



V. P. AND R. P. T. P. SCIENCE COLLEGE
VALLABH VIDYANAGAR
B. Sc. INTERNAL EXAMINATION- 2014 (IInd SEMESTER)
SUBJECT : ORGANIC CHEMISTRY
COURSE CODE : US02CCHE01

DATE : 11-03-2014

TIME : 11.00 a.m. TO 12.00 Noon

DAY : TUESDAY

TOTAL MARKS : 30

Q.1 ANSWER THE FOLLOWING (ANY THREE)

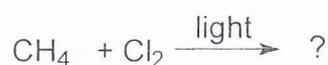
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- (i) Cyclopropane is more prone to undergo ring opening reaction rather than cyclobutane.
- (ii) Give the successful and unsuccessful of Baeyer's angle strain theory.
- (iii) Acetylene is stronger acid than ethane.
- (iv) E1 elimination reaction follows second order kinetics.
- (v) Hydrolysis of p-nitroacetanilide is best carried out in acidic medium and not in a basic medium.
- (vi) 3^o alkyl halide does not undergo S_N2 reaction but follows S_N1 reaction.

Q.2 ANSWER THE FOLLOWING

- (i) Complete the following reaction and give stepwise detail mechanism.

4



- (ii) What is the meaning of Baeyer's strain theory of the modern picture of the covalent bond?

4

OR

Q. 2 ANSWER THE FOLLOWING

- (i) Calculate the percentage of isomeric products obtained upon monochlorination of n-Pentane 4
- (ii) What is meant by heat of combustion? Discuss the stability of various cycloalkanes with respect to heat of combustion. 4

[P.T.O.]

Q.3 ANSWER THE FOLLOWING

- (i) Write reaction mechanism for the dimerization of isobutylene. 4
(ii) Cis-2-butene is less stable than trans-2-butene. 4



OR

Q.3 ANSWER THE FOLLOWING

- (i) Give difference between following with at least one suitable example. 4
(a) Oxymercuration–Demercuration and Hydroboration–Oxidation.
(b) E1 and E2 elimination.
(ii) Give stepwise detail reaction mechanism for the addition of bromine to an alkene via bromonium ion. 4

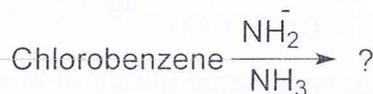
Q.4 ANSWER THE FOLLOWING

- (i) Compare the S_N1 and S_N2 reaction with respect to (a) Number of steps (b) Rate and order (c) Molecularity (d) Transition state of slowest step. 4
(ii) Account both *o*-bromoanisole and *m*-bromoanisole yields the same product *m*-anisidine in presence of NH₂⁻ /NH₃. 4

OR

Q.4 ANSWER THE FOLLOWING

- (i) Complete the following reaction and give appropriate detail mechanism for the following. 4



- (ii) Write all the **possible** isomeric structural formula for the compound having molecular formula C₄H₉Br. Classify them as 1^o, 2^o and 3^o alkyl halides. 4

THE END

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