

CH#11

Alcohols, phenols And Ethers



These Notes Have been Prepared
and Developed By

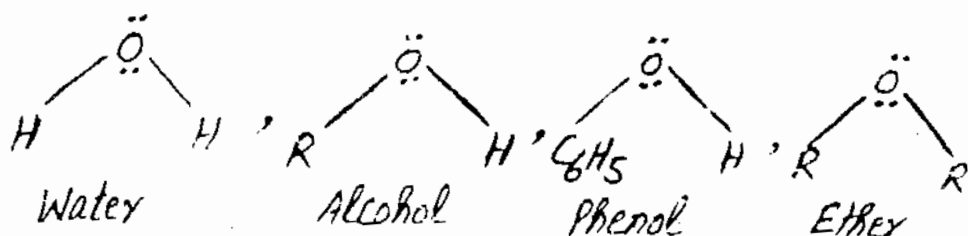
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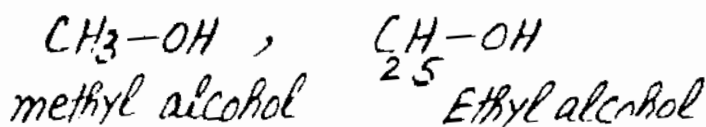
CHAPTER 11

ALCOHOLS, PHENOLS AND ETHERS

Introduction:- The alcohols, Phenols and ethers are considered as derivative of Water. It is due to their closeness with water in structure.



Alcohols:- The organic compounds in which functional group is $-OH$ and general formula is $R-OH$ are called alcohols. For example

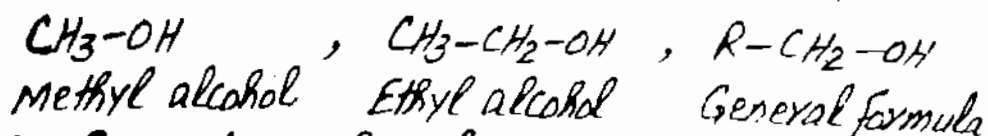


Classification:- The alcohols which contain one $-OH$ group are called **Monohydric alcohols**. The alcohols which contain more than one $-OH$ groups are called **Polyhydric alcohols**.

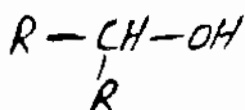
Types of monohydric alcohols:-

There are three types of monohydric alcohols
(i) **Primary alcohols:-** The alcohols in which $-OH$ group is attached to Primary Carbon

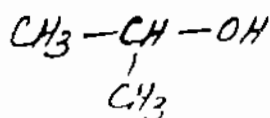
are called Primary alcohols. For example



(ii) Secondary alcohols:- The alcohols in which -OH group is attached to secondary carbon. are called secondary alcohols. For example

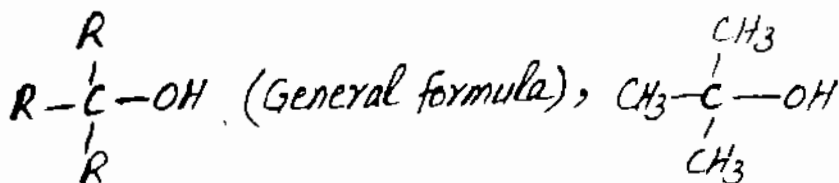


General formula



iso-propyl alcohol

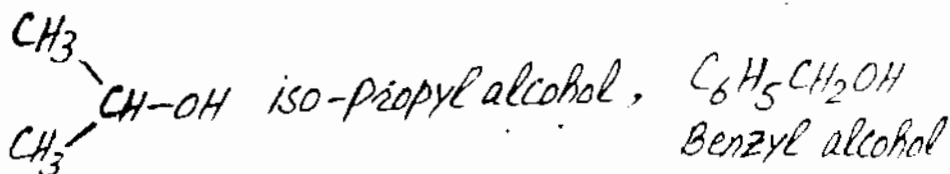
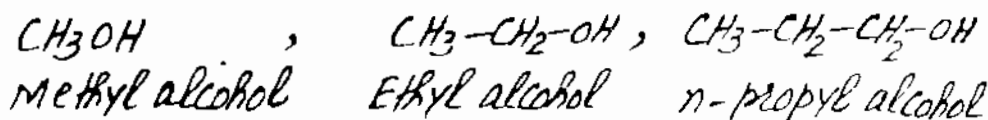
(iii) Tertiary alcohols:- The alcohols in which -OH group is attached with tertiary carbon are called tertiary alcohols. For example

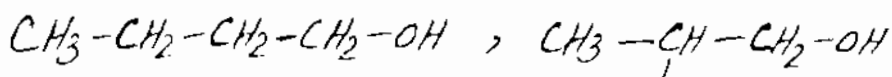


ter-butyl alcohol

Nomenclature

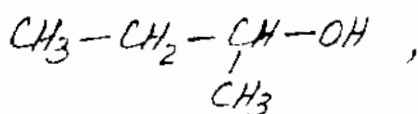
Common or Trivial names:- In this system the name of alkyl group is written first and then word alcohol is added to it. For example



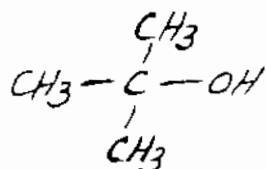


n-butyl alcohol

iso-butyl alcohol



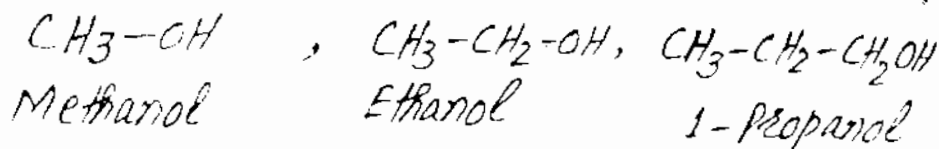
sec-butyl alcohol

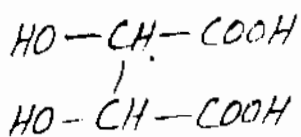
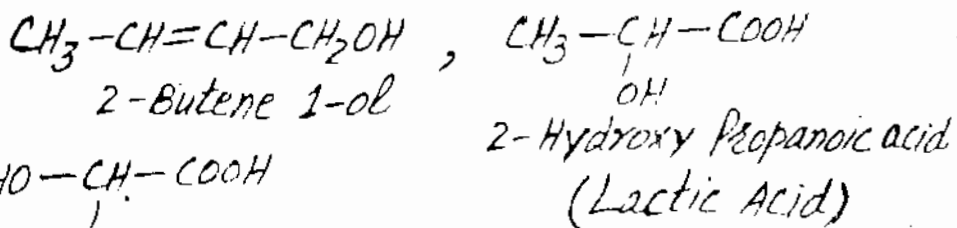
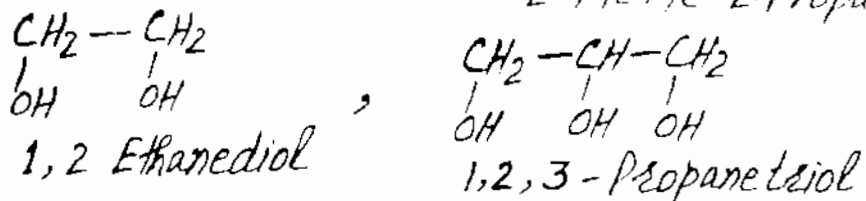
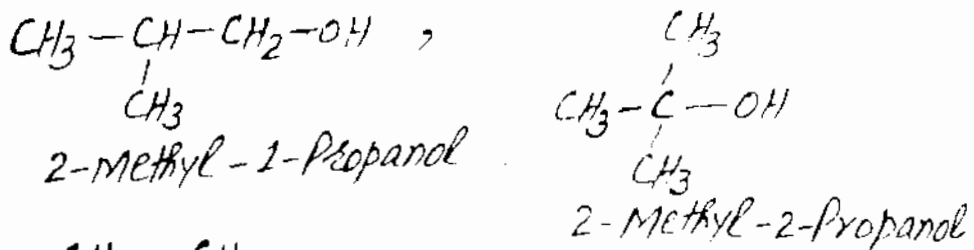
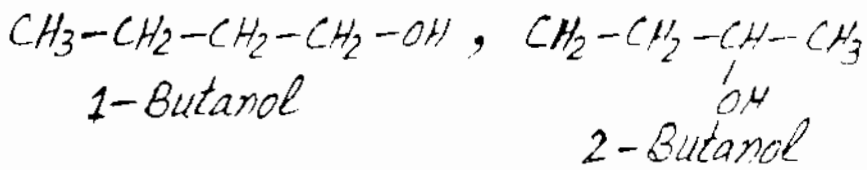


Ter-butyl alcohol

IUPAC System:-

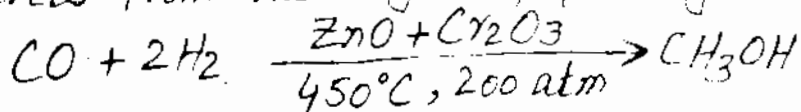
- (i) The longest chain of Carbon atoms containing $-\text{OH}$ group is chosen.
- (ii) The ending "e" of alkane is replaced by "ol".
- (iii) The numbering is done from that end which is nearer to $-\text{OH}$ group.
- (iv) If more than one $-\text{OH}$ groups are present, they are named as diol, triol etc.
- (v) The number and names of side groups are indicated.
- (vi) In naming an unsaturated alcohol, the $-\text{OH}$ group gets the lower number.
- (vii) In naming hydroxy acids, aldehydes and ketones, the $-\text{OH}$ group is indicated as hydroxy group. Some examples are given below.





