Q.P. Code 104013 **Reg. No.:……**

First Year B.Sc Optometry Degree Supplementary Examinations
April 2018

Chemistry

(2010 Scheme)

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

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

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

1. Explain inductive effect, resonance effect and hyper conjugation effect.
2. Discuss the principle of column chromatography and thin layer chromatography. Define Rf value.

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

3. Comment on physical and chemical properties of enantiomers and diastereomers
4. Explain the homolysis and heterolysis of a covalent bond. How carbocations, carbanions and free radicals are formed.
5. What happens when benzene is treated with
   - Mixture of Con H_2SO_4 and Con HNO_3 at 330K
   - Cl_2 in the presence of U. V light.
   - Cl_2 in the presence of $FeCl_3$
   - Con H_2SO_4 at 330K
6. Glucose and fructose give the same osazone. Explain.
7. Explain the biological functions and deficiency disease caused by vitamin C

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

8. What happens cellulose is treated with alkali.
9. