

V. P. AND R. P. T. P. SCIENCE COLLEGE
VALLABH VIDYANAGAR
B. Sc. INTERNAL EXAMINATION- 2014 (IIIrd SEMESTER)
SUBJECT : ORGANIC CHEMISTRY
COURSE CODE : US03CCHE01

DATE : 10-10-2014

TIME : 02.00 p.m. TO 3.30 p.m.

DAY : FRIDAY

TOTAL MARKS : 25

Q. 1 Choose the correct option for the following 3

- (i) Which of the following statements is false about enantiomers ?
(a) rotate plane-polarised light (b) are superimposable mirror images
(c) are non- superimposable mirror images (d) have the same melting point.
- (ii) Amide compound react with Br_2/NaOH to give :
(a) 1° amine (b) Carboxylic acid (c) Alkane (d) Anilide.
- (iii) Which of the following compound is possessed analgesic and antipyretic properties ?
(a) Piperine (b) Hexestrol (c) Thymol (d) Phenacetin.

Q. 2 ANSWER THE FOLLOWING (ANY TWO) 4

- (i) Staggered conformation of ethane is more stable than eclipsed conformation.
(ii) α -Chloroacetic acid is stronger acid than acetic acid.
(iii) Acetoacetic ester is a much stronger acid than ordinary esters.

Q. 3 ANSWER THE FOLLOWING

- (i) Arrange the stability order of the following conformations of n-butane and explain your answer. 3
(a) Staggered (b) Gauche (c) Eclipsed
- (ii) Cis-1,2-cyclopentane diol cannot be resolved whereas trans-1,2-cyclopentane diol is resolvable. 3

OR

Q. 3 ANSWER THE FOLLOWING

- (i) Arrange the stability order of the following conformations of cyclohexane and explain your answer. 3
(a) Boat (b) Chair (c) Twist-boat.
- (ii) Trans-1,2-dimethylcyclohexane exist as a pair of configurational enantiomer but cis isomer exist as a pair of conformational enantiomer. 3

[P.T.O.]

Q. 4 ANSWER THE FOLLOWING

- (i) Give the synthesis of 2-ethyl-1-hexanol from acetaldehyde using aldol condensation. 3
- (ii) Draw the structure of all isomeric aliphatic amines having molecular formula $C_4H_{11}N$ and classify them as 1^0 , 2^0 and 3^0 . 3

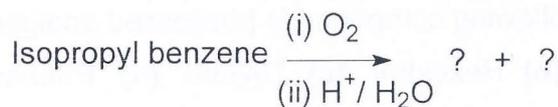
OR

Q. 4 ANSWER THE FOLLOWING

- (i) Give stepwise detail mechanism of acid catalysed halogenation of ketone. 3
- (ii) Aliphatic amines are stronger base than aromatic amines. 3

Q. 5 ANSWER THE FOLLOWING

- (i) What is transesterification ? Give mechanism of acid catalyzed transesterification. 3
- (ii) Complete the following reaction and give appropriate detail stepwise mechanism. 3



OR

Q. 5 ANSWER THE FOLLOWING

- (i) Carboxylic acids are stronger acid than phenol. 3
- (ii) Give detail stepwise reaction mechanism of Gatterman synthesis. 3



THE END

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