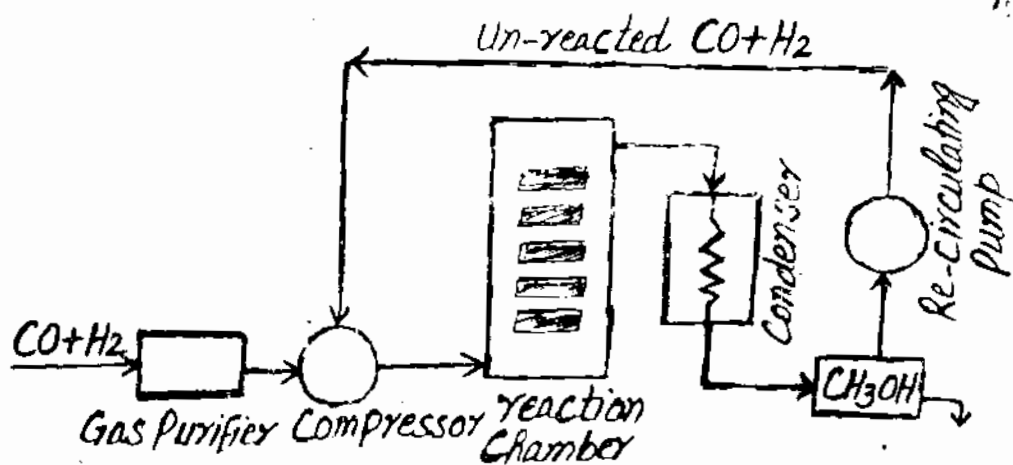
Industrial Preparation of Methanol

Now a days methanol (methyl alcohol) is prepared from water gas by following reaction



First of all mixture of water gas and hydrogen is purified. It is compressed under a pressure of 200 atmospheres. Then it is taken to the reaction chamber. Here catalyst

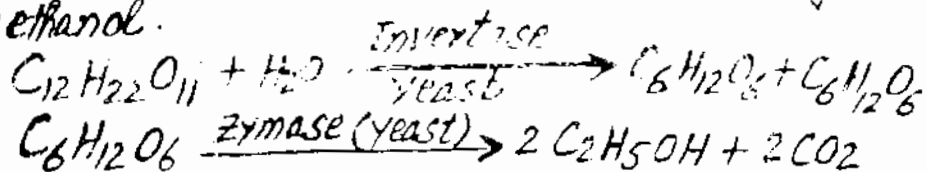
is heated at 450°C . The reactants pass over catalyst and form methanol vapours. These vapours pass through condenser to get liquid methanol. The unreacted gases are re-cycled. The flow sheet diagram is shown below.



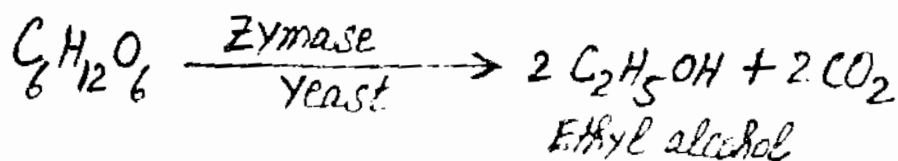
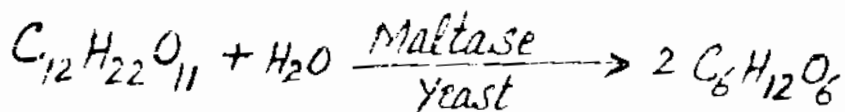
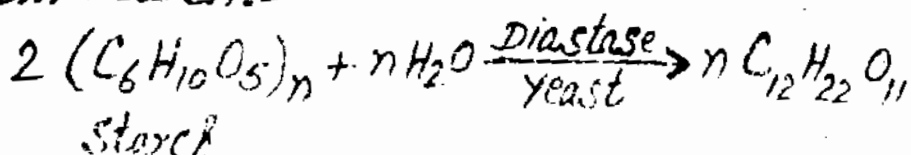
Industrial Preparation of Ethanol

On industrial scale ethanol is prepared by fermentation (عمل تخمير) of molasses, starch or fruit juices.

From Molasses:— The residue obtained after the crystallization of sugar from concentrated sugar cane juice is called molasses. (ناتج السكر)
The fermentation of molasses in presence of enzymes gives ethanol.



From Starch:-



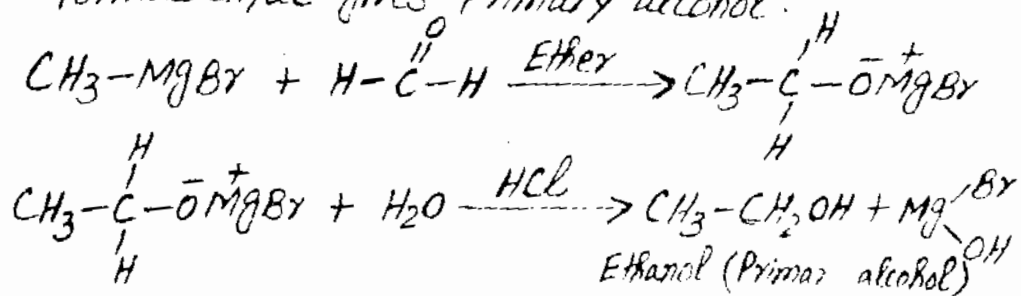
The fermentation process gives only 12 — 14% alcohol. because above this limit enzymes become inactive. The 12 — 14% alcohol is distilled کشیڑا again and again to get 95% alcohol. The 95% alcohol is called **rectified spirit**. The 100% alcohol is called **absolute alcohol**. It is obtained by re-distillation of 95% alcohol in presence of CaO which absorbs moisture (جی).

Denaturing of alcohol:- Ethyl alcohol is made unfit for drinking by adding 10% methyl alcohol. It is called **denatured alcohol** (Methylated spirit) and process is called **denaturing of alcohol**.

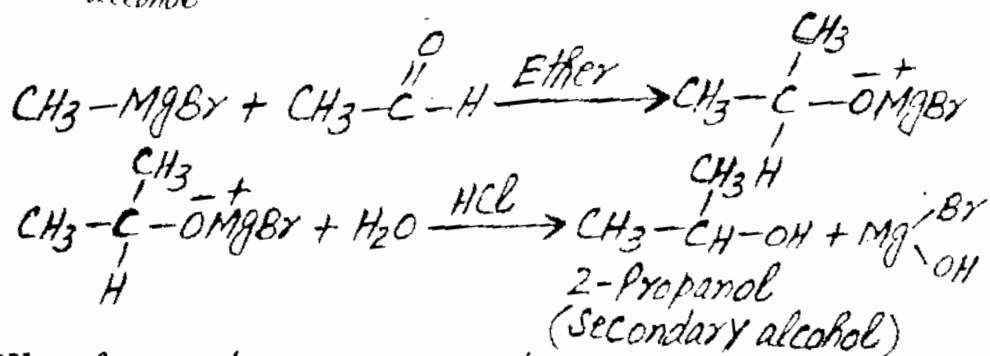
Pyridine or acetone can be used for this purpose.

Other methods of alcohols Preparation:- Alcohols can be prepared by reaction of Grignard's reagent with aldehydes and ketones.

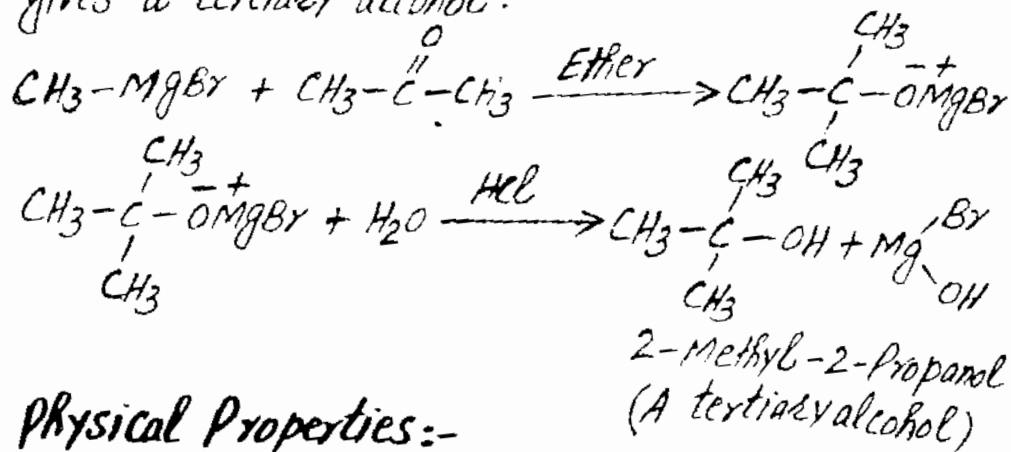
(i) Reaction of Grignard's reagent with formaldehyde gives Primary alcohol.



(ii) The reaction of Grignard's reagent with any aldehyde except formaldehyde gives secondary alcohol

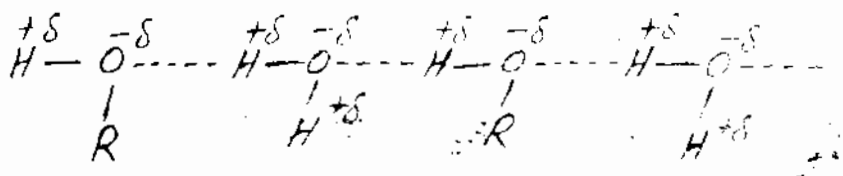


(iii) The reaction of Grignard's reagent with a Ketone gives a tertiary alcohol.



Physical Properties:-

(i) The alcohols are soluble in water. It is due to hydrogen bonding between water and alcohol.



