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Total No. of Questions : 11] [Total No. of Printed Pages : 6

RA-385

M.Sc. I[st] Semester (New/ATKT)

Examination, 2019

Chemistry

Paper - MCH-402

Organic Chemistry-I

Time : 3 Hours] **[Maximum Marks : 85**

Note :- Attempt all the questions.

SECTION - 'A'

Objective Type Questions

1. Choose the correct answer :

(i) How many alpha Hydrogen are present in Ethance.

(a) 1

(b) 2

(c) 4

(d) 0

(ii) Resonance Hyborides are represented as -

(a) $\leftrightarrow$

(b) $\rightleftharpoons$

(c) $\rightarrow$

(d) None of these

(iii) Find the number of stereoisomers for.

$CH_3 - CHOH - CH = CH - CH_3$

(a) 1

(b) 2

(c) 3

(d) 4

(iv) The process in which an asymmetric compound is synthesised from a symmetric compound to yield the (+) - isomer on (-1) isomer directly is termed -

(a) Symmetric synthesis

(b) Asymmetric synthesis

(c) Racomisation

(d) None of these

(v) The least stable carbanion is -

(a) $C_6H_5\bar{C}H_2$

(b) $CH_3\bar{C}$

(c) $\bar{C}Cl_3$

(d) $\bar{C}H_3$

(vi) Negative charge of carboxion can be dispersed by

(a) (+ I) Effect and (t) Resonance

(b) (– I) Effect and Resonance

(c) Hyper conjugation

(d) (+ M) Effect and conjugation

(vii) Transition state is

(a) A true molecule

(b) Not A true molecule

(c) Some times true and sometimes not

(d) None of these

(viii) Hybridization and shape of the carbocation is.

(a) sp^2 pyramidal

(b) sp^2 Trigonal

(c) sp^3 Lineas

(d) sp^3 Bent

(ix) The SN^2 reaction mechanism are of

(a) zero order

(b) first order

(c) second

(d) none of these

(x) The tertiary alkeyl halides undergo Hydrolysis by

(a) SN^2 Mechanism

(b) SN^1 Mechanism

(c) SN Mechanism

(d) E_1 Mechanism

SECTION - 'B'

Short Answer Type Questions **5×5=25**

2. Explain Huckels Rule.

OR

Show your aquaintance with inclusion compound.

3. Describe briefly elements of symmetry and durality.

OR

What do you mean by stero selective synthesis -

4. Write short note on any one of the following.
   (i) Stability of free Radical
   (ii) Taft Equation
5. Explain transition state with example.

OR

Write down Hommond's postulate.

6. Write short note on any one
   (a) Transfer catalysis
   (b) SN2 mechanism in Aliphatic compounds

SECTION - 'C'

Long Answer Type Questions 10×5=50

7. Write a detailed note on tautomerism.

OR

Explain aromaticity on the basis of huckel rule.

8. Write optical Activity in the compound Alkenes.

OR

What do you mean by optical purity ? Write down different methods of Resolution.

9. What is conformational Analysis ? Give its importance in organic chemistry with example.

OR

(a) What do you mean by Hammett equation ?
(b) What do you know about linear free energy relationship (LFER)

10. Describe the different methods used for the determination of reaction mechanism (Any three)

OR

Explain the thermodynamic and kinetic requirements of a reaction.

11. Write short notes on the following (Any two)
   (a) Regioselectivity
   (b) Classical and non classical carbocations
   (c) - Neighbouning group participation

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