Total No. of Printed Pages:2

SUBJECT CODE NO:- B-2002
FACULTY OF SCIENCE AND TECHNOLOGY
B.Sc. F.Y. (Sem-I) Examination Oct/Nov 2019
Chemistry Paper-II
Organic Chemistry

[Time: 1:30 Hours] **[Max.Marks:50]**

Please check whether you have got the right question paper.
i) Attempt all questions.
ii) Use blue or black pen only.

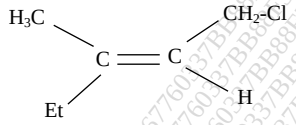
Q.1 a) What is mean by steric effect? Explain with suitable examples. 10
b) Explain structure, shape and stability of free radicals. 10

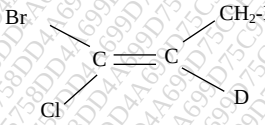
OR

a) Explain conjugative effect and hydrogen bonding with suitable example. 10
b) Explain Homolytic and Hetrolytic fission with suitable examples. 10

Q.2 a) Assign E and Z configuration to the following compounds 10

i) ii)





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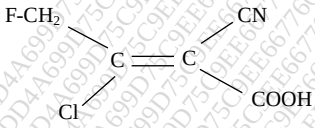

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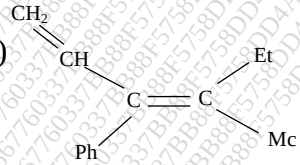


b) What is saytzeff rule? Illustrate with suitable example. 10

OR

Write a short note on any four of the following 20

a. Nitration of Benzene
b. Hydroboration – oxidation
c. Trends of melting and boiling points of alkanes
d. Meso Compounds
e. Sulphonation of Alkanes
f. Chiral and achiral molecules

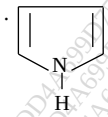
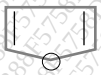
Q.3 Choose and write correct answer of following 10

1. How many stereoisomers of lactic acid are possible.
a) 1 b) 2 c) 3 d) 4

2. Which of the following compounds is optically active
a) Pentane b) Pentane – 2.01 c) Cyclohexane d) Methane

3. In which of the following reaction chain shortening takes place
   a) Kobles reaction
   b) Carey-House reaction
   c) Decarboxylation reaction
   d) Wurtz reaction

4. Hydroboration – oxidation of propene gives
   (a) $CH_3 - CH_2 - CHO$ (b) $CH_3 - CH_2 - CH_2 - OH$
   (c) $CH_3 - \overset{\overset{O}{\|}}{C} - CH_3$ (d) $CH_3 - \underset{\underset{OH}{|}}{CH} - CH_3$

5. Which of the following is non-aromatic compound
   a)  b)  c)  d) 

6. When chloroform tested with Nitric acid gives
   (a) Carbon tetra chloride (b) methane
   (c) Chloropicrin (d) Carboxyl chloride

7. Among the following which is the most stable carbanion
   (a) $CH_3 - \overset{\ominus}{C}H_2$ (b) $H - \underset{\underset{CH_3}{|}}{\overset{\ominus}{C}} - CH_3$
   (c) $CH_3 - \underset{\underset{CH_3}{|}}{\overset{\ominus}{C}} - CH_3$ (d) $H - \underset{\underset{H}{|}}{\overset{\ominus}{C}} - H$

8. Identify the one which does not come under the organic addition reaction.
   (a) Hydration (b) Dehydration
   (c) Halogenation (d) Hydro halogenation

9. Which of the following shows highest positive Inductive effect
   a) $-H$ b) $-CH_3$ c) $CH_3 - CH_2 -$ d) $(CH_3)_2\,CH -$

10. Chlorination of methane in presence of light gives
    (a) Methyl chloride (b) Dichloromethane
    (c) Trichloro methane (d) All of these