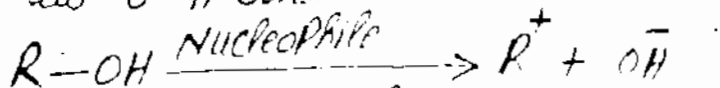
The solubility of alcohols in water decreases with increase of molecular mass.

- (ii) Methyl alcohol and ethyl alcohol are liquids but methane and ethane are gases. In the same way melting and boiling of alcohols are higher than alkanes. It is due to H-bonding which is present in alcohols but absent in alkanes.

Reactions of Alcohols

An alcohol reacts with other reagent in two ways

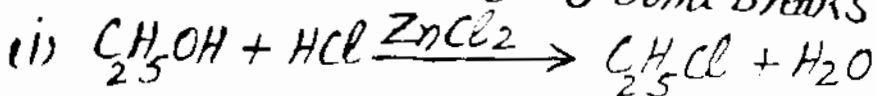
- (i) When a nucleophile attacks on an alcohol, then its C-O bond breaks
 (ii) When an electrophile attacks on an alcohol, then its O-H bond breaks

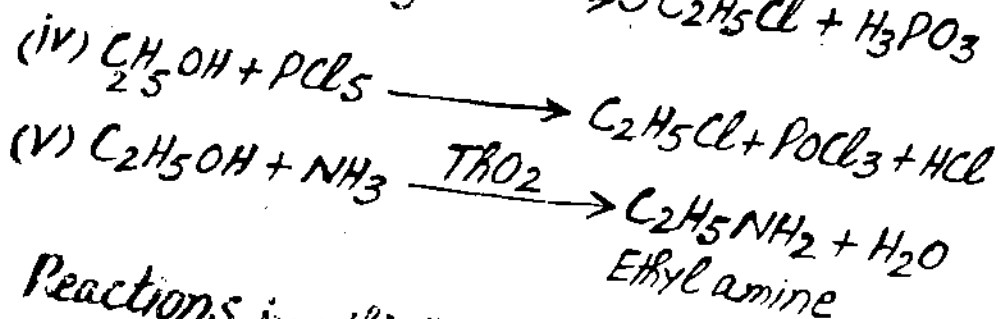


The order of reactivity when C-O bond breaks
 Tertiary alcohol > Secondary alcohol > Primary alcohol

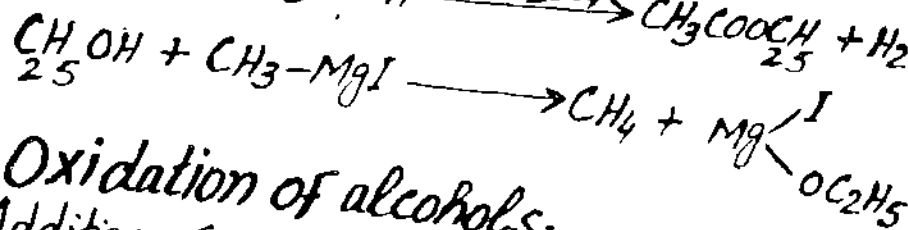
The order of reactivity when O-H bond breaks
 CH_3OH > Primary alcohol > Secondary alcohol > Tertiary alcohol

Reactions in which C-O bond breaks

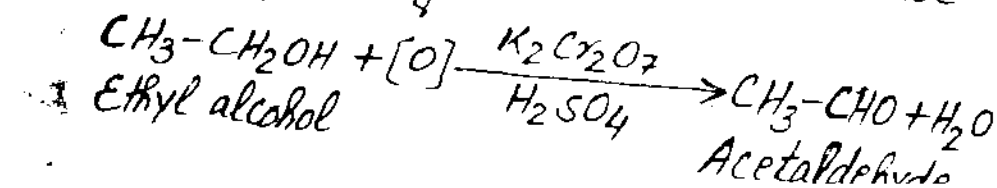



$$2 \text{C}_2\text{H}_5\text{OH} + 2 \text{Na} \longrightarrow 2 \text{C}_2\text{H}_5\text{O}^- \text{Na}^+ + \text{H}_2$$

Sodium Ethoxide

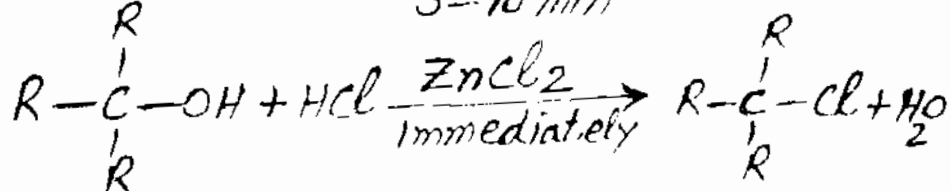
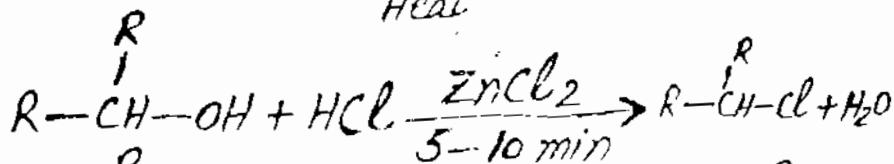
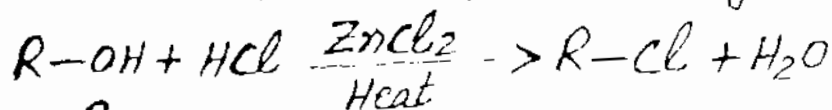


Addition of oxygen to a substance is called oxidation. The oxidation of alcohols gives different products. It takes place in presence of $K_2Cr_2O_7$ and conc H_2SO_4 . The oxidation of primary alcohol gives aldehyde. e.g.



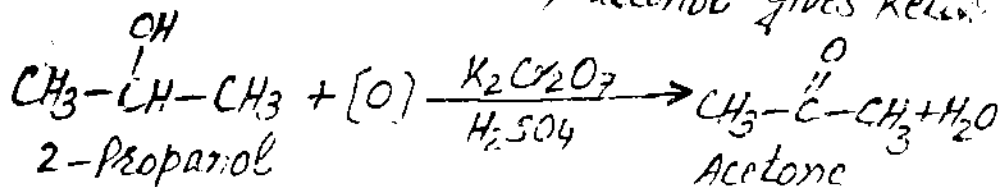
Distinction b/w Primary, Secondary and Tertiary alcohols (Lucas Test)

Primary, Secondary and tertiary alcohols are identified by Lucas test. An alcohol reacts with conc HCl in presence of $ZnCl_2$. In this reaction an oily layer of alkyl chloride is formed. It is called Lucas test. A tertiary alcohol forms an oily layer immediately. A secondary alcohol forms oily layer in 5–10 minutes. A primary alcohol forms oily layer only after heating.

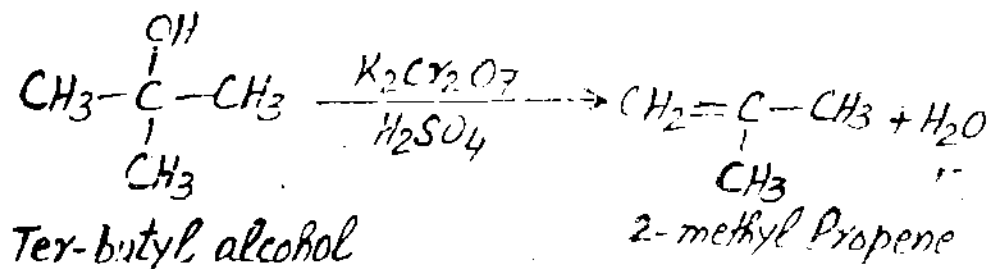


- uses of Alcohols:-**
- (i) Methyl alcohol is used as a solvent for fats, oils, paints and varnish
 - (ii) Methyl alcohol is used as antifreeze
 - (iii) Methyl alcohol is used for denaturing of alcohol
 - (iv) Ethyl alcohol is used as a solvent.
 - (v) Ethyl alcohol is used as a drink بھوشاب
 - (vi) Ethyl alcohol is used as a fuel
 - (vii) Ethyl alcohol is used as a preservative for biological specimen.

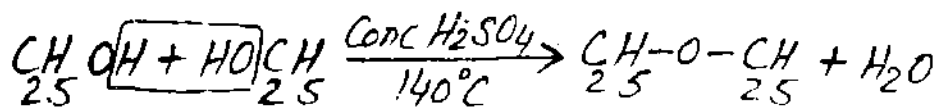
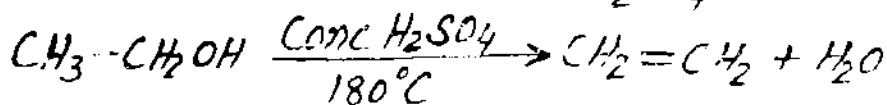
The oxidation of secondary alcohol gives ketone.



The oxidation of tertiary alcohol is not easy. However it shows elimination reaction to give an alkene.

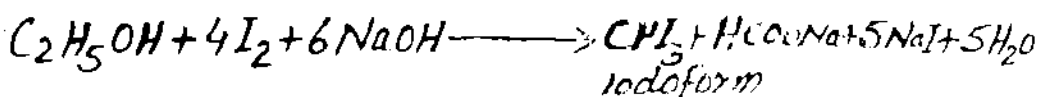


Dehydration:- Removal of water from a substance is called dehydration. It takes place in presence of conc H_2SO_4 .



Distinction between Methanol and Ethanol

Methanol does not give iodoform test but ethanol gives iodoform test. Ethanol reacts with iodine in presence of NaOH to form yellow crystals of iodoform. It is called **Iodoform Test**.



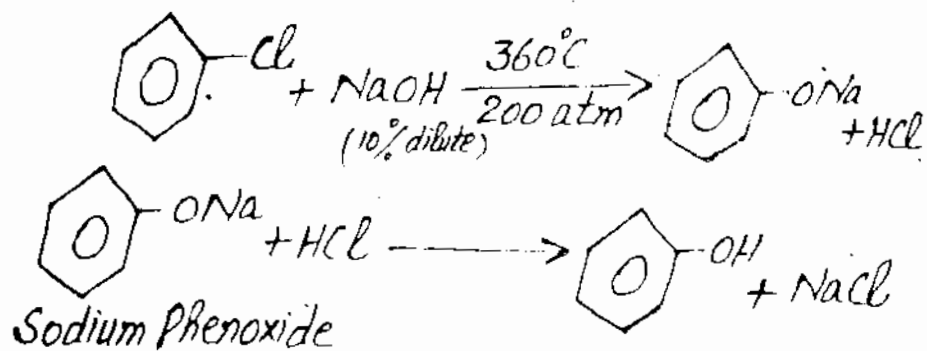
Imp PHENOL, C_6H_5OH ,

Aromatic Compounds in which one or more -OH groups are directly attached with benzene ring are called Phenols. The simplest example is Phenol. It is also known as Carboic acid (C_6H_5OH). First of all it was obtained from Coaltar by Runge in 1834.

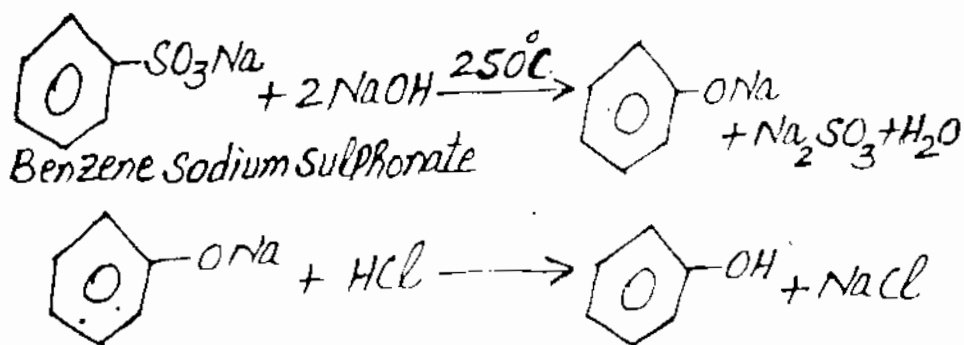
Preparation of Phenol

(1):- From Chlorobenzene (Dow's Method)

Chlorobenzene reacts with NaOH to give Sodium Phenoxide. Then sodium phenoxide reacts with HCl to give Phenol.



(2) From benzene Sodium Sulphonate:-



Physical Properties:-

- (i) Phenol is colourless crystalline solid.
- (ii) It is deliquescent (fuses) with phenolic odour
- (iii) Its melting Point is 41°C and boiling Point is 182°C
- (iv) It is sparingly (2-3%) soluble in water

Uses:- (i) Phenol is used as an antiseptic
(ii) It is used for Preparation of dyes, drugs, Plastics
(iii) It is used as disinfectant in hospitals, washrooms

Reactions of Phenol

Phenol shows two types of reactions

- (i) Reactions due to $-\text{OH}$ group
- (ii) Reactions due to benzene ring

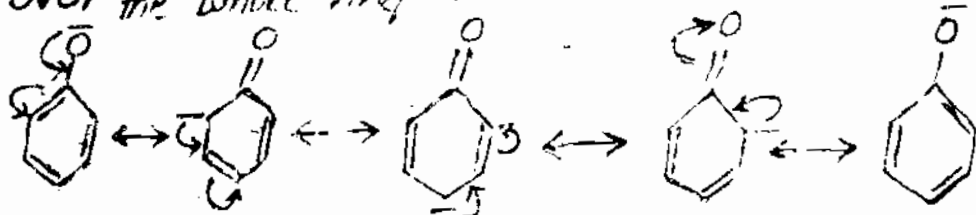
Acidic behaviour of Phenol:-

Phenol is less acidic than carboxylic acid and more acidic than water and alcohol. The order of acidic strength is

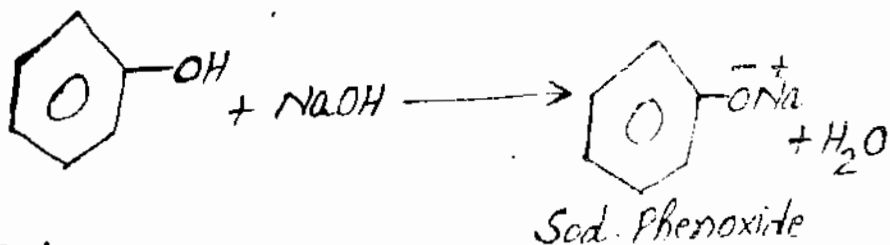
Carboxylic acid $>$ Phenol $>$ Water $>$ Alcohol

Phenol is a weak acid with dissociation constant

$K_a = 1.3 \times 10^{-10}$. Its aqueous solution has a pH of 5-6. It produces phenoxide ion after donation of Proton. The phenoxide ion is stable because its negative charge shows delocalization over the whole ring. It is shown below.

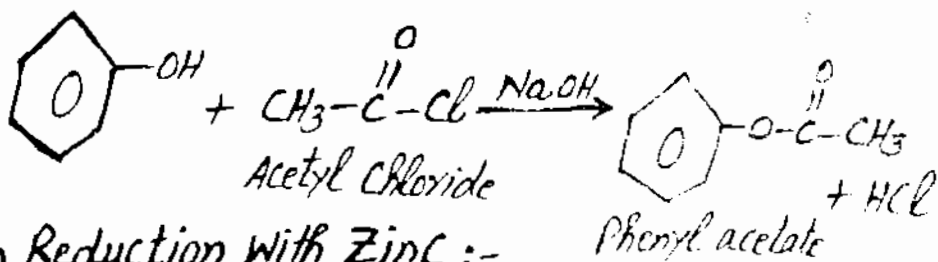


Reactions of Phenol due to -OH group
(a) **Salt Formation:-** Phenol reacts with an alkali to form salt and water

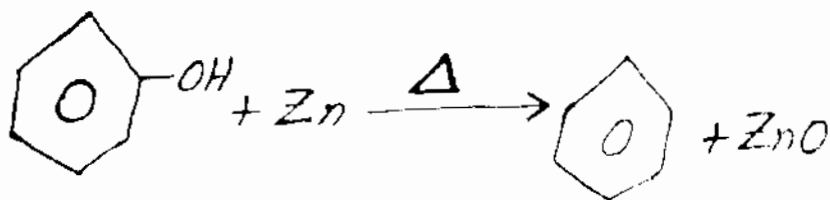


(b) **Ester Formation:-**

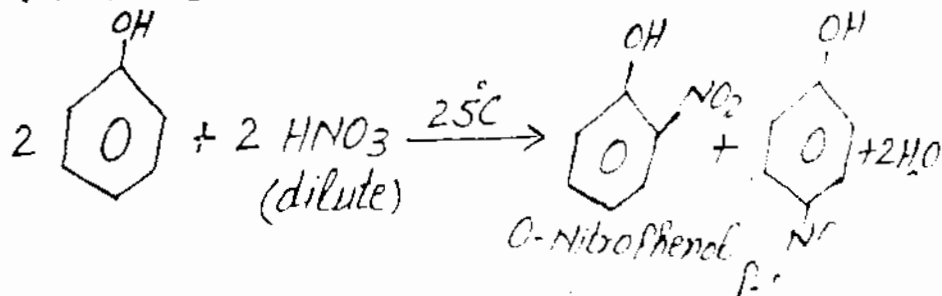
Phenol reacts with acetyl chloride to form an ester.



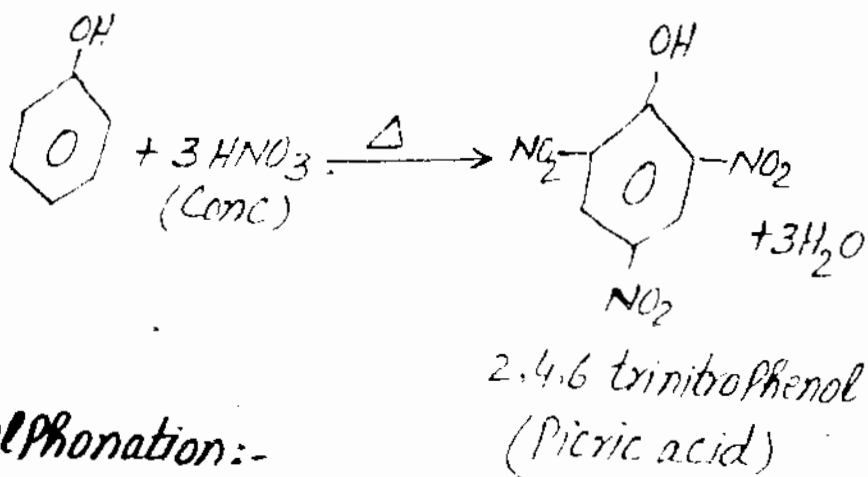
(c) **Reduction with Zinc :-**



Reaction of Phenol due to benzene ring
(a) **Nitration:-**

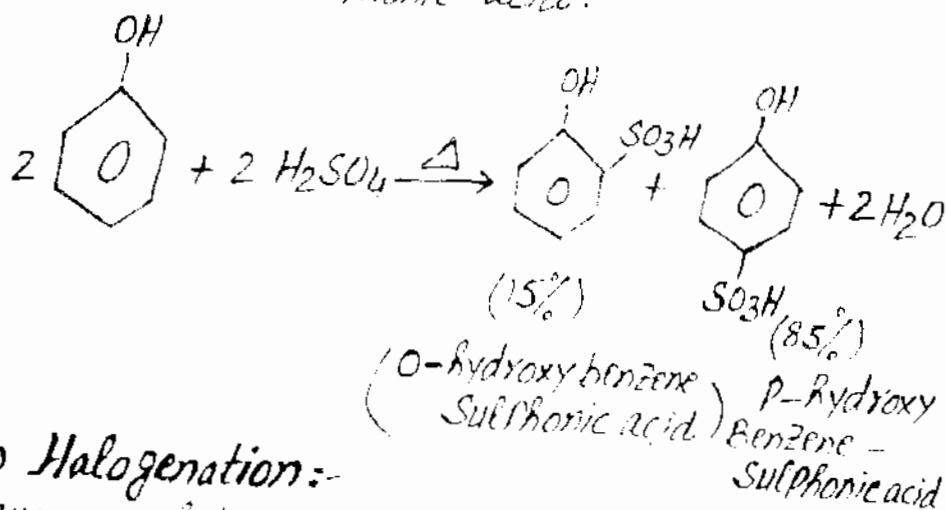


Nitration of Phenol with Conc HNO_3 gives Picric acid.



