



V.P. AND R.P.T.P. SCIENCE COLLEGE
VALLABH VIDYANAGAR
INTERNAL TEST-2015 (B.Sc. Third sem.)

COURSE : US03CCHE01 (ORGANIC CHEMISTRY)

DATE : 05-10-2015

TIME : 3.00 p.m. TO 4.30 p.m.

DAY : MONDAY

TOTAL MARKS: 25

Q.1. Choose the correct option for the following

[3]

(i) Which of the following statement false about enantiomer ?

- (a) rotate plane-polarized light (b) are superimposable mirror image
(c) are non-superimposable (d) have the same melting point.

(ii) Which of the following compound does not give Iodoform test ?

- (a) Tert-butyl alcohol (b) 2-propanol (c) Ethanol (d) Acetone.

(iii) The correct order of B. P. of 1° , 2° and 3° alcohols is :

- (a) $3^{\circ} > 2^{\circ} > 1^{\circ}$ (b) $2^{\circ} > 3^{\circ} > 1^{\circ}$ (c) $1^{\circ} > 2^{\circ} > 3^{\circ}$ (d) $1^{\circ} > 3^{\circ} > 2^{\circ}$.

Q.2. Answer the following (ANY TWO)

[4]

- (i) In conformational analysis of cyclohexane, tert-butyl group is considered as a holding group.
(ii) Acetoacetic ester is stronger acid than ordinary ester.
(iii) Give the limitations of Grignard synthesis.

Q.3. Answer the following

(i) Stereochemistry of free radical chlorination of optically active compound proceed with racemization. [3]

(ii) Why equatorial methylcyclohexane^e is more stable than axial methylcyclohexane. [3]

OR

[P.T.O.]

Q.3. Answer the following

- (i) By using Newmann formula, draw various conformations of n-butane and explain [3] their stability giving potential energy diagram.
- (ii) Cis-1,2-cyclopentane diol can not be resolved whereas trans-1,2-cyclopentane diol is resolvable. [3]

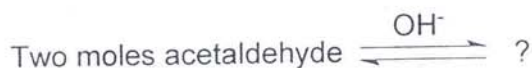
Q.4. Answer the following

- (i) Give detail stepwise reaction mechanism of acetal formation. [3]
- (ii) Draw the structure of all isomeric amines having molecular formula $C_4H_{11}N$. How [3] can they are distinguished.

OR

Q.4. Answer the following

- (i) Aniline is weaker base than ammonia and aliphatic amine. [3]
- (ii) Complete the following reaction and give stepwise detail mechanism. [3]



Q.5. Answer the following

- (i) Arrange relative acidity order of following molecules and explain your answer. [3]
(a) Alcohol (b) Water (c) Ammonia.
- (ii) Give the synthesis of glycerol from propene via holohydrin formation. [3]

OR

Q.5. Answer the following

- (i) Give detail stepwise mechanism of pinacol rearrangement. [3]
- (ii) Tert-butyl chloride upon reaction with sodium ethoxide to give isobutene and not ethyl tert-butyl ether. [3]

THE END

