH_3 (D) Nitromethane

6. Lederer Manasse reaction does not give the following product –
(A) *o*-Hydroxy benzyl alcohol
(B) *p*-Hydroxy benzyl alcohol
(C) *m*-Hydroxy benzyl alcohol
(D) (A) and (B) are correct

7. The oxidation of a secondary alkanol with Cr (VI) leads to the formation of :
(A) An alkanone and Cr (II)
(B) An aldehyde and Cr (III)
(C) An alkanone and Cr (III)
(D) An aldehyde and Cr (II)

8. A compound with the formula $C_4H_{10}O$ yields another compound, C_4H_8O, on heating with $K_2Cr_2O_7$ and H_2SO_4.
The compound $C_4H_{10}O$ is expected to be -
(A) $CH_3CH_2CH_2CH_2OH$
(B) $CH_3CH_2CHOHCH_3$
(C) $(CH_3)_2CHCH_2OH$
(D) $(CH_3)_3COH$

9. An unknown organic compound [X] on treatment with $K_2Cr_2O_7/H^{\oplus}$ gives another unknown compound Y which has only C's, H's and oxygen. Compound Y reacts with I_2/Na_2CO_3 to form CHI_3.
The compound [X] is
(A) CH_3OH
(B) CH_3COCH_3
(C) $CH_3 - CHO$
(D) $CH_3 - CHOH - CH_3$

10. Reactivity of alcohols with HCl is in the order of :
(A) tert. butyl alcohol > sec. butyl alcohol > primary butyl alcohol
(B) Primary butyl alcohol > sec. butyl alcohol > tert. butyl alcohol
(C) sec. butyl alcohol > tert. butyl alcohol > primary butyl alcohol
(D) sec. butyl alcohol > primary butyl alcohol > tert. butyl alcohol

11. Isopropylamine is allowed to react with $NaNO_2$ and dilute H_2SO_4 at a temperature ranging from 0ºC to 5ºC. The expected product is -
(A) 2-Propanol
(B) 2-Propanone
(C) 1-Propanol
(D) 2-Nitropropane

12. Which of the following compounds can change the colour of chromic acid from orange to green?
(A) CH_3COCH_3
(B) $CH_3CH_2CH_2OH$
(C) $(CH_3)_3COH$
(D) $C_2H_5OC_2H_5$

13. The increasing order of boiling points of 1º, 2º, 3º alcohol is -
(A) 1º > 2º > 3º (B) 3º > 2º > 1º
(C) 2º > 1º > 3º (D) None

14. Match List-I with List-II and then select the correct answer from the codes given below the lists-
List-I
(A) $CH_3MgI + CH_3CHO \rightarrow$ Product $\xrightarrow{H_3O^+}$
(B) $(CH_3)_2C = CH_2 \xrightarrow{Dil.\ H_2SO_4}$
(C) $CH_3COOC_2H_5 \xrightarrow[alcohol]{Na^+}$
(D) $CH_3CHOHC_2H_5$

List-II

(a) Shows optical isomerism

(b) A secondary alcohol giving iodoform test

(c) Product is a tertiary alcohol

(d) Product is a primary alcohol

(A) Ab, Bd, Cc, Da

(B) Ab, Bc, Cd, Da

(C) Ab, Bc, Ca, Dd

(D) Ab, Ba, Cd, Dc

15. When ethyl alcohol reacts with acetic acid, the products formed are-

(A) Sodium ethoxide + hydrogen

(B) Ethyl acetate + water

(C) Ethyl acetate + soap

(D) Ethyl alcohol + water

16. $R\text{-}OH + SOCl_2 \xrightarrow{\text{Pyridine}} R\text{-}Cl + SO_2 +$ HCl Pyridine in the above reaction -

(A) Catalysis the reaction

(B) Used to dissolve alkyl chloride

(C) To remove excess of $SOCl_2$

(D) None of the above

17. Which of the following reactions does not involve reduction ?

(A) $R\text{–}COOH \longrightarrow RCH_2OH$

(B) $RCHO \longrightarrow RCH_2OH$

(C) $R\text{–}CO\text{–}R' \longrightarrow R\text{–}CH_2\text{–}R'$

(D) $\underset{\underset{OH}{|}}{R-CH-R'} \longrightarrow \underset{\underset{O}{||}}{R-C-R'}$

