BYJU'S Study Planner for Board Term I
(CBSE Grade 12)

Date: 12/11/2021

Subject: Chemistry

Topic : Alcohols, Phenols and Ethers

Class: Standard XII

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1. A Phenol (C_6H_5OH) contains $-OH$ group(s) directly attached to sp^2 hybridized carbon atom(s) of an aromatic system. In phenols the $-OH$ group is attached to sp^2 hybridized carbon of an aromatic ring.
The carbon- oxygen bond length in phenol is slightly less than that in methanol.
Phenol can be prepared by various means such as through alkali fusion of sulphonates, hydrolysis of diazonium salts etc. Commercially it is prepared from Dow's process.

   The name of product which is obtained by the decarboxylation of sodium salt of salicylic acid with soda-lime is:

   A. Phenol

   B. Tolune

   C. Benzene

   D. Benzoic acid

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2. A Phenol (C_6H_5OH) contains $-OH$ group(s) directly attached to sp^2 hybridized carbon atom(s) of an aromatic system.
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Phenol can be prepared by various means such as through alkali fusion of sulphonates, hydrolysis of diazonium salts etc. Commercially it is prepared from Dow's process.

   Which of the following can produce phenol?

   A. Reduction of aniline

   B. Reduction of chlorobenzene

   C. Oxidation of cumene followed by hydrolysis

   D. Acidification of chlorobenzene

3. A Phenol (C_6H_5OH) contains $-OH$ group(s) directly attached to sp^2 hybridized carbon atom(s) of an aromatic system.
The carbon- oxygen bond length in phenol is slightly less than that in methanol.
Phenol can be prepared by various means such as through alkali fusion of sulphonates, hydrolysis of diazonium salts etc. Commercially it is prepared from Dow's process.
The ionisation constant of phenol is higher than that of ethanol because:

   A. Phenoxide ion is bulkier than ethoxide

   B. Phenoxide ions is stronger base than ethoxide

   C. Phenoxide ions is stabilised through delocalisation

   D. Phenoxide ion is less stable than ethoxide

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4. Which of the following analogies is correct regarding dehydration of ethanol in presence of protic acid?
$443K$: Alkene:: $413K$:_____.

A. Alkyne

B. Ether

C. Aldehyde

D. Carboxylic acid

5. Match the following $IUPAC$ names given in Column I with their common names given in Colum II and choose the correct option from the codes given below.

	Column I ($IUPAC$ name)		Column II (Common name)
$A.$	4-Methyl phenol	1	Catechol
$B.$	Benzene-1,4-diol	2	Quinol
$C.$	Benzene-1,2-diol	3	*o*-cresol
$D.$	2-Methyl phenol	4	*p*-cresol

A.

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

B.

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

C.

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

D.

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

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6. Given below are two statements labelled as Assertion (A) and Reason (R).
Assertion (A): The bond angle in alcohol is slightly more than the tetrahedral angle.

Reason (R): Variation in bond angle of alcohol is due to the repulsion between the unshared electron pair of oxygen.

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

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

C. A is true but R is false

D. A is false but R is true

7. Given below are two statements labelled as Assertion (A) and Reason (R).
Assertion (A): Alcohols act as Lewis bases.

Reason (R): It is due to the presence of shared electron pairs on oxygen which make them proton donors.

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

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

C. A is true but R is false

D. A is false but R is true

8. Given below are two statements labelled as Assertion (A) and Reason (R).
Assertion (A): Di-*tert*-butyl ether cannot be prepared by Williamson's synthesis.

Reason (R): *tert*-butylbromide on treatment with sodium *tert*-butoxide preferentially undergoes elimination to from *iso*-butylene and *tert*-butyl alcohol.

