

copy of Q. no.

ORGANIC
1st Semester

2012-13

Time : 3 Hours

Full Marks - 80

Ans. cis-ane proton peak forms two peak forms (cis) na kapaad of interconversion but the letter is not the letter in system and Candidates are required to give their answers in their own words as far as practicable in different environments the result being two different axial shift.

Question are of equal value

3 forms, is product by joining and involve and one axial band at. Answer any four question, including No.1 which is compulsory. h. line) i.e. a.e but transforms is product by joining two ring by equatorial band only: $8 \times 2 \frac{1}{2} = 20$

1. ~~A~~ Cis-decalin shows a single sharp peak in HNMR but trans-decalin shows two peaks. Why?

ii) Bridge head hydrogen atoms of cis-decalin are positioned as

A) a, a (B) e, e (C) a, e and

D) Pseudo-a-Pseudo-e. Where a= axial,

Turn Over

e = Equatorial positions.

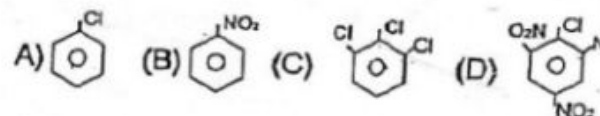
iii) Rapid interconversion of α -D-glucose and β -glucose in solution is called

- A) Racemization (B) Assymmetric Induction
- C) Mutarotation (D) Fluxional Isomerism.

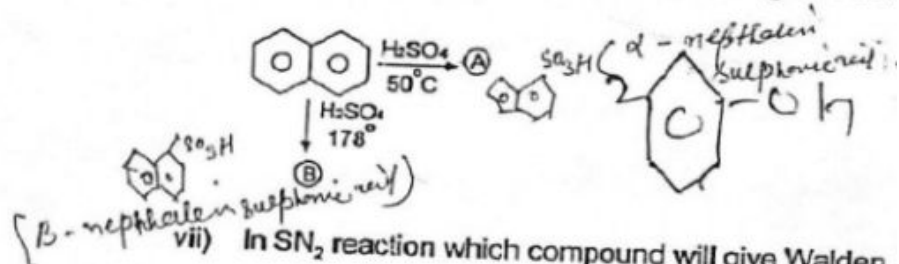
iv) Reaction intermediate in Ecb reaction. is

- A) Carbocation (B) Carbanion (C) Benzyne (D) Free radical.

v) Which among the following, compounds will Ar SN reaction by formation of benzyne as reaction intermediate



vi) Assign products A and B in the following reaction



vii) In SN₂ reaction which compound will give Walden

www.BiharPaper.com

www.BiharPaper.com

11-2) 2/11/37.4

inversion

- A) $CH_3 - CH_2 - Br$ (B) $CH_3 - CHD - Br$
- C) CH_3Br (D) $C_{10}H_7CH_2 - CH_2 - Cl$

- viii) (X) Tartaric and meso tartaric acid are
- A) Enantiomers (B) Diastereoisomers
 - C) Geometrical isomers (D) conformers.

2. Write notes on any two of the following

- A) Hyper conjugation (B) Cross - conjugation,
- C) Resonance (D) Alternant and non alternant

10+10=20

3. a) What are antiaromaticity and homoaromaticity?
- b) State Huckel rule of aromaticity and its limitations.

10+10=20

4. a) Discuss conformational analysis of decalins and effect of conformation on reactivity.

- b) Give details about stereo chemistry of the following
- (i) Biphenyls (ii) Allenes

10+10=20

5. Write notes on any two of the following :

XK (1) Ch (3)

3

Turn Over

- A) Carbocations (B) Carbene (C) Substituents

Constant and reaction constants. 10+10=20

6. Give mechanism and synthetic applications of any two reactions.

- i) Perkin reaction (ii) Benzoin condensation (iii) Kdo condensation.

10+10=20

7. a) State important characteristics of E_1 , E_2 & E_{cb} with simple examples.

- b) Write brief notes on
- (1) Saytzeff rule (2) Hoffmann rule.

10+10=20

Explain effect of substituents on reactivity and orientation in aromatic electrophilic substitution reaction.

- b) Write note on allylic halogenations.

10+10=20

Handwritten notes and diagrams:

- Vertical text: Allylic Halogenation
- Vertical text: Allylic
- Diagram showing a carbon atom with a radical and a double bond, with arrows pointing to the radical and the double bond.
- Text: 1. Saytzeff rule
- Text: 2. Hoffmann rule
- Text: Carbocation
- Text: Allylic
- Text: 4