18. Tertiary alcohols are resistant to oxidation because :

(A) They do not have α hydrogen atom

(B) Of large +I effect of alkyl groups

(C) Of greater steric hindrance

(D) All the above

19. Which of the following alcohols does not give a red colour in Victor Meyer test?

(A) Isobutyl alcohol

(B) Isoamyl alcohol

(C) Diethyl carbinol

(D) Phenylcarbinol

20. Methanol and ethanol are distinguished by-

(A) Treating with Schiff's reagent

(B) Treating with Lucas reagent

(C) Heating with iodine and alkali

(D) Treating with CrO_3 in dil. H_2SO_4

21. In the following hydration

$$\underset{\underset{CH_3}{|}}{CH_3-CH-CH-CH_2} \xrightarrow{H_3O^+}$$

the major alcohol product formed is -

(A) $(CH_3)_2CHCH_2CH_2OH$

(B) $(CH_3)_2CHCHOHCH_3$

(C) $\underset{\underset{OH}{|}}{(CH_3)_2CCH_2CH_3}$

(D) $\underset{\underset{CH_3}{|}}{HOCH_2CHCH_2CH_3}$

22. The order of reactivity of methyl alcohol (I), isopropyl alcohol (II) tertiary butyl alcohol (III) and ethyl alcohol (IV) for esterification in decreasing order will be -

(A) I > II > III > IV (B) IV > III > II > I

(C) I > IV > II > III (D) I > IV > III > II

23. $C_6H_5OH \xrightarrow[300°]{NH_3/ZnCl_2} A \xrightarrow{B}$ Benzanilide

Compound (B) in the above reaction is –

(A) Acetyl chloride

(B) Benzoyl chloride

(C) Benzamide

(D) Acetanilide

24. What is the end product 'B' of following sequence of reaction ?

$C_6H_5NH_2 \xrightarrow[H_2SO_4/0°C]{HNO_2}$ 'A' $\xrightarrow[\Delta]{H_2O}$ 'B'

