Q.P. Code 104013 **Reg. No.:……**

First Year B.Sc Optometry Degree Supplementary Examinations
October 2018

Chemistry

(2010 Scheme)

Time: 3 hrs **Max marks : 80**

- **Answer all questions**
- **Draw diagram wherever necessary**

Essay: **(2x15=30)**

1. What are hormones. How are they classified. Explain their physiological importance by taking suitable examples.
2. Discuss the various electron displacement effects in organic molecules. How do they influence the mechanism of reactions.

Short notes **(5x5=25)**

3. What are buffer solutions. Explain significance of buffer in living systems.
4. How does glucose and fructose react with phenyl hydrazine.
5. Draw the geometrical isomers of $C_2H_2Cl_2$. Name them. How can they be distinguished from each other.
6. How benzene sulphonic acid is formed from benzene.
7. Describe the principles involved in the separation and characterization of compounds using paper chromatography.

Answer briefly **(10x2=20)**

8. How many optical isomers are possible for a molecule containing two asymmetric carbon atoms ? Give one example
9. Differentiate between a sol and emulsion.
10. What will be the products formed when fructose under goes strong oxidation with HNO_3.
11. What are carbanions and mention two examples.
12. What are geometrical isomers and mention example.
13. What is cellulose nitrate or gun cotton.
14. What are the applications of column chromatography.
15. Draw the resonating structures of nitrobenzene.
16. Differentiate between asymmetric and dissymmetric molecule.
17. What is the necessary and essential condition for a molecule to exhibit optical activity.

Fill in the blanks **(5x1=5)**

18. Naturally occurring laevorotatory sugar is ……..
19. The random erratic zig-zag motion of colloidal particles is called…….
20. The diastereomeric form of d-tartaric acid is……
21. The deficiency disease caused by vitamin B_{12} is ……..
22. The hybridization state of carbon in acetylene molecule is……

****