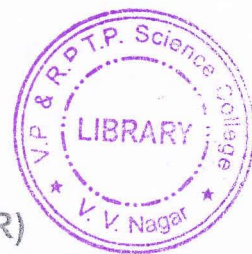


V. P. AND R. P. T. P. SCIENCE COLLEGE
VALLABH VIDYANAGAR
B.Sc. INTERNAL EXAMINATION-2016 (IInd SEMESTER)



SUBJECT : ORGANIC CHEMISTRY

COURSE CODE : US02CCHE01

DATE : 14-03-2016

TIME : 01.30 p.m. TO 2.30 p.m.

DAY : MONDAY

TOTAL MARKS : 25

Q. 1 Choose the correct option from the following **3**

- (i) Which of the following free radicals are produced on photochemical monochlorination of isobutane ?
(a) 1° as well as 2° (b) 2° as well as 3° (c) 1° as well as 3° (d) 3° as well as $\cdot\text{CH}_3$
- (ii) Which of the following compounds give acetaldehyde and CO_2 molecules upon ozonolysis ?
(a) 2-butenic acid (b) 1-butene (c) Isobutene (d) 1-propene.
- (iii) Which of the following is the major product upon reaction of HBr with isobutylene ?
(a) t-butyl bromide (b) Isobutyl bromide
(c) n-butyl bromide (d) n-propyl bromide and methyl bromide.

Q. 2 Answer the following (ANY TWO) **4**

- (i) Give successfulness and unsuccessfulness of Baeyer angle strain theory.
(ii) Monochlorination of n-propane gives 2-chloropropane as the major product.
(iii) Why acetylene is stronger acid than ethane.
(iv) What are the precautions that should be taken for hydroxylation of alkene with KMnO_4 .

Q. 3 Answer the following

- (a) Define: Free radical and complete the following reaction and give detail stepwise mechanism. **4**



- (b) Define: Angle strain and arrange the following molecules in the increasing order of their stability according to Baeyer strain theory and explain your answer. **5**

(a) Cyclopropane (b) Cyclopentane (c) Cyclohexane.

OR

[P.T.O.]

Q. 3 Answer the following

- (i) Calculate the percentage of **all** isomeric products obtain upon monochlorination of **isopentane**. The relative reactivity of 1° , 2° , and 3° H-atoms are 1: 3.8 : 5 respectively. **5**
- (ii) Give the synthesis of 3-methyl octane from sec-butyl chloride and appropriate alkyl halide by using Corey-House synthetic route. Also give the basic difference between Wurtz reaction and Corey-House reaction. **4**

Q. 4 Answer the following

- (i) Give the synthesis of 2-butyne from acetylene and why 2-butyne does not give white ppts with Tollens reagent but 1-butyne does give. **5**
- (ii) What is alkylation. Give detail stepwise reaction mechanism for alkylation. **4**

OR

Q. 4 Answer the following

- (i) Give detail stepwise reaction mechanism for halohydrin formation. Also give the reaction of bromonium ion with various reagents. **5**
- (ii) Neopentyl bromide upon E1 elimination give 2-methyl-2-butene as the major product. **4**

THE END

There is no short cut, except hard work with understanding to excel in examination.