(A) $C_6H_5N_2Cl$ (B) C_6H_6

(C) $C_6H_5NH_2.H_2SO_4$ (D) C_6H_5OH

25. The product of the reaction of benzene with oxygen in the presence of V_2O_5 as catalyst at 450°C is -

(A) Maleic anhydride (B) Benzoic acid

(C) Phenol (D) None of these

26. Match list I with II and then select the correct answer from the codes given below the lists–

List I

(A) Phenol + NaOH + $C_2H_5I \xrightarrow{\Delta}$

(B) Phenol + NaOH +$CHCl_3 \xrightarrow{\Delta}$

(C) Phenol + Phthalic anhydride + conc. $H_2SO_4 \xrightarrow{\text{Heat}}$

(D) Phenol + conc. HNO_3

List II

(a) Phenolphthalein

(b) Picric acid

(c) Phenetole

(d) Salicylaldehyde

Codes :–

(A) Ac, Bd, Ca, Db

(B) Ab, Bc, Ca, Dd

(C) Ac, Bd, Cb, Da

(D) Ac, Ba, Cd, Db

27. Which of the following reaction is called 'Schotten-Baumann' reaction ?

(A) $C_6H_6 \xrightarrow{AlCl_3/CH_3COCl} C_6H_5COCH_3$

(B) $C_6H_5NH_2 \xrightarrow{CH_3COCl} C_6H_5NHCOCH_3$

(C) $C_6H_5OH \xrightarrow{C_6H_5COCl} C_6H_5OCOC_6H_5$

(D) $C_6H_6 \xrightarrow[C_6H_5COCl]{AlCl_3} C_6H_5COC_6H_5$

28. Phenol reacts with bromine in CS_2 at a low temperature, the product is -

(A) m-Bromophenol

(B) p-Bromophenol

(C) o-and p-Bromophenol

(D) 2, 4, 6-Tribromophenol

29. Phenol reacts with conc. HNO_3 in the presence of conc. H_2SO_4 to give –

(A) Meta nitrophenol

(B) Ortho nitrophenol

(C) Ortho and para nitrophenol

(D) Picric acid

30. Ortho and para hydroxy acetophenone and anhydrous $AlCl_3$ are related with the following reaction –

(A) Phthalein reaction

(B) Fries rearrangement

(C) Schmidt reaction

(D) Wurtz-Fittig reaction

31. Reimer Tiemann reaction involves -

(A) Carbanion intermediate

(B) A carbene intermediate

(C) Carbonium ion intermediate

(D) Free redical intermediate

32. **Reaction -I :**

Phenol $\xrightarrow{NaOH}$ X $\xrightarrow[140°C]{CO_2}$ Y $\xrightarrow{HCl}$ P

Reaction - II :

Phenol $\xrightarrow[NaOH]{CCl_4}$ X $\xrightarrow{HCl}$ Y $\xrightarrow[\Delta]{\text{soda lime}}$ Q

Wrong statement about P and Q is –

(A) Both the compounds give violet colour with $FeCl_3$

(B) Both the compounds on deoxygenation give benzene

(C) Both the compounds contain phenolic -OH group

(D) Compound P is phenol and Q is cresol

33. Kolbe's reaction involves in obtaining –

(A) Anisol from phenol

(B) Salicylaldehyde from phenol and CHI_3

(C) Salicylic acid from sodium phenate and CO_2

(D) Salicylic acid from phenol and CO_2

34. When phenol is treated with PCl_5, the yield of chlorobenzene is generally poor because of the formation of -

(A) Benzoyl chloride

(B) p- Chlorophenol

(C) o-Chlorophenol

(D) Triphenyl phosphate

35. Consider the following reaction :

$$\underset{(X)}{CH_3-CH_2-O-H} + \underset{(Y)}{CH_3-\overset{\overset{O}{\|}}{C}-OH} \rightarrow CH_3-CH_2-O-\overset{\overset{O}{\|}}{C}-CH_2-CH_3 + HOH$$

In the above reaction ester formation takes place by -

(A) Breaking of O–H bond of (X) and O–H bond of (Y)

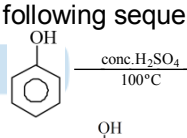
(B) Breaking of C–O bond of (X) and C–O bond of (Y)

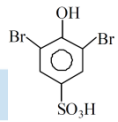
(C) Breaking of O–H bond of (X) and C–O bond of (Y)

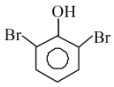
(D) Breaking of C–O bond of (X) and O–H bond of (Y)

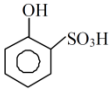
(SECTION-B)

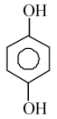
36. Idenfity the end product (B) of the following sequence of reaction.



(A) 

(B) 

(C) 

(D) 

37. For making $(CH_3)_3C-O-C_2H_5$ the ideal combination is -

(A) $(CH_3)_3CONa$ and C_2H_5Br

(B) $(CH_3)_3CBr$ and C_2H_5ONa

(C) Both the above

(D) None

38. Mixed ether will not be formed in the reaction-

(A) $CH_3OCH_2Cl + C_2H_5MgBr$

(B) $CH_2N_2 + C_2H_5OH$

(C) $C_2H_5ONa + CH_3I$

(D) $C_2H_5OH + H_2SO_4$ (140°C)

39. Diethyl ether and air gives ether-hydroperoxide.

The mechanism of the reaction is -

(A) Nucleophilic substitution

(B) Free radical addition

(C) Free radical substitution

(D) None of the above

40. Ether in contact with air for a long time form peroxides. The presence of peroxide in ether can be tested by adding Fe^{2+} ion in it and then adding -
(A) KCNS (B) $SnCl_2$ (C) $HgCl_2$ (D) KI

41. Ether is not formed in this reaction -
(A) $2C_2H_5OH \xrightarrow[140^\circ]{Conc.H_2SO_4}$
(B) $(CH_3)_3\ C–Cl + C_2H_5ONa \longrightarrow$
(C) $C_2H_5Cl + (CH_3)_3\ C–ONa \longrightarrow$
(D) $C_2H_5Cl + C_2H_5ONa \longrightarrow$

42. In the Williamson's synthesis for diethyl ether, which species works as a nucleophile ?
(A) Halide ion (B) Ethoxide ion
(C) Ethyde ion (D) Hydride ion

43. Consider the following transformation.
$CH_3CH = CH – O – CH_2CH_3 \xrightarrow[heat]{conc.HI}$
The major product(s) formed is (are) -
(A) CH_3CH = CHI and CH_3CH_2I
(B) CH_3CH = CHI and CH_3CH_2OH
(C) CH_3CH_2CHO and CH_3CH_2I
(D) $CH_3CH_2\underset{\underset{I}{|}}{CH} – O – CH_2CH_3$

44. The compound obtained by the acidolysis of diethyl ether [dil. H_2SO_4] gives the following test
(A) Yellow precipitate with NaOH and I_2
(B) Smell of formaline with hot copper wire
(C) Smell of oil of winter-green with salicylic acid and H_2SO_4
(D) Acid obtained by oxidation decolourises $KMnO_4$

45. In the given reaction
(X) + (Y)
[X] and [Y] respectively will be -
(A) $CH_3–CH_2–OH$ and $CH_3-\underset{\underset{CH_3}{|}}{\overset{\overset{CH_3}{|}}{C}}-OH$
(B) $CH_3–CH_2OH$ and $CH_3-C=CH_2$ (CH_3 on C)
(C) $CH_2 = CH_2$ and $CH_3-\underset{\underset{CH_3}{|}}{\overset{\overset{CH_3}{|}}{C}}-OH$
(D) $CH_3 – CH_2 – O – \underset{\underset{CH_3}{|}}{\overset{\overset{CH_3}{|}}{C}}-OH$

46. In the reaction
$CH_3CH = CH_2 \xrightarrow[CCl_4]{NBS} A \xrightarrow{C_2H_5ONa} B$
the product (B) is -
(A) $CH_3-\underset{\underset{CH_3}{|}}{CH}-OC_2H_5$
(B) CH_2=$CHCH_2OC_2H_5$
(C) $CH_3CH_2CH_2OC_2H_5$
(D) $C_2H_5CH_2OCH$=CH_2

47. **Assertion :** Phenol undergo Kolbe reaction, ethanol does not.
Reason : Phenoxide ion is more basic than ethoxide ion.
(A) If both assertion and reason are true and the reason is the correct explanation of the assertion.
(B) If both assertion and reason are true but reason is not the correct explanation of the assertion.
(C) If assertion is true but reason is false.
(D) If assertion is false but reason is true.

48. **Assertion :** Alcohols are dehydrated to hydrocarbons in the presence of acidic zeolites.
Reason : Zeolites are porous catalysts.
(A) If both assertion and reason are true and the reason is the correct explanation of the assertion.
(B) If both assertion and reason are true but reason is not the correct explanation of the assertion.
(C) If assertion is true but reason is false.
(D) If assertion is false but reason is true.

49. **Assertion :** Etherates are coordination complexes of ethers with Lewis acids.
Reason : Ethers are easily cleaved by mineral acids such as *HCl* and H_2SO_4 at 373 *K*.
(A) If both assertion and reason are true and the reason is the correct explanation of the assertion.
(B) If both assertion and reason are true but reason is not the correct explanation of the assertion.
(C) If assertion is true but reason is false.
(D) If assertion is false but reason is true.

50. **Assertion :** Tertiary alcohols give turbidity immediately with Lucas reagent.
Reason : A mixture of conc.*HI* + anhydrous $ZnCl_2$ is called Lucas reagent.
(A) If both assertion and reason are true and the reason is the correct explanation of the assertion.
(B) If both assertion and reason are true but reason is not the correct explanation of the assertion.
(C) If assertion is true but reason is false.
(D) If assertion is false but reason is true.