

UNIT TEST-11
(HYDROXY COMPOUNDS AND ETHERS)

CLASS : XII
SUB : CHEMISTRY

MARK : 70
TIME : 3.00 HRS

PART-I

I. Choose and write the correct answer :

15X1=15

1. Carboic acid is

- a) Phenol b) Picric acid c) Benzoic acid d) Phenylacetic acid

2. On reacting with neutral ferric chloride, phenol gives

- a) red colour b) violet colour c) dark green colour d) no colouration.

3. HO-CH₂CH₂-OH on heating with periodic acid gives

- a) Methanoic acid b) Glyoxal c) Methanal d) CO₂

4. Which one of the following is the strongest acid?

- a) 2-nitro phenol b) 4-chloro phenol c) 4 – nitro phenol d) 3 – nitro phenol

5. Williamson synthesis of preparing dimethyl ether is an

- a) S_N¹ reaction b) S_N² reaction c) Electrophilic addition d) Electrophilic substitution

6. Assertion : Phenol is more acidic than ethanol

Reason: Phenoxide ion is resonance stabilized

- a) both assertion and reason are true and reason is the correct explanation of assertion.
b) 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.

7. Which of the following compounds on reaction with methyl magnesium bromide will give tertiary alcohol.

- a) benzaldehyde b) propanoic acid c) methyl propanoate d) acetaldehyde

8. Which of the following has lowest boiling point ?

- a) phenol b) o-nitro phenol c) m-nitro phenol d) p- nitro phenol

9. Which among the following is a simple ether

- a) 1-methoxy propane b) 2- methoxy propane
c) methoxy methane d) methoxy benzene

10. According to Lewis concept, an ether is

- a) acidic b) basic c) neutral d) amphoteric

11. The oxygen atom in ether is _____ hybridised

- a) sp b) sp² c) sp³ d) dsp²

12. Grignard reagent reacts with _____ to give primary alcohol

- a) HCHO b) RCHO c) RCOR d) RNH₂

13.Match

- 1.Primary alcohol - i) iso propyl alcohol
 2.Secondary alcohol - ii) glycerol
 3.Trihydric alcohol - iii) ethylene glycol
 4.Drihydric alcohol - iv) Neopentyl alcohol
- a) 1- ii , 2- iv , 3-i , 4- iii b) 1- iii , 2- i , 3- iv , 4- ii
 c) 1- iv , 2- i , 3- ii , 4- iii d) 1- iv , 2- i , 3- iii , 4- ii

14.Cold dilute alkaline KMnO_4 is called

- a) Fenton's reagent b) Tollen's reagent
 c) Bayer's reagent d) schiff's reagent

15. Which of the following compound can be used as artifreeze in automobile radiators?

- a) methanol b) ethanol
 c) Neopentyl alcohol d) ethan -1, 2-diol

PART-II**II. Answer any six questions (q.no.24 is compulsory)****6 x 2 =12**

16. How will you Convert phenol into picric acid ?
 17. Explain – Hydroboration
 18. How will you prepare butan-2-ol from Grignard reagent?
 19. Explain Swern oxidation.
 20. How are Convert glycerol to acrolein ?
 21. give the uses of diethyl ether
 22. what is metamerism and give one example ?
 23. Give an example for simple ether and mixed ether ?
 24. Explain C-O-C bond angle is slightly greater than the tetrahedral bond angle . Why?

PART-III**III. Answer any six questions (q.no.33 is compulsory)****6 x 3 =18**

25. Distinguish between 1^0 , 2^0 and 3^0 alcohols using Luca's reagent.
 26. Explain : i) Phthalien reaction ii) Coupling reaction.
 27. Write the tests to differentiate phenols and alcohols ?
 28. How phenol is prepared from benzene?
 29. Explain auto oxidation of ethers
 30. How are the nitroglycerin prepared from glycerol ?
 31. how will you prepare the following by using grignard reagent ?
 a) Propan-1-ol b)propan-2-ol
 32. How are the glycerose prepared from glycerol ?
 33. How are Williamson synthesis of ether ? (mechamism)

PART-IV**IV. Answer all the questions .****5x5=25**

34. a) Explain : i)Dow's process ii)Kolbe's reaction iii)Riemer – Tiemann reaction
(OR)

b) Write a note on Sayzteff's rule ?

35. a) Distinguish between 1° , 2° and 3° alcohols using Victor Meyer's test
(OR)

b) Mention the mechanism in the following reactions

i) One mole of HI reacts with methoxy ethane

ii) One mole of HI reacts with 2 methoxy 2 –methylpropane

36. a) i) How does HI react with following compouds

i) $C_2H_5-O-CH_3$

ii) $C_6H_5-O-CH_3$

ii)Write the Friedel Craft's reaction of Anisole ?

(OR)

b) i) What are the uses of glycerol ?

ii) Write any one method of preparation of diethyl ether ?

37. a) i) Write a bromination rection of anisole

ii) How are the following conversion effected?

1) ethylene glycol \rightarrow acetaldehyde

2) glycerol \rightarrow acrolein

(OR)

b) i) Write note biological oxidation

ii) How is phenol prepared from 1) chloro benzene 2) isopropyl benzene

38. a) i) How is crotyl alcohol obtained by reduction reaction ?

ii) How does diethyl ether react with the following reagent ?

a) $Cl_2/light$

b) dil H_2SO_4

c) PCl_5

(OR)

b) i) What is Baeyer's reagent ? how it is useful to convert ethene to ethane 1 2diol ?

ii) How is ethylene glycol converted into 1,4 dioxane ?