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

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

C. A is true but R is false

D. A is false but R is true

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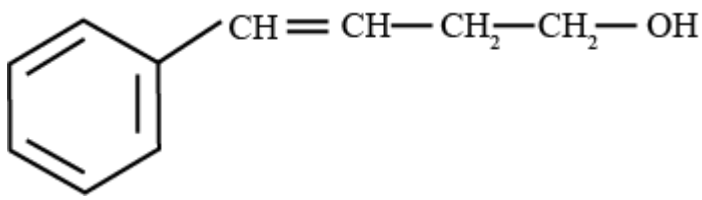
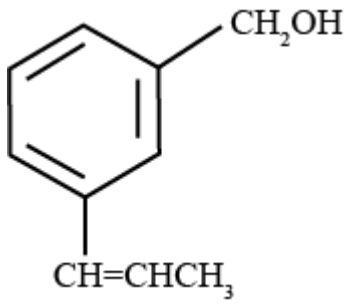
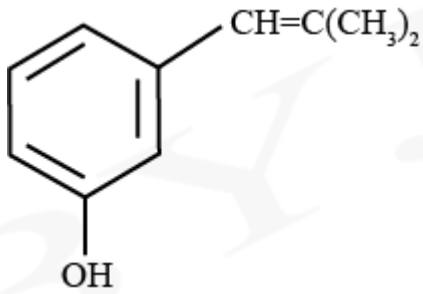
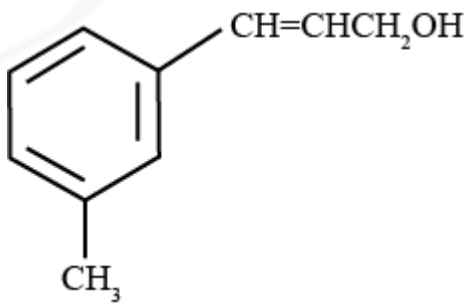
9. Which of the following compounds is an allylic alcohol?

A. 

B. 

C. 

D. 

