Pharmaceutical Organic Chemistry III

B. Pharm. IV Semester

Model Question Paper

Unit 1- Optical Isomerism

Unit 2- Geometrical isomerism

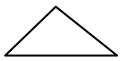
Important Questions for Practice only

www.youtube.com/pharmacologyconceptsbyrajeshchoudhary

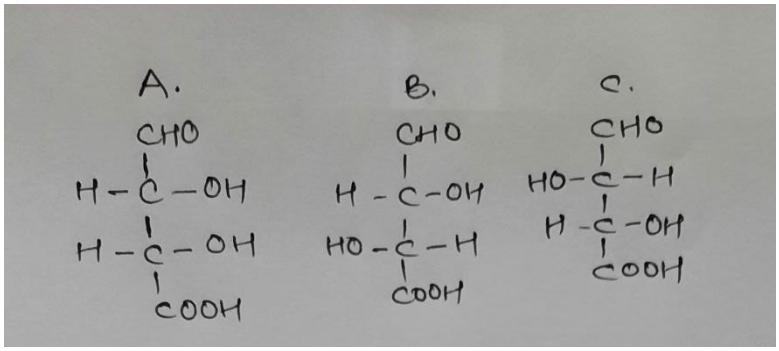
Section I- MCQs

1. Choose the incorrect option regarding Isomerism.
   a) They differ in physical and/or chemical properties
   b**) They have the differ in molecular formula**
   c) Stereo Isomerism related to configuration or spatial arrangement of atom/group
   d) Confirmational isomerism is a type of Stereo Isomerism

2. Which is wrong about optical isomerism
   a) Optical rotation of ppl can be determined by polarimeter
   b) Clock wise rotation denotes dextro/(+) form
   c) Enantiomers are non-superimposable mirror image
   d) Two chiral centre containing compounds always show optically activity

3. Which is not a optically active
   a) CH3-CHCl-CH2-CH3
   b) COOH-CHOH-CH3
   c)  C is the answer
   d) COOH-CHOH-CHOH-COOH

4. Identify the Relation between A&B and B&C



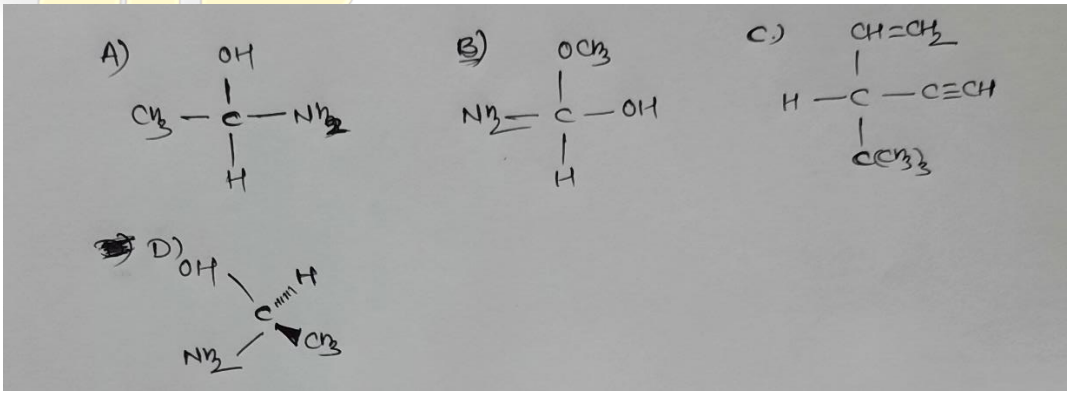
a) Enantiomer and Diastereomers
b) Diastereomers & Enantiomer
c) All Enantiomers
d) All Diastereomers

5. Which among the following correctly defines Diastereomer?
   a) These have same magnitude but different signs of optical rotation
   b) Nonsuperimposable object mirror relationship
   c) **These differ in all physical properties**
   d) Separation is very difficult

6. Which among the following defines Meso forms of isomers?
   a) Meso form is optically inactive due to external compensation
   b) The molecules of the meso isomers have chirality
   c) It can be separated into optically active enantiomeric pairs
   d) It is a single compound, and optically inactive due to internal compensation