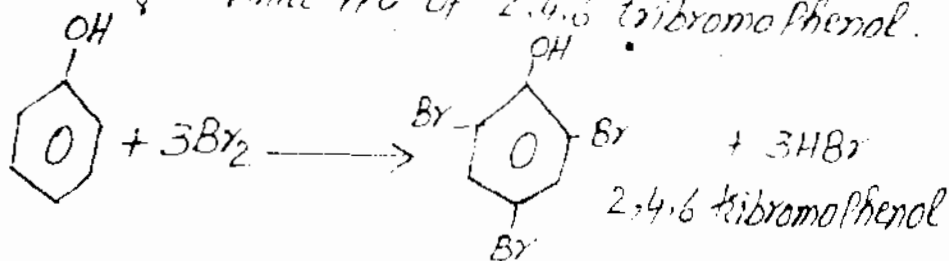
(b) Sulphonation:-

Phenol reacts with Conc H_2SO_4 to give ortho and Para benzene Sulphonic acid.

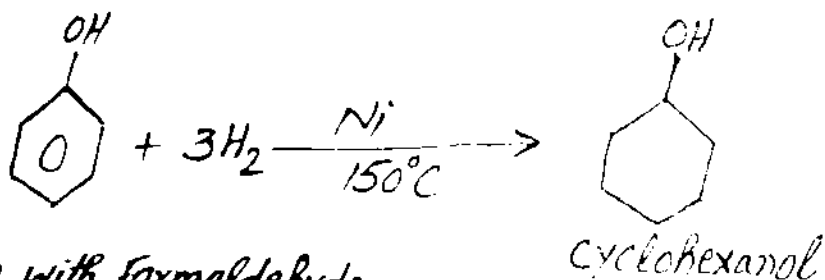


(c) Halogenation:-

Aqueous solution of Phenol reacts with Bromine Water to give white ppt of 2,4,6 tribromophenol.

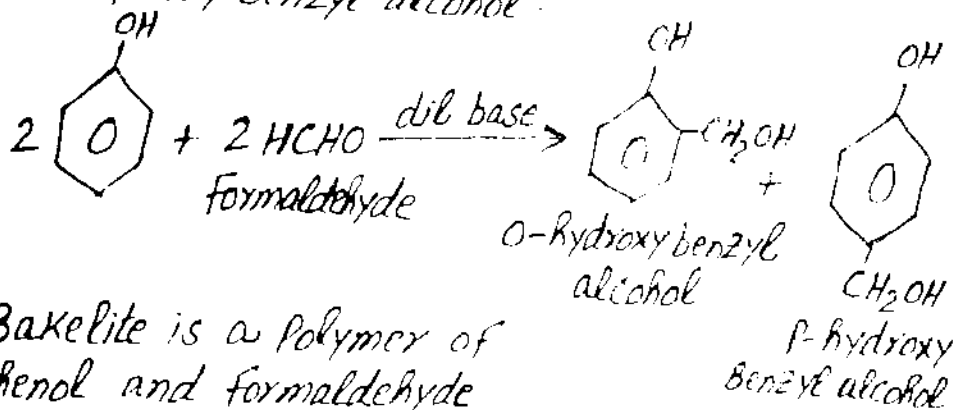


Hydrogenation :- Hydrogenation of Phenol gives cyclohexanol. It takes place at 150°C and in Presence of Nickel.

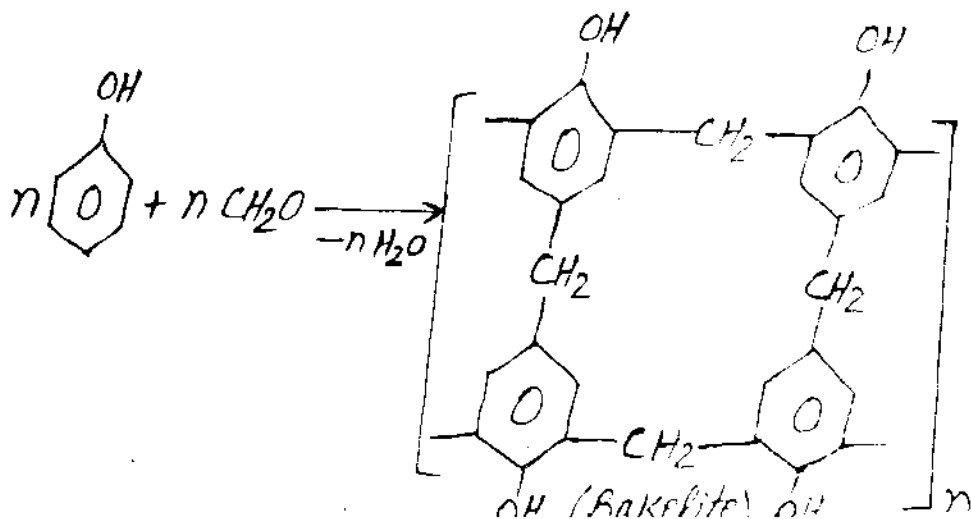


Reaction with formaldehyde :-

Phenol reacts with formaldehyde to give ortho and Para Hydroxy benzyl alcohol.



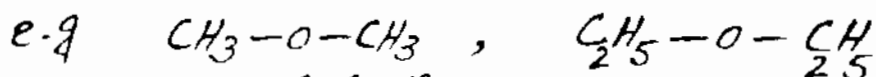
Bakelite is a polymer of Phenol and formaldehyde



Ethers ایثرز

The organic Compounds Having general formula $R-O-R$ are called ethers.

The ethers which contain same alkyl groups are called simple or symmetrical ethers.



Dimethyl ether Diethyl ether

The ethers which contain different alkyl groups are called mixed or unsymmetrical ethers. e.g. $CH_3-O-C_2H_5$ (methyl ethyl ether)

Nomenclature :- Ethers can be named by common system and I.U.P.A.C. system.

Common System :- (i) The word ether is written after writing the names of two alkyl groups.

(ii) The name of smaller alkyl group is written before the name of large alkyl group.

I.U.P.A.C. System :- Ethers are alkoxy alkanes.

(i) The large alkyl group is named as parent alkane or molecule

(ii) The small alkyl group along with oxygen is named as alkoxy group. For example ,

Formula , Common name , I.U.P.A.C name

CH_3-O-CH_3 Dimethyl ether Methoxy methane

$CH_3-O-C_2H_5$ Methyl ethyl ether Methoxy ethane

$C_2H_5-O-C_2H_5$ Diethyl ether Ethoxy ethane

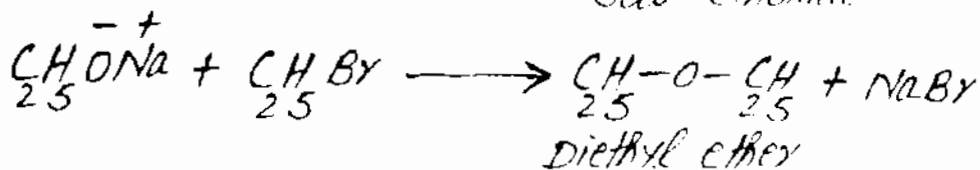
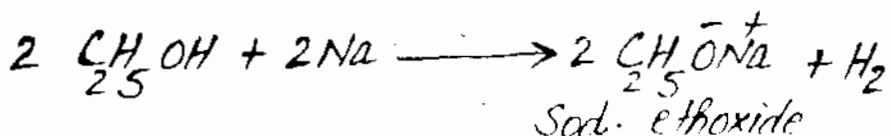
$C_2H_5-O-CH_2-CH_2-CH_3$, Ethyl n-Propyl, Ethoxy Propane
ether

$CH_3-O-C_6H_5$, Methyl Phenyl, Methoxy benzene
ether

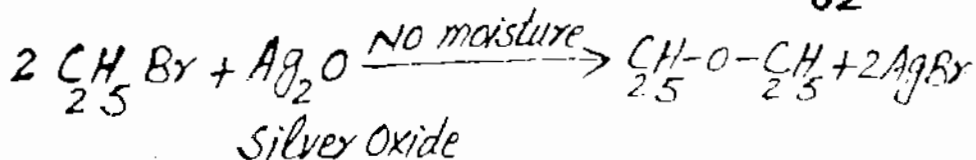
Preparation of Ethers

(i) By Williamson's synthesis:-

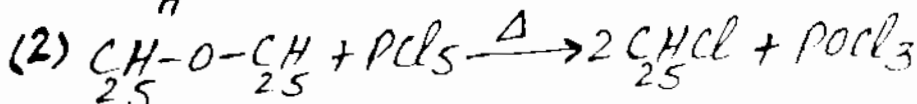
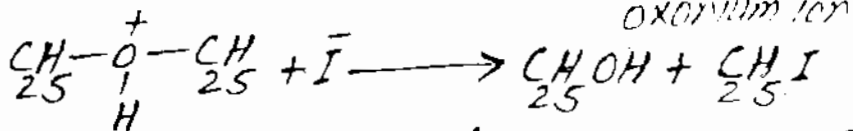
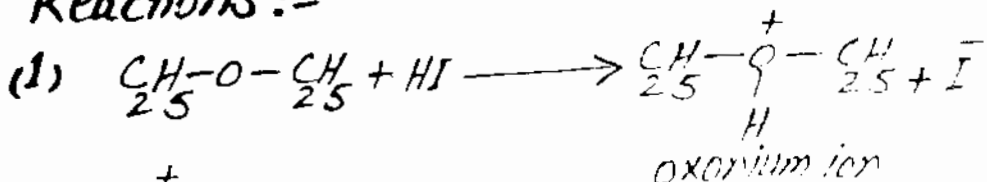
An alcohol reacts with sodium metal to form alkoxide. This alkoxide reacts with alkyl halide to produce ether.



