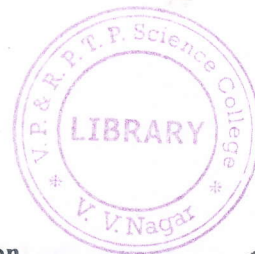




A Charutar Vidya Mandal's Institution
V.P. & R.P.T.P. SCIENCE COLLEGE
(AUTONOMOUS) (Grant-in-Aid)
Affiliated to Sardar Patel University
VALLABH VIDYANAGAR-388120



Bachelor of Science (Semester I)
Subject : Basic Organic Chemistry – I
Date: 7TH October 2024, Monday

Internal Examination : October, 2024
Subject Code : US01SECHE11
Time: 11:00 AM to 12:00 PM
Total marks : 20

Note : (i) All questions are to be attempted.
ROLL NUMBER : _____

(ii) Figures to the right indicate marks.
NUMBER OF PRINTAGE PAGES : 02

Q.1 Choose the correct option for the following : [06]

- (i) Which of the following alkane have the highest boiling point ?
(a) n – Butane (b) n - Pentane (c) n - Hexane (d) None of these
- (ii) How many steps are involve in E1 reaction mechanism ?
(a) One (b) Two (c) Three (d) None of these
- (iii) Ozonolysis of 3 – Hexene gives _____.
(a) Butanal (b) Ethanal (c) Propanal (d) None of these
- (iv) The rate of S_N2 reaction depends upon the concentration of _____.
(a) substrate (b) nucleophile (c) both substrate and nucleophile (d) None of these
- (v) Which type of hybridization is present for halogenated carbon atom of vinyl halides ?
(a) SP³ (b) SP² (c) SP (d) None of these
- (vi) Which of the following molecule has great tendency to undergo S_N2 reaction ?
(a) Methyl bromide (b) isopropyl bromide
(c) t – butyl bromide (d) None of these

Q.2 Answer the following :

- (i) Give reaction mechanism for free radical halogenation of alkane. [04]
- (ii) The names given below are objectionable. Write their structure and give their correct IUPAC name. [03]
 - (a) 3 – Methyl – 2 - butene (b) 2,4,5 - Trimethylhexane
 - (c) 1,1,1 - Trimethylpentane

OR

Q.2 Answer the following :

- (i) Explain reaction mechanism of addition of HBr to 1-propene. [04]
- (ii) 1 – Butyne gives white precipitates With Tollens reagent while 2 – Butyne does not. Explain it. [03]

[PTO]

Q.3

Answer the following :

- (i) Give all possible isomeric structure for the compound having molecular formula C_4H_9Br and give their IUPAC name and also classify them as 1° , 2° , 3° alkyl halides. [04]
- (ii) Explain S_N1 reaction mechanism. [03]

OR

Q.3

Answer the following :

- (i) Arrange the increasing order of reactivity for the following molecules towards nucleophilic aromatic substitution reaction and explain it. [04]
- (a) 4 - Nitrochlorobenzene (b) Chlorobenzene
(c) 2,4,6 - Trinitrochlorobenzene (d) 2,4 - Dinitrochlorobenzene
- (ii) Define the following. [03]
- (a) Nucleophile (b) Carbocation (c) Rate determining step



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