10. Propene when reacted with water in the presence of dilute H_2SO_4 gives

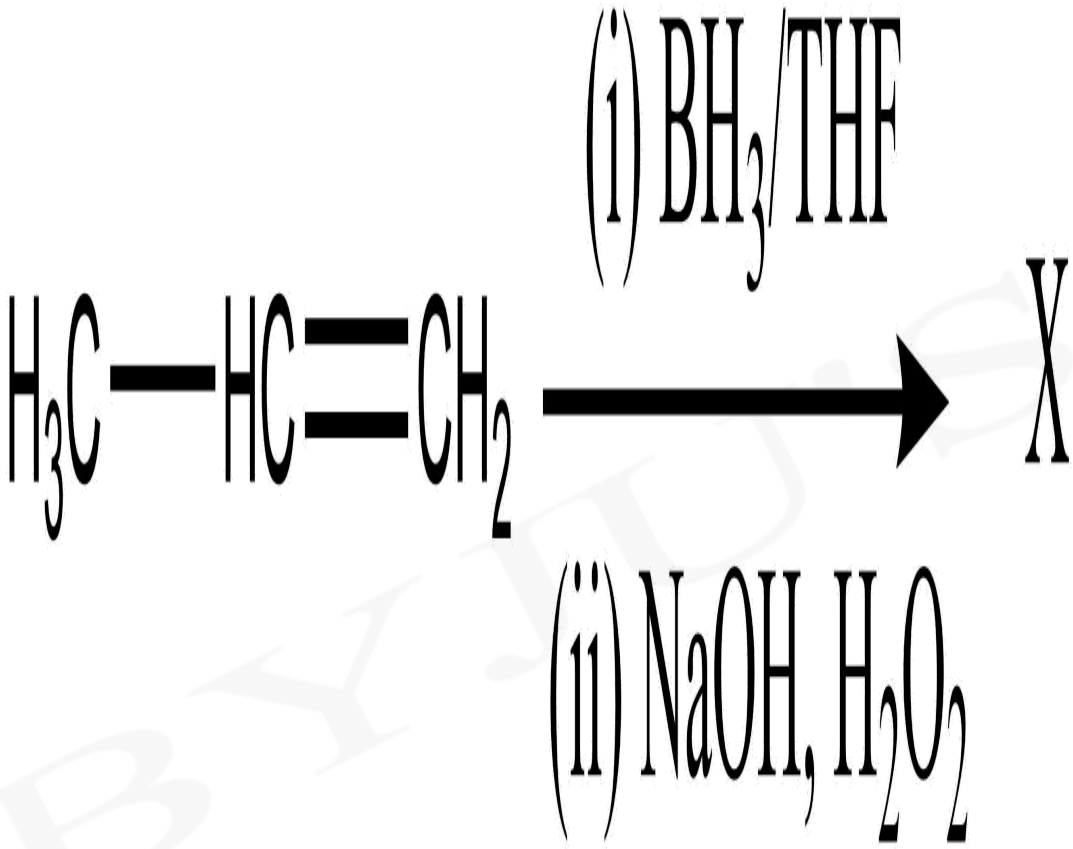
A. Propan-1-ol

B. Propan-2-ol

C. 2-Methylpropan-1-ol

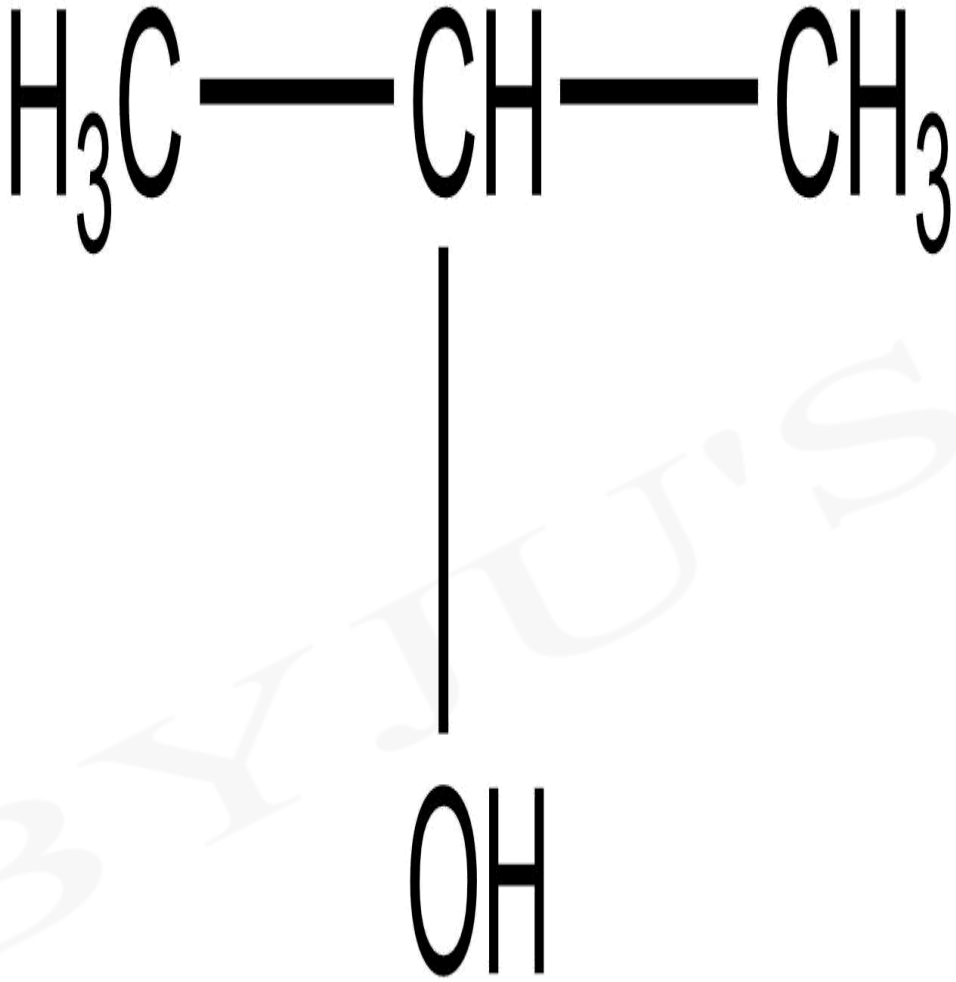
D. 2-Methylpropan-2-ol

11.



Identify product X:

A.



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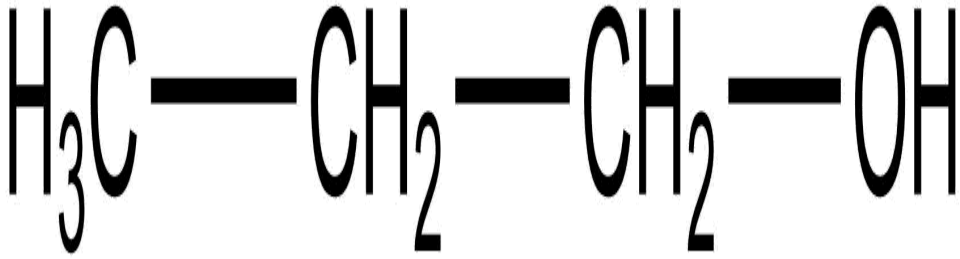
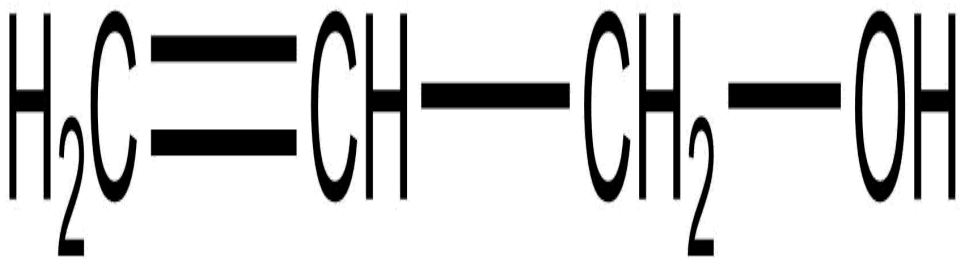
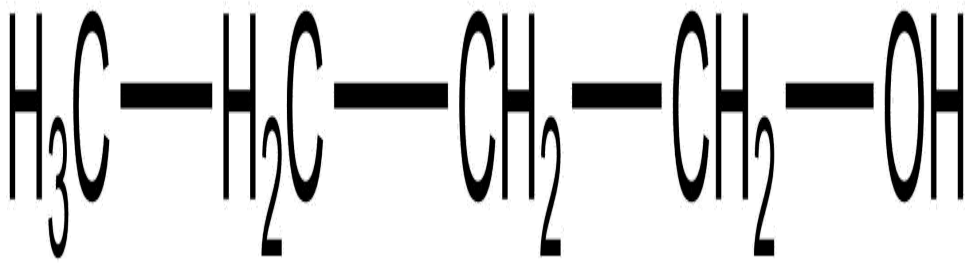
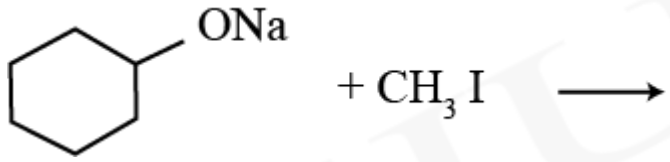