(ii) By reaction of alkyl halide with Ag_2O



Reactions:-



EXERCISE

Q1. Fill in the Blanks.

- (i) Primary, secondary and tertiary alcohol's can be identified by _____ test.
- (ii) Oxidation of _____ alcohols give ketones.
- (iii) Alcohols on heating with _____ give alkenes at high temperature.
- (iv) Alcohols have _____ boiling points than ethers due to stronger hydrogen bonding.
- (v) Williamsons synthesis is used to prepare _____.
- (vi) _____ is also called wood spirit.
- (vii) Carboic acid is the other name of _____.
- (viii) Primary, Secondary and tertiary alcohols can be prepared reacting Grignard reagent with _____.
- (ix) Alcohols and _____ react to produce esters.
- (x) _____ alcohol is used as anti-freezing agent in automobile radiator.
- (xi) The process of conversion of starch into alcohol with the help of micro organisms is called _____.
- (xii) Ketones on reduction give _____ alcohols.

Answer:- (i) Lucas test (ii) secondary (iii) conc H_2SO_4
(iv) higher (v) ethers (vi) methyl alcohol (vii) phenol
(viii) aldehydes & ketones (ix) carboxylic acids
(x) methyl (xi) fermentation (xii) secondary

Q2. Indicate True or False.

- (i) Methylated spirit contains 95% methyl alcohol and 5% ethyl alcohol.
- (ii) Ethyl alcohol is a very good anti-freezing agent.
- (iii) Methanol is also called wood spirit.
- (iv) Only 14% ethyl alcohol can be prepared by fermentation.
- (v) Ethers do not show hydrogen bonding.
- (vi) Alcohols are more acidic than phenols.
- (vii) Phenol is more soluble in water than lower alcohols.
- (viii) Alcohols are more basic than ethers.
- (ix) Ethers have higher boiling points than alcohols and phenols.
- (x) Methanol and ethanol can be identified by iodoform test.

Answer:- (i) false (ii) true (iii) true (iv) true (v) true
(vi) false (vii) false (viii) false (ix) false (x) true

Q3. Multiple Choice Questions. Encircle the correct answer.

- (i) Which compound shows hydrogen bonding.
(a) C_2H_6 (b) $\text{C}_2\text{H}_5\text{Cl}$ (c) $\text{CH}_3-\text{O}-\text{CH}_3$ (d) $\text{C}_2\text{H}_5\text{OH}$
- (ii) Which compound shows maximum hydrogen bonding with water?
(a) CH_3OH (b) $\text{C}_2\text{H}_5\text{OH}$ (c) CH_3OCH_3 (d) $\text{C}_6\text{H}_5\text{OH}$
- (iii) Which compound is more soluble in water.
(a) $\text{C}_2\text{H}_5\text{OH}$ (b) $\text{C}_6\text{H}_5\text{OH}$ (c) CH_3OCH_3 (d) n-Hexanol

- (iv) Which compound will have the maximum repulsion with H_2O ?
(a) C_6H_6 (b) C_2H_5OH
(c) $CH_3CH_2CH_2OH$ (d) CH_3-O-CH_3
- (v) Ethanol can be converted into ethanoic acid by.
(a) Hydrogenation (b) Hydration (c) Oxidation (d) Formentation
- (vi) Which enzyme is not involved in fermentation of starch?
(a) Diastase (b) Zymase (c) Urease (d) Invertase
- (vii) Which compound is called a universal solvent?
(a) H_2O (b) CH_3OH (c) C_2H_5OH (d) CH_3-O-CH_3
- (viii) Methyl alcohol is not used
(a) as a solvent (b) as an anti-freezing agent
(c) as a substitute for petrol (d) for denaturing of ethyl alcohol
- (ix) Rectified spirit contains alcohol about
(a) 80% (b) 85% (c) 90% (d) 95%
- (x) According to Lewis concept ethers behave as.
(a) Acid (b) Base (c) Acid as well as a base (d) None of them

Answer:- (i) d (ii) b (iii) a (iv) a (v) c
(vi) c (vii) a (viii) c (ix) d (x) b

Q4. What are alcohols. How are they classified? How will you distinguish between primary, secondary and tertiary alcohols?

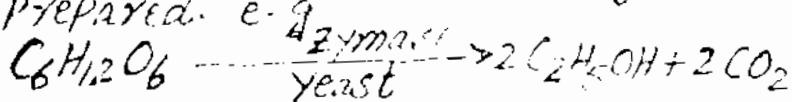
Answer:- see page No. 144, 145, 154

Q5. How is methyl alcohol obtained on large scale? How it may be distinguished from ethyl alcohol?

Answer:- see page No. 147, 153

Q6. What is fermentation? What compounds may be obtained on industrial scale by fermentation?

Answer:- The bio-chemical process in which large molecules are broken down into smaller molecules in presence of enzymes is called fermentation. The optimum temperature ($25-35^\circ C$), optimum pH, dilution of solution, proper aeration and absence of any preservative are essential conditions for the fermentation. By fermentation many organic compounds (Ethyl alcohol, Vinegar etc) can be prepared. e.g.



Q7. Explain the following terms.

Absolute alcohol, Methylated alcohol, Rectified spirit, Denaturing of alcohols.

Answer:- see page No. 149

Q8. How does ethyl alcohol react with the following reagents?

- (i) Conc. H_2SO_4 (ii) Na (iii) PCl_5
(iv) CH_3COOH (v) $SOCl_2$

Answer:- see page No. 151, 152

Q9. How will you obtain primary, secondary and tertiary alcohols by reacting Grignard reagent with suitable carbonyl compounds.

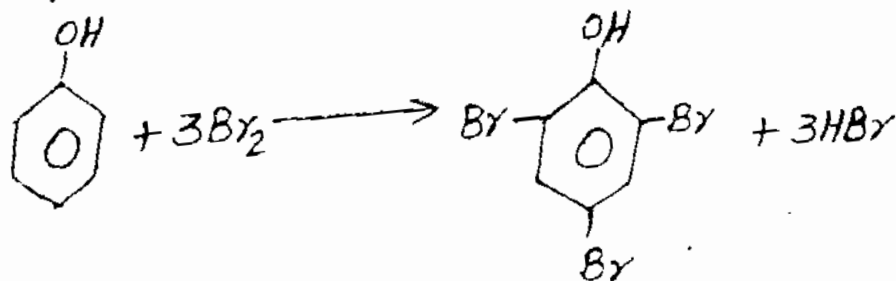
Answer:- see page No. 150

Q10. How will you distinguish between.

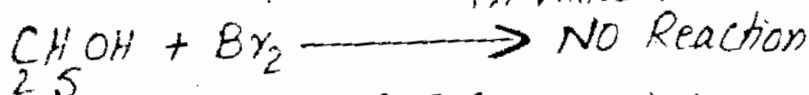
- (i) An alcohol and a phenol. (iii) Methanol and ethanol.
(ii) An alcohol and an ether. (iv) A tertiary alcohol and primary alcohol.
(v) 1-propanol and 2-propanol.

Answer:- (i) *Distinction between alcohol and Phenol*

Phenol forms white ppt with Br_2 but alcohol does not form white ppt with Br_2 .



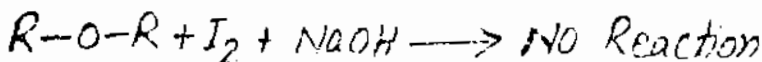
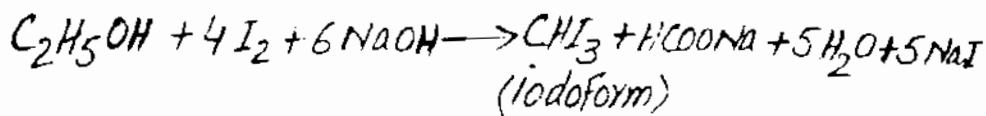
2,4,6 tribromophenol
(A white ppt)



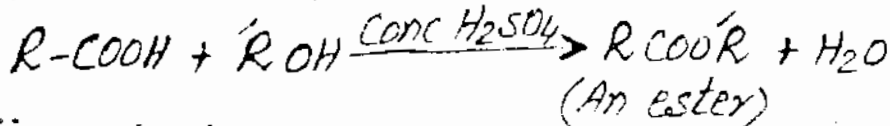
Moreover Ethyl alcohol gives iodoform test and Phenol does not give iodoform test.

(ii) *Distinction between an alcohol and Ether*

Ethyl alcohol gives iodoform test but an ether does not give iodoform test.

