

First Year B.Sc Optometry Degree supplementary Examinations –  
November 2016

## **CHEMISTRY**

### **(2010 Scheme)**

**Time : 3 hrs**

**Max marks : 80**

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

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

1. What is a buffer solution and mention different types of buffer. Discuss their buffer action
2. Explain the biological functions and deficiency disease caused by vitamin A and vitamin B<sub>1</sub>.

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

3. Various methods of resolution of racemic mixture.
4. What are the different types of organic reactions. Give examples.
5. Mutarotation.
6. What is the principle of column chromatography.
7. What is meant by inversion of cane sugar. Explain with relevant equations. How does glucose reacts with phenyl hydrazine.

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

8. Distinguish between internal compensation and external compensation
9. What is meant by chirality.
10. Preparation sulphanilamide
11. What is hyper conjugative effect.
12. Explain the terms elution and eluent
13. Friedel-Crafts acylation
14. What are nucleophiles and mention two examples
15. Distinguish between lyophilic and lyophobic colloids
16. What are emulsion and mention its different types.
17. What happens when benzene is treated with •Cl<sub>2</sub> in the presence of FeCl<sub>3</sub> •Cl<sub>2</sub> in the presence of U. V light.

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

18. The hybridization of carbon in benzene is \_\_\_\_\_
19. The bond angle in methane molecule is \_\_\_\_\_
20. The optical isomers that are mirror images are called \_\_\_\_\_
21. The metal present in vitamin B<sub>12</sub> is \_\_\_\_\_
22. The complete hydrolysis of cellulose gives \_\_\_\_\_