

27322(New)

B.Sc. III Semester Degree Examination, March/April - 2021

CHEMISTRY

Paper : III

(New)

Time : 3 Hours

Maximum Marks : 60

Instructions to Candidates:

1. Part - 'A' : All are compulsory.
2. Part - 'B' : Solve any Five questions out of Seven questions.

PART - A

1. Answer All the following questions.

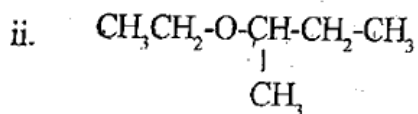
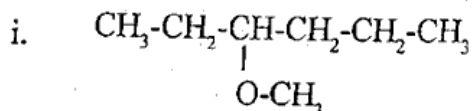
(10×1=10)

a) What is bond - order?

b) Define the term ionic bond.

c) What are amphoteric solvents.

d) Write the IUPAC name of



e) What are trihydric alcohols?

f) How phenols are classified?

g) What is auto oxidation?

h) Give any two postulates of Collision Theory.

i) Why Joule - Thomson effect is zero for an ideal gas?

j) What is Gold number?

[P.T.O.]



PART - B

Answer any **Five** of the following questions. (5×10=50)

- ~~2.~~ a) Write the difference between Bonding Molecular Orbital and Antibonding Molecular Orbital. (4)
b) Explain Born - Haber Cycle for the formation of NaCl Crystal. (6)
- ~~3.~~ a) Discuss any two important reactions of liquid ammonia. (4)
b) Give any three important reactions of liquid sulphur dioxide. (6)
- ~~4.~~ a) Give any two General Methods of preparation of Monohydric alcohols. (4)
b) Explain mechanism of pinacol-pinacolone rearrangement reaction. (6)
- ~~5.~~ a) Give any two methods of preparation of phenols. (4)
b) Explain the following reactions: (6)
i. Houlben-Hoesch reaction.
ii. Landerer Manasse reaction.
iii. Reimer-Tiemann reaction.
6. a) Give any two methods of preparation of Epoxides. (4)
b) How ethers are prepared and Give two chemical reactions of ethers. (6)
- ~~7.~~ a) Derive an expression for the rate constant of bi-molecular reaction based on transition state theory. <https://www.uomonline.com> (4)
b) Explain the comparison of collision and transition state theory. (6)
8. a) Write a note on Cp and Cv. (4)
b) Explain electrical properties and stability of colloids. (6)