

Total No. of Printed Pages: 04

SUBJECT CODE NO:- 2002
FACULTY OF SCIENCE & TECHNOLOGY
B.Sc. F.Y (Sem-I)
Examination June / July 2022
Chemistry Paper-II
(Organic Chemistry)

[Time: 1:53 Hours]

[Max. Marks:50]

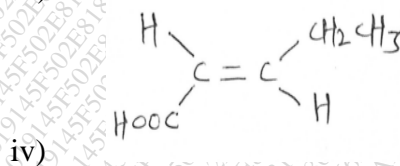
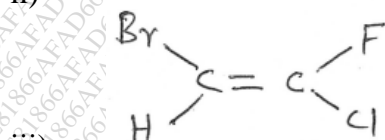
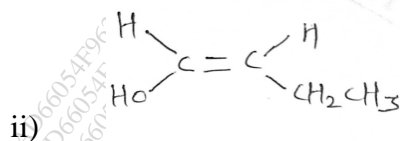
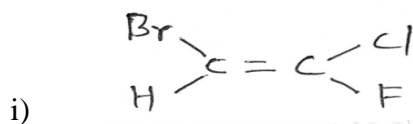
N.B

Please check whether you have got the right question paper.

- 1) Attempt all questions.
- 2) Use blue or black pen only.

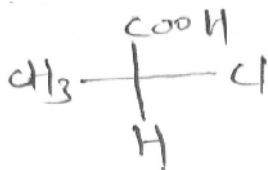
Q.1

- a)
 - i) Explain Inductive effect with examples. 5 M
 - ii) Differentiate electrophiles and nucleophiles with example. 5M
- b) Assign E – Z nomenclature to the following organic compounds 10 M

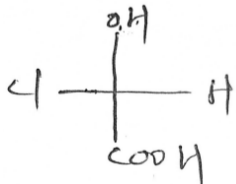


OR

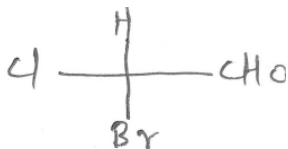
- a)
 - i) Describe charge transfer spectra. 5 M
 - ii) Explain any two types of organic reactions with examples. 5 M
- b) Assign R and S nomenclature to the following 10 M



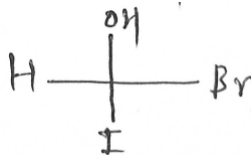
i)



ii)



iii)



iv)

Q.2

a)

i) Explain Corey – house reaction of preparation of alkanes.

5 M

ii) Discuss saytzeff's rule with example.

5 M

b)

i) Explain Nitration reaction with mechanism of benzene.

5 M

ii) Give any two methods of preparation of any halides.

5 M

OR

20 M

Write a note on (any four)

- 1) Chlorination of alkanes.
- 2) Addition of HBr to alkene with mechanism.
- 3) Fridel craft's alkylation.
- 4) Any two method of preparation of carbon tetrachloride.
- 5) Structure and stability of carbonium ion.
- 6) Markownikoff's rule with examples.

Q.3

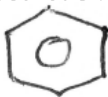
Choose and write the correct answer of the following

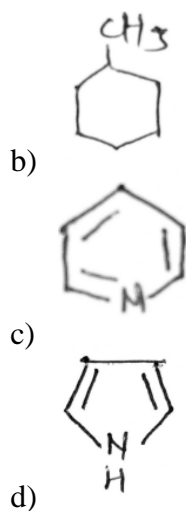
10 M

1) In stable organic compounds, carbon will always form

- a) 2 bonds
- b) 3 bonds
- c) 4 bonds
- d) 5 bonds

- 2) Which alkyl free radical is most stable?
- Methyl
 - Primary
 - Secondary
 - Tertiary
- 3) Which of the following is not a nucleophile?
- NH_3
 - HSO_3^-
 - AlCl_3
 - H^-
- 4) Optical isomers that are mirror image are called
- Tautomers
 - Diastereomers
 - Enantiomers
 - Metamers
- 5) Which of the following compounds will show geometrical isomerism
- $\text{CH}_2 = \text{CHCl}$
 - $\text{CH}_3 - \text{C} = \text{CH} \cdot \text{CH}_3$
 - $\text{ClCH} = \text{CHBr}$
 - $\text{Cl}_2\text{C} = \text{CBr}_2$
- 6) Which of the following is a trihalogen derivative of alkane
- Carbon tetrachloride
 - Methyl chloride
 - Chloroform
 - Ethyl chloride
- 7) The carbon atoms involved in the double bond of an alkene are
- sp hybridized
 - sp^2 hybridized
 - sp^3 hybridized
 - none of these
- 8) 2-Butene reacts with HBr to give
- 1-Bromobutane
 - 2,3-Dibromobutane
 - 2-Bromobutane
 - 2,2-Dibromobutane
- 9) Which of the following compounds is not an aromatic compound?





10) Alkyl halides undergo

- Electrophilic substitution reactions
- Electrophilic addition reactions
- Nucleophilic substitution reactions
- Nucleophilic addition reactions