C.

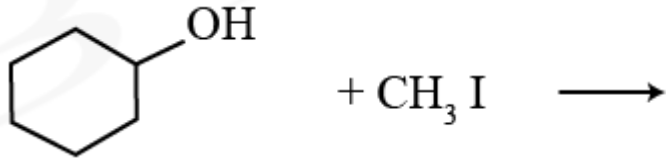


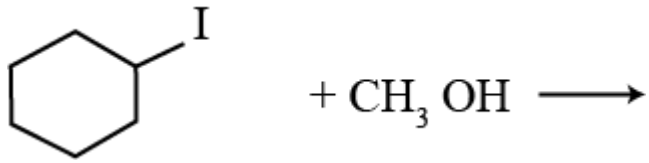
D. 

12. Which of the following reaction is the best choice for preparing methyl cyclohexyl ether?

A. 

B. 

C. 

D. 

13. An ethyl alcohol exhibits an acidic character on reaction with :

A. Hydrogen chloride

B. Acetic acid

C. Sodium metal

D. Acidic $K_2Cr_2O_7$

14. Solubility of alcohols and phenols in water is ____ to that of hydrocarbons of comparable molecular masses.

A. Greater than

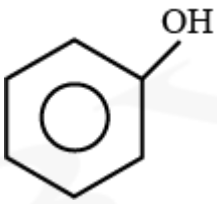
B. similar

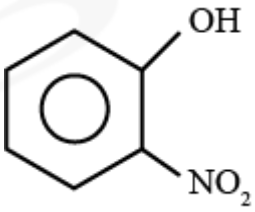
C. lesser than

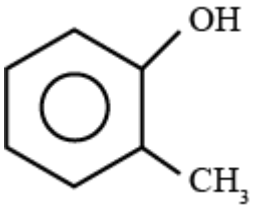
D. none of these

15. Which one of the following compounds is most acidc?

A. $Cl - CH_2 - CH_2 - OH$

B. 

C. 

D. 

16. Which of the following is not true regarding the reagent PCC?

A. PCC can oxidize primary alcohols into aldehydes

B. PCC can oxidize aldehydes into carboxylic acids

C. PCC can oxidize secondary alcohols into ketones

D. None of these

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17. In Reimer Tiemann reaction dichlorocarbene acts as:

    A. nucleophile

    B. electrophile

    C. free radical

    D. all of these

18. Name the products obtained when hot hydrogen iodide react with benzyl ethyl ether at high temperature?

    A. Ethanol and Benzyl Iodide

    B. Ethyliodide and Benzyl alcohol

    C. Ethyliodide and Phenol

    D. (a) and (b) above.

19. On Friedel-Crafts alkylation, anisole yields major product:

    A. 2-Methoxytoluene

    B. 4-Methoxytoluene

    C. 3-Methoxytoluene

    D. None of the above

20. $CH_3COOH \overset{LiAiH_4}{\longrightarrow} (A)$,
$(A) + CH_3COOH \overset{H_3O^+}{\longrightarrow} (B) + H_2O$
In the given reaction 'A' and 'B' respectively are ?

A. $CH_3COOC_2H_5, C_2H_5OH$

B. CH_3CHO, C_2H_5OH

C. C_2H_5OH, CH_3CHO

D. $C_2H_5OH, CH_3COOC_2H_5$