JEE CHEMISTRY

Topic: Alcohol & ether

1. **Which one of the following has the maximum acidic strength?**

   (A) Phenol **(B) o-nitro phenol**

   (C) p-methyl phenol **(D) o, p-dinitro phenol**

2. **The boiling point to isomeric alcohols follows the order**

   (A) primary > secondary > tertiary **(B) tertiary > secondary > primary**

   (C) secondary > tertiary > primary **(D) all have same boiling point**

3. **A mixture of benzoic acid and phenol may be separate by treatment with**

   (A) $NaHCO_3$ **(B) NaOH**

   (C) NH_3 solution **(D) KOH**

4. **In the lucas test of alcohols, appearance of cloudiness is due to the formation of**

   (A) aldehyde **(B) ketone**

   (C) acid chloride **(D) alkyl chloride**

5. **The dehydration of 1 – butanol gives**

   (A) 1 – butene as the main product **(B) 2 – butene as the main product**

   (C) equal amounts of 1 – butene and 2 – butene **(D) 2 – methyl propane**

6. **Ethyl alcohol is obtained when ethyl chloride is boiled with**

   (A) alc. KOH **(B) aq. KOH**

   (C) $AlCl_3$ **(D) H_2O_2**

7. **The number of methoxy groups in a compound can be determined by treating with**

   (A) Na_2CO_3 **(B) NaOH**

   (C) HI and $AgNO_3$ **(D) CH_3COOH**

8. Diethyl ether absorbs oxygen to form

(A) red coloured sweet smelling compound (B) CH_3COOH

(C) ether peroxide (D) ether suboxide

9. Which of the following compounds is oxidised to prepare methyl – ethyl ketone?

(A) 2 – propanol (B) 1 – butanol

(C) 2 – butanol (D) 2 methyl 2 propanol

10. Order of reactivity of HX towards ROH is

(A) HI > HBr > HCl (B) HBr > HI > HCl

(C) HCl > HI > HBr (D) HI > HCl > HBr

11. Glycerol has

(A) one 1° and one 2° alcoholic groups (B) one 1° and two 2° alcoholic groups

(C) two 1° and one 2° alcoholic groups (D) two 2° alcoholic group

12. Ethyl iodide reacts with moist silver oxide to produce

(A) ethane (B) propane

(C) ethyl alcohol (D) diethyl ether

13. Reaction of tertiary butyl alcohol with hot Cu at 350° C produces

(A) butanol (B) butanal

(C) 2 – butene (D) 2 methyl propene

14. 1° alcohol can be converted to aldehyde by using the reagent

(A) pyridinium chloro chromate (B) potassium di chromate

(C) potassium permanganate (D) all of above

15. Reaction of ethanol with H_2SO_4 and suitable conditions can lead to the formation of

(A) $C_2H_5HSO_4$ (B) ethene

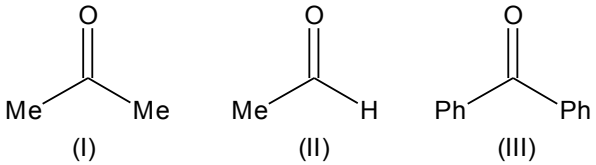
(C) ethoxy ethane (D) all of them

16. 2 – phenyl propene on acidic hydration gives

(A) 2 – phenyl – 2 propanol **(B) 2 phenyl – 1 – propanol**

(C) 3 – phenyl – 1 – propanol **(D) 1 – phenyl – 2 – propanol**

17. The order of reactivity of phenyl magnesium bromide with the following compound is



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

(C) II > I > III **(D) all react with the same rate**

18. Which one is the stronger base?

(A) $CH_3CH_2O^-$ **(B) $CF_3CH_2O^-$**

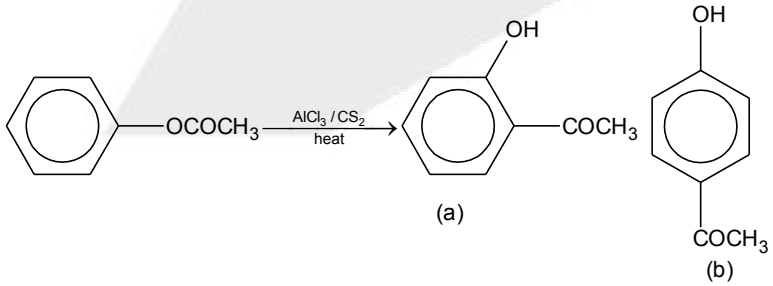
(C) both of equal strength **(D) can not say**