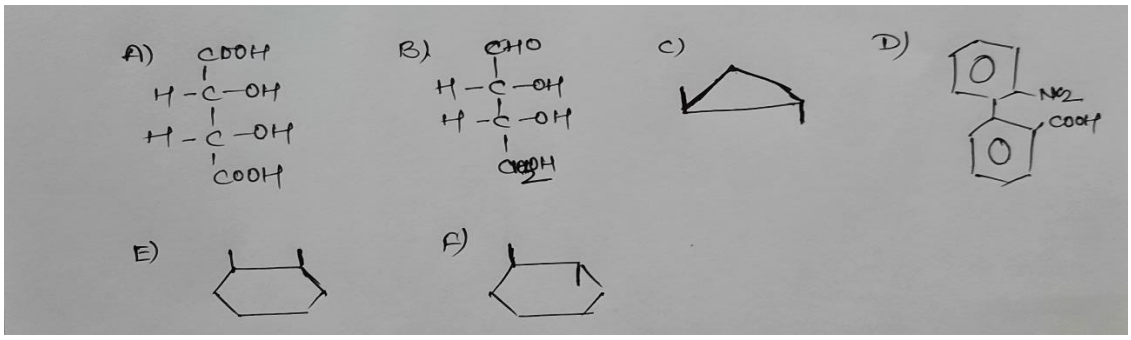
7. Identify the chiral molecule among the following.
   a) Isopropyl alcohol
   b) 2-pentanol
   c) 1-bromo 3-butene
   d) **Isobutyl alcohol**

8. Identify the R and S configuration in the examples



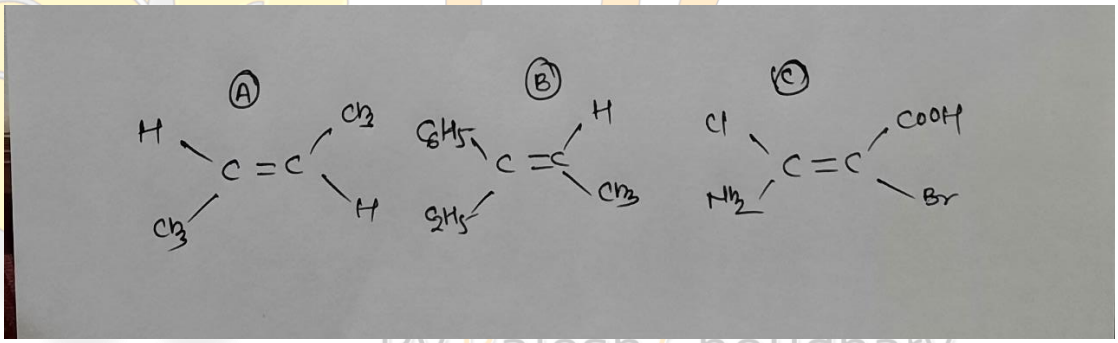
A) R B) R C) S D) S

9. Optically active (OA) or optically inactive (OI)



A) OI B) OA C)OA D)OA E)OI F)OA

10. Which among the following does not exhibit geometric isomerism?
    a) **1-hexene**
    b) 2-hexene
    c) 3-hexene
    d) 4-hexene
11. Assign E or Z configuration to the given compound.



A) E B) E C) E

12. n-butan has .....conformational isomer
    a) 1 **b) 4** c) 6 d) 3

13. Which is the most stable conformer in n-butane
    a) Fully Eclipsed
    b) Gauche
    c) Partially Eclipsed
    d) Anti

14. Which is the most unstable conformer in cyclohexane
    a) Chair
    b) Boat
    c) Twisted Boat
    d) Half Chair

15. Diastereomers found in
    a) Optical isomers
    b) Geometrical Isomers

c) **Both**

Section II Long Answer Type Question

1. Define the optical Isomerism and discuss the conditions for optical activity and discuss the optical isomer of the tartaric acid
2. Discuss the methods of determination of configuration of geometrical isomers
3. Discuss the Stereoselective and stereospecific reactions

Section III Short Answer Type Question

1. Discuss about Diastereomers and Meso Compound
2. R & S Nomenclature System
3. Reaction Involve in Chiral Molecules
4. Explain the Cis-trans and E-Z nomenclature system
5. Atropisomerism
6. Describe the conformational isomerism in n-butane or Cyclohexane

IMPORTANT Playlist links click:

Pharmacology (4th sem):
https://youtube.com/playlist?list=PLGvozyFU10Y58xBR6TPcxpb6I-ArZ7Y0l

Pharm. Organic Chemistry 3 (B.Pharm. 4th Semester):
https://youtube.com/playlist?list=PLGvozyFU10Y6Q_vtW6Kh3TQ3Y6l-L1d7e

Medicinal Chemistry 1:
https://youtube.com/playlist?list=PLGvozyFU10Y7pMHCgGBpfYAtQd93gUlT7

Pharm. Organic Chemistry II (B. Pharm. 3 Semester):
https://www.youtube.com/playlist?list=PLGvozyFU10Y6IoNRO32YA11pPDIk2P22M