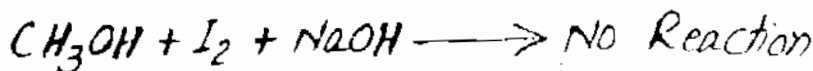
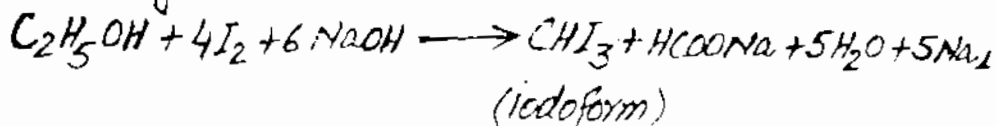


Moreover an alcohol forms an ester but an ether does not form an ester.



(iii) Distinction between Methanol and Ethanol.

Ethanol gives iodoform test but methanol does not give iodoform test



(iv) Distinction between a tertiary and a Primary alcohol.

Distinction between Primary and tertiary alcohol is done by Lucas test. Tertiary alcohol forms an oily layer with $ZnCl_2$ and HCl immediately. A Primary alcohol forms an oily layer only on heating.

(v) Distinction between 1-propanol and 2-Propanol

1-Propanol is a primary alcohol and 2-Propanol is a secondary alcohol. They can be distinguished by Lucas Test.

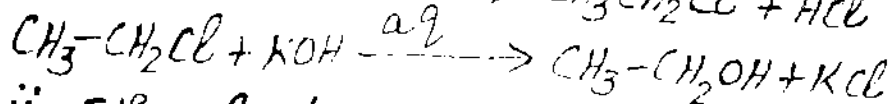
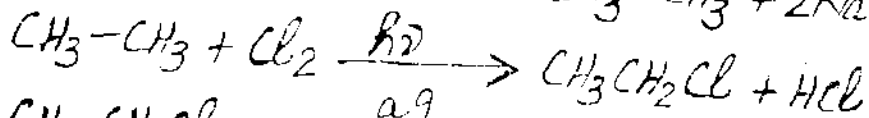
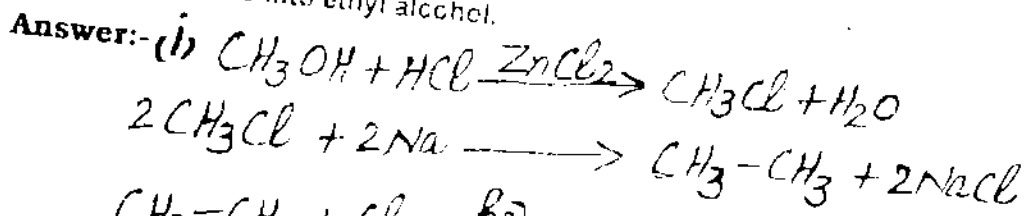
Q11. Give reasons for the followings.

- (i) Ethyl alcohol is liquid while ethyl chloride is a gas.
- (ii) Ethanol has higher boiling point than diethyl ether.
- (iii) Absolute alcohol cannot be prepared by fermentation process.
- (iv) Ethanol gives different products with conc. H_2SO_4 under different conditions.
- (v) Water has high boiling point than ethanol.

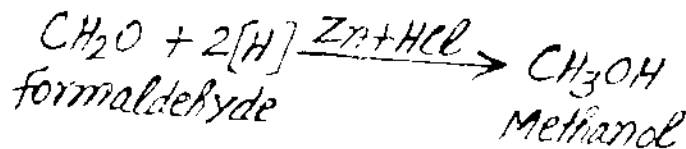
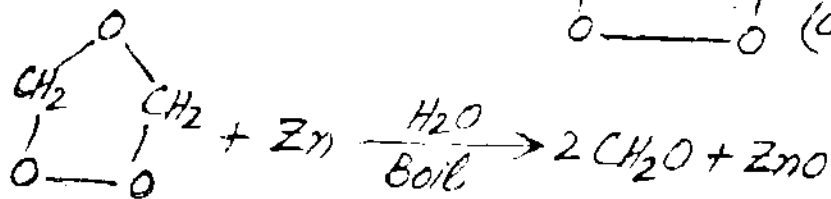
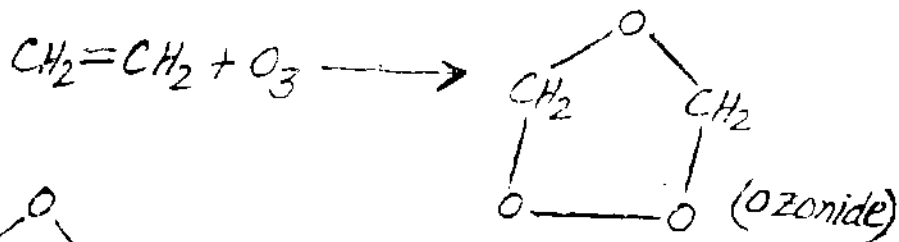
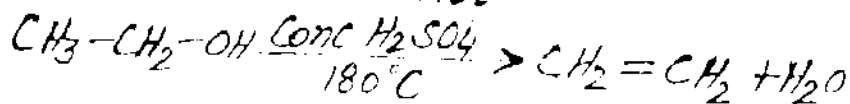
Answer:- see page No. 150, 151

Q12. How will you convert.

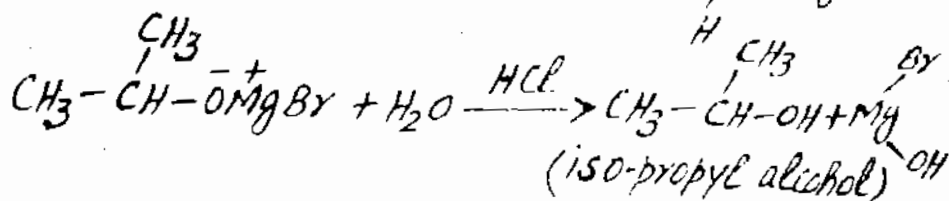
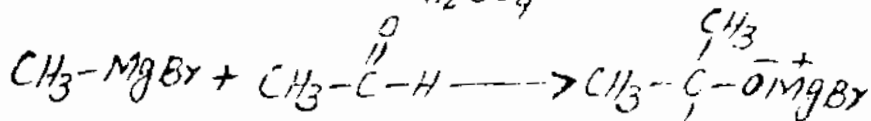
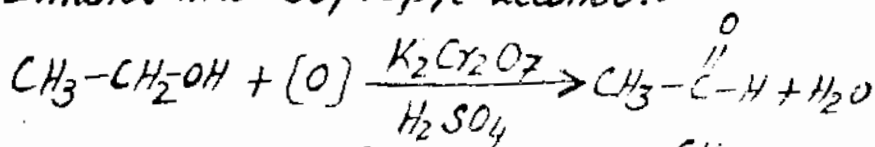
- (i) Methanol into ethanol.
- (ii) Ethanol into methanol.
- (iii) Ethanol into isopropyl alcohol.
- (iv) Formaldehyde into ethyl alcohol.
- (v) Acetone into ethyl alcohol.



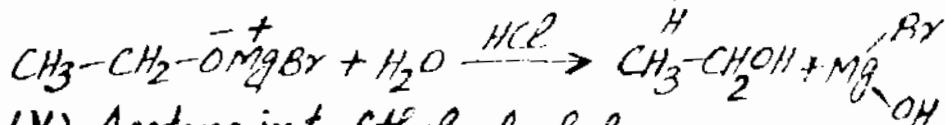
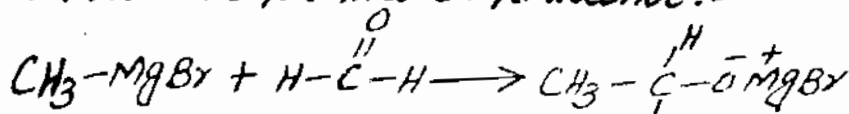
(ii) Ethanol into methanol



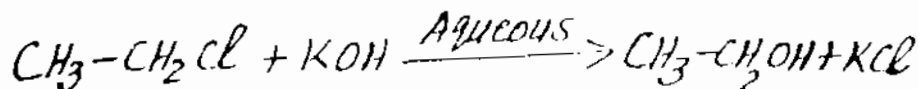
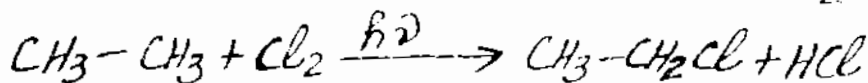
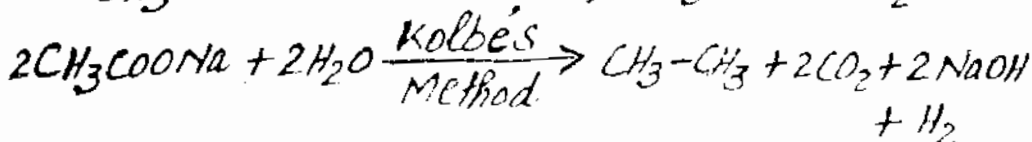
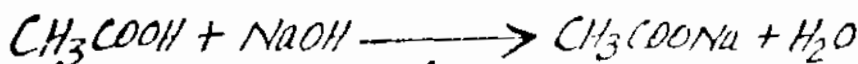
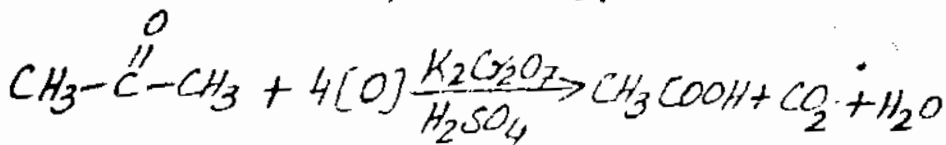
(iii) Ethanol into isopropyl alcohol:-



(iv) Formaldehyde into Ethyl alcohol:-



(v) Acetone into Ethyl alcohol:-



Q13. Explain the following terms using ethyl alcohol as an example.

- (i) Oxidation (ii) Dehydration
(iii) Esterification (iv) Ether formation

Answer:- see page No. 152, 153

Q14. Compare the reactions of phenol with that of ethanol. Discuss the difference if any.

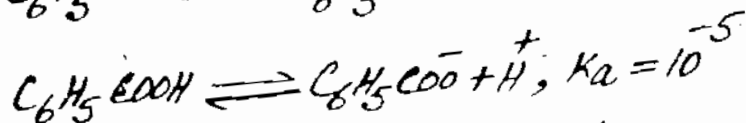
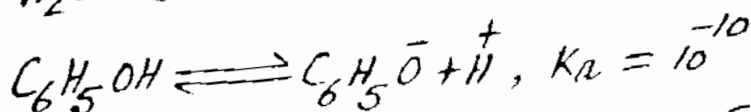
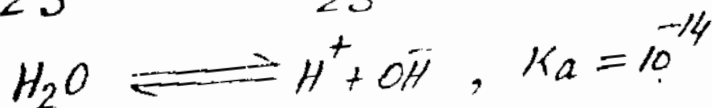
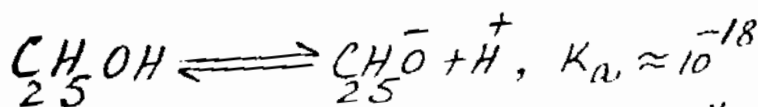
Answer:- (i) Phenol is an aromatic compound but ethanol is an aliphatic compound.
(ii) Phenol reacts with Zn to give benzene but ethanol does not react with Zn.
(iii) Phenol reacts with Bromine water to form white ppt of 2,4,6 tribromophenol but ethanol does not give this reaction.
(iv) Phenol does not give iodoform test but ethanol gives iodoform test.

Q15. Arrange the following compounds in order their increasing acid strength and give reasons.

H_2O , C_2H_5OH , C_6H_5OH , C_6H_5COOH

Answer:- $C_2H_5OH < H_2O < C_6H_5OH < C_6H_5COOH$

The ionization of these compounds are given as



Ethyl alcohol is the weakest acid because its ethoxide ($C_2H_5O^-$) ion is very unstable.

Water is more acidic than C_2H_5OH because anion of water (OH^-) is more stable than $C_2H_5O^-$

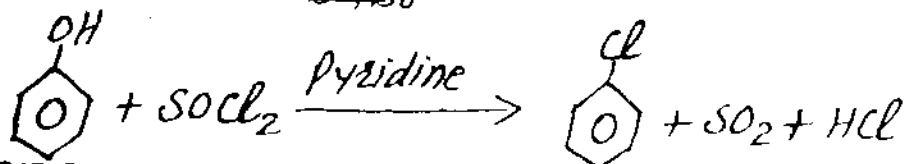
The phenolate ion ($C_6H_5O^-$) is more stable than $C_2H_5O^-$ and OH^- . It is due to resonating structures of phenolate ion. The benzoate ion $C_6H_5COO^-$ is the most stable ion. It is due to extra resonating structures. Hence increasing order of acid strengths is as follows

$$C_2H_5OH < H_2O < C_6H_5OH < C_6H_5COOH$$

Q16. Write down two methods for preparing phenol. What is the action following on phenol.

HNO_3 , $NaOH$, Zn , Bromine Water, $SOCl_2$

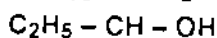
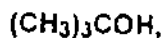
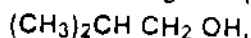
Answer:- see page No. 157, 158



Q17. Give the uses of phenols. How bakelite is prepared from it.

Answer:- see page No. 156, 159

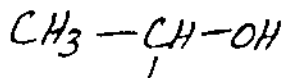
Q18. (a) Write I.U.P.A.C names of the following compounds.



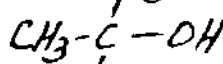
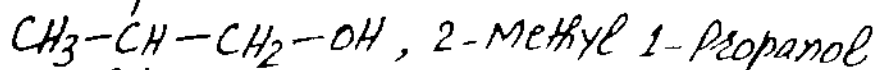
(b) Write structure formulas for the following compounds.

Glycol, Glycerol, Carbolic Acid, Acetophenone, Picric Acid

Answer:- (a)

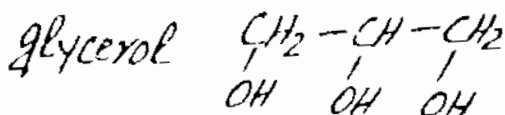
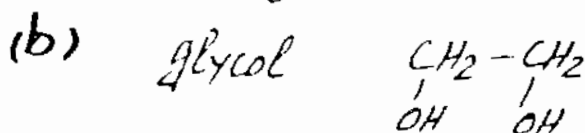
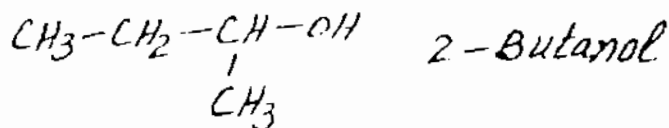


2-Propanol

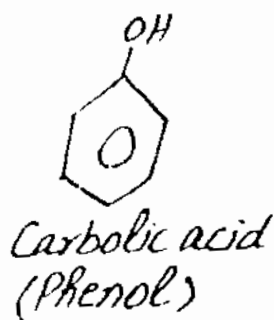
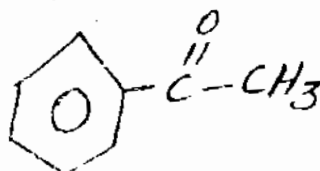


2-Methyl, 2-Propanol.



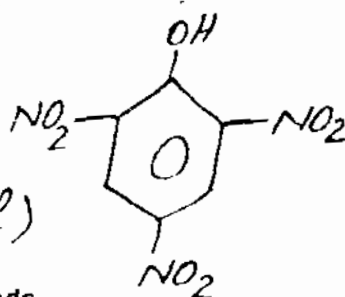


Acetophenone

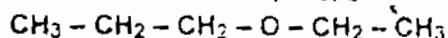
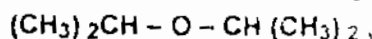
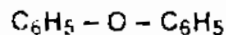
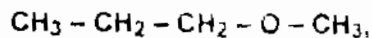


Picric acid

(2,4,6 trinitrophenol)



Q19. (a) Name the following compounds.



(b) Write down structure formulas of the following compounds.

Methoxy ethane, ethoxy benzene, sodium ethoxide,
sodium phenoxide, propoxy propane.

Answer: - (a) $\text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{O} - \text{CH}_3$

Methyl n-propyl ether

(ii) $\text{C}_6\text{H}_5 - \text{O} - \text{C}_6\text{H}_5$ diphenyl ether

(iii) $\begin{array}{c} \text{CH}_3 - \text{CH} - \text{O} - \text{CH} - \text{CH}_3 \\ | \quad | \\ \text{CH}_3 \quad \text{CH}_3 \end{array}$ Di-isopropyl ether

(iv) $\text{CH}_3 - \text{O} - \text{C}_6\text{H}_5$ Methyl, phenyl ether.

گلدستہ ڈاٹ پی کے کی جانب سے خوش آمدید

السلام علیکم ورحمۃ اللہ وبرکاتہ

مختصر تعارف

کافی عرصہ سے خواہش تھی کہ ایک ایسی ویب سائٹ بناؤں جس پر طالب العلموں کیلئے کچھ تعلیمی مواد جمع کر سکوں۔ اللہ تعالیٰ نے توفیق دی اور میں نے ایک سال کی محنت کے بعد ایک سائٹ ”گلدستہ ڈاٹ پی کے“ کے نام سے بنائی جو کہ قرآن و حدیث، اصلاحی، دلچسپ، تاریخی قصے واقعات، اردو انگلش تحریریں، شاعری و اقوال زریں، F.Sc اور B.Sc کے مضامین کے آن لائن نوٹس، اسلامی بیانات، پنجابی نظمیں و ترانے اور کمپیوٹر و انٹرنیٹ کی دنیا کے بارے میں ٹپس، آن لائن کمائی کرنے کے مستند طریقہ کار۔ کے ساتھ ساتھ اور بھی بہت سی چیزوں پر مشتمل ہے۔ اور انشاء اللہ میں مزید وقت کے ساتھ ساتھ اضافہ کرتا جاؤں گا۔ آپ کی قیمتی رائے کی ضرورت ہے۔ **عمران شفیق**

اہم نوٹ

ذیل میں جو نوٹس مہیا کیے گئے ہیں وہ کئی گھنٹوں کی لگاتار محنت کے مرتب ہوئے ہیں۔ اور آپ کو بالکل مفت مہیا کر رہے کیے جا رہے ہیں۔ آپ سے ان کی قیمت صرف اتنی سی متوقع ہے کہ ایک بار **دروڈ ابراہیمی** اپنی زبان سے ادا کر دیں۔

اللَّهُمَّ صَلِّ عَلَى مُحَمَّدٍ وَعَلَى آلِ مُحَمَّدٍ كَمَا صَلَّيْتَ عَلَى
إِبْرَاهِيمَ وَعَلَى آلِ إِبْرَاهِيمَ إِنَّكَ حَمِيدٌ مُجِيدٌ



اللَّهُمَّ بَارِكْ عَلَى مُحَمَّدٍ وَعَلَى آلِ مُحَمَّدٍ كَمَا بَارَكْتَ عَلَى
إِبْرَاهِيمَ وَعَلَى آلِ إِبْرَاهِيمَ إِنَّكَ حَمِيدٌ مُجِيدٌ