**Avinashilingam Institute for Home Science and Higher Education for Women**
**Coimbatore-641 043**
**Bachelor's DegreeExamination–November -2018**
**VSemester**

**Class:III UG** **Time: 3 hours**
**Major :Chemistry** **Max.Marks: 100**

11BCHC14/ **15BCHCI 14 –Selected Topics in Organic chemistry**

**Part-A** **10x1=10**

**Choose the correct answer**

1. Which reagent is called as Universal reducing agent?
   a. $KMnO_4$ b.$K_2 Cr_2 O_7$ c. $LiAlH_4$ d.$NaBH_4$

2. Naphthalene when reduced with sodium and isoamy alcohol gives.
   a.1,4 – Dialin b.1,2 - Decalin c.Tetralene d. Decalene.

3. The rearrangement of allyl phenyl ethers to ortho allyl phenol is known as ..... rearrangement
   a.Cope b.Benzidine c.Schmidt d.Claisen.

4. Which one of the following rearrangement is acid catalyzed?
   a.Benzil – Benzilic acid b.Pinacol - Pinacolone c.Lossen d.Claisen

5. The formula for Grignard reagent is
   a.RMgX b.$R_2MgX$ c.R - CaX d. RBeX

6. The compound used as Sleeping drug is
   a.Mustard gas b.Sulphone c.Sulphonal d. Ethanethiol.

7. The total number of asymmetric carbon atom in tartaric acid is
   a. 1 b.2 c.3 d. 4

8. Compounds having same sequence of covalent bonds but differ in relative position of the atoms or groups in space is called
   a.Metamers b.Functional isomers c. Structural isomers d. stereoisomers

9. Allenes and Spiranes contain no asymmetric carbon but show optical activity due to
   a. Presence of bulky atoms or groups which make the molecule planar
   b. Molecules are coplanar due to large space occupied by them and also due to hindered rotation
   c. The object and its mirror images are super imposable
   d. none of the above.

10. C is isomer always have .....dipole moment than the trans isomer.
    a. Equal b.lower c.Zero d. higher

**PartB** **5X6=30**

**Answer the following**

**Answer should not exceed 400 words or two pages**

11.a. Discuss the synthetic applications of $LiA1lH_4$, and $SeO_2$

(or)

11. b. How are Naphthalene and Phenanthrene are prepared?

12. a.What is Pinacol – Pinacolone rearrangement? Give its mechanism.

(or)

12.b. Discuss the mechanism of Benzidine reamangement.

13.a.What are Organosulphur compounds? Give examples. Explain the preparation , and any \ three Chemical reactions of Sulphonic acids.

(or)

13.b.Write a short note on Organo Copper compounds and Organo Zinc Compounds.

14.a. What is mean by racemization and resolution? Explain any one method resolution .

(or)

14.b. i. What are symmetry elements? Explain . (4)

ii. Write the conditions for optical activity. (2)

15.a.Explain the optical isomerism exhibited in biphenyls and Spiranes.

(or)

15.b. What is mean by geometrical isomerism? Explain with suitable examples.

**Part C 5x12=60**

**Answer the following**

**Answer should not exceed 800 words or four pages**

16.a.Elucidate the structure of Naphthalene.

(or)

16. b.(i) Point out the synthetic uses of Lead tetra acetate, and $H_2$ / Raney Ni. (4)

(ii) Elucidate the Structure of Anthracene. (8)

17.a.(i) Explain the mechanism behind Wolf rearrangement and Schmidt rearrangement..

(or)

b.Discuss about Bayer – Williger and Benzilic acid rearrangement with mechanisms.

18.a. Describe the preparation , properties and synthetic applications of Grignard reagent.

(or)

18.b.(i)What is mean by Reformat sky reaction? Explain in detail. (4)

(ii) Give a brief account on preparation and chemical reactions of OrganoLithium Compounds. (8)

19.a.(i) What is mean by Stereo isomerism? How is it Classified? Explain briefly with suitable examples. (7)

(ii) Distinguish between absolute configuration and relative Configuration. (5)

(or)

19.b. (i) Explain the optical isomerism exhibited in tartaric acid. (8)

(ii) What do you mean by Walden inversion? (4)

20.a.Discuss the optical isomerism exhibited in allenes and geometrical isomerism in Unsymmetrical Ketoximes.

(or)

20.b.Explain the various methods used to the distinguish geometrical isomers.

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