19. The acidic character of 1°, 2°, 3° alcohols H_2O and RC ≡ CH is in the order

(A) H_2O > 1° > 2° > 3° > RC ≡ CH **(B) RC ≡ CH > 3° > 2° > 1° > H_2O**

(C) 1° > 2° > 3° > H_2O > RC ≡ CH **(D) 3° > 2° > 1° > H_2O > RC ≡ CH**

20. Choose the correct statement (s) for the reaction



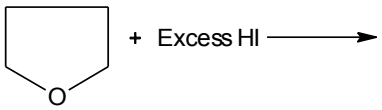
(A) (b) is formed more rapidly at higher temperature

(B) (b) is more volatile than (a)

(C) (a) is more volatile than (b)

(D) (a) is formed higher yields at lower temperature

21. Predict the major product



(A) $HO-CH_2-CH_2-CH_2-CH_2-I$

(B) $HO-CH_2-CH_2-CH_2-CH_2-OH$

(C) $I-CH_2-CH_2-CH_2-CH_2-I$

(D) no reaction

22. Dipole moment of $CH_3CH_2CH_3$, CH_3CH_2OH and CH_3CH_2F is in order

(I) (II) (III)

(A) I < II < III **(B) I > II > III**

(C) I < III < II **(D) III < I < II**

23. 3 – methyl – 3- hexanol can be prepared by

(A) CH_3MgI and 3 – hexanone, followed by hydrolysis

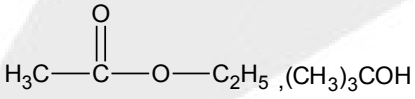
(B) C_2H_5MgI and 2 – pentanone, followed by hydrolysis

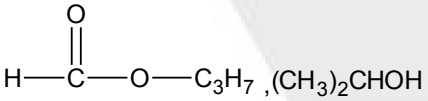
(C) C_3H_7MgI and 2 – butanone, followed by hydrolysis

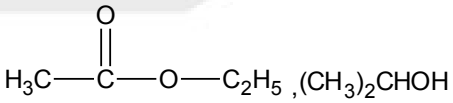
(D) any of the method above

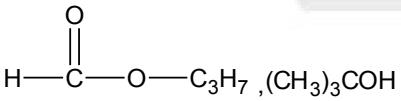
24. $\text{Ester } (A)C_4H_8O_2 + \underset{(2\text{ parts})}{CH_3MgBr} \xrightarrow{H_3O^+} (B)C_4H_{10}O$

Alcohol B reacts fastest with Lucas reagent. Hence A and B are

(A) 

(B) 

(C) 

(D) 

25. Vinyl carbinol is

(A) $HO-CH_2-CH=CH_2$ **(B) $CH_3C(OH)=CH_2$**

(C) $CH_3-CH=CHOH$ **(D)** $CH_3=CH-CH_2OH$

26. The reaction of elemental sulphur with Grignard reagent followed by acidification leads to the formation of

(A) mercaptan **(B) sulphoxide**

(C) thio ether **(D) sulphonic acid**

27. Conversion of chloro benzene into phenol by Dow's process is an example of

(A) free radical substation **(B) nucleophilic substitution**

(C) electrophilic substitution **(D) rearrangement**

28. For the preparation of tert-butyl methyl ether by Williamson's method the correct choice of reagents is

(A) methoxide and tert – butyl bromide **(B) methanol and 2 – bromobutane**

(C) 2 – butanol and methyl bromide **(D) tert-butoxide and methyl bromide**

29. Allyl alcohol is obtained when glycerol reacts with the following at 260°C

(A) formic acid **(B) oxalic acid**

(C) both **(D) none**

30. The correct decreasing order of acidic strength is

(A) $C_6H_5OH > C_6H_5CH_2OH > C_6H_5COOH > C_6H_5SO_3H$

(B) $C_6H_5CH_2OH > C_6H_5OH > C_6H_5SO_3H > C_6H_5OH$

(C) $C_6H_5COOH > C_6H_5CH_2OH > C_6H_5OH > C_6H_5SO_3H$

(D) $C_6H_5SO_3H > C_6H_5COOH > C_6H_5OH > C_6H_5CH_2OH$

ANSWER KEY

Que.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Ans.	D	A	A	D	B	B	C	C	C	a
Que.	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
Ans.	C	C	D	A	D	A	C	C	A	A
Que.	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
Ans.	C	A	D	A	A	A	B	D	B	D