

V. P. AND R. P. T. P. SCIENCE COLLEGE

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B.Sc. INTERNAL EXAMINATION-2015 (IInd SEMESTER)

SUBJECT : ORGANIC CHEMISTRY

COURSE CODE : US02CCHE01

DATE : 13-03-2015

TIME : 12.30 p.m. TO 1.30 p.m.

DAY : FRIDAY

TOTAL MARKS : 25

Q. 1 Choose the correct option from the following

3

(i) The stability order of various free radical is :



(II) What happen during hydration of alkene ?

(a) Addition of HX (b) Loss of water (c) Addition of water (d) Loss of hydrogen.

(iii) Which of the following reagent is suitable for anti-hydroxylation of cycloalkene ?

(a) Hot KMnO_4 (b) HCOOOH (c) Cold alkaline KMnO_4 (d) $\text{Hg}(\text{OAc})_2/\text{NaBH}_4$

Q. 2 Answer the following (ANY TWO)

4

(i) Give successfulness and unsuccessfulness of Baeyer angle strain theory.

(ii) Why cyclopropane is more reactive than cyclobutane.

(iii) 1-butyne give white ppts with Tollens reagent but 2-butyne does not.

(iv) Neopentyl bromide upon E1 elimination give 2-methyl-2-butene as the major product.

Q. 3 Answer the following

(a) Define: Free radical. Give detail stepwise free radical mechanism for halogenation of alkane. 4

(b) Discuss Baeyer angle strain theory using (i) heat of combustion concept and (ii) orbital picture of covalent bond. 5

OR

P.T.O.

Q. 3 Answer the following

- (i) Calculate the percentage of isomeric products obtain upon monochlorination of **isopentane**. The relative reactivity of 1° , 2° , and 3° H-atoms are 1: 3.8 : 5 respectively. **4**
- (ii) Give the synthesis of n-nonane from methyl bromide and appropriate alkyl halide by using Corey-House synthetic route. **2**
- (iii) Why the synthesis of large ring system is difficult ? **3**

OR

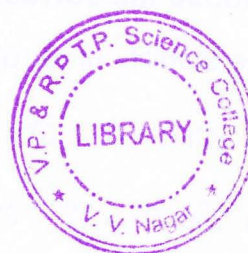
Q. 4 Answer the following

- (i) Give detail stepwise reaction mechanism for dimerization of isobutylene. **4**
- (ii) Give detail difference between E1 and E2. **5**

OR

Q. 4 Answer the following

- (i) Give the synthesis of 2-butyne from 1-propene. **3**
- (ii) Cis-2-butene is less stable than trans-2-butene. **3**
- (iii) Propene reacts with HBr to give isopropyl bromide as a major product but in presence of peroxide it gives n-propyl bromide as a major product. **3**



THE END

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