

## First B.Sc Optometry Degree Examinations -September 2013

**CHEMISTRY**

Time : 3 hrs

Max marks : 80

- Answer all questions
- Draw diagram wherever necessary

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

1. What is a buffer solution and mention their different types. Discuss their buffer action.
2. Mention the structures and names of products obtained when D\_ glucose and D\_ fructose with acetic anhydride, bromine water, conc. HNO<sub>3</sub>, NH<sub>2</sub>OH and ammoniacal silver nitrate solution

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

3. Explain resonance effect
4. Glucose and fructose give the same osazone. Explain
5. Explain the biochemical functions of vitamin B<sub>1</sub>
6. What happens when benzene is treated with methyl chloride in the presence of AlCl<sub>3</sub>, Acetyl chloride in the presence of AlCl<sub>3</sub> and n\_ propylchloride chloride in the presence of AlCl<sub>3</sub>
7. Mention the difference between lyophilic and lyophobic colloids

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

8. Explain why benzyl carbocation is more stable than methyl carbocation.
9. What are meso compounds and explain with tartaric acid as an example.
10. What are enantiomers.
11. Why benzene is extra ordinarily stable though it contains three double bonds.
12. Name the vitamin whose deficiency causes night blindness, beriberi, scurvy and pernicious anemia
13. The preparation of sulphanilamide
14. Which chromatographic techniques is based upon liquid-liquid partition. Explain its principle.
15. What are nucleophiles and mention two examples
16. What is demulsification and name two demulsifiers.
17. Brownian movement.

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

18. Geometry of methane is \_\_\_\_\_
19. \_\_\_\_\_ saccharides are composed of two monosaccharide units
20. Vitamin A is otherwise called \_\_\_\_\_
21. Milk is an emulsion of liquid fat dispersed in \_\_\_\_\_
22. The stereo isomers which are non super imposable and do not bear mirror image relationship are called \_\_\_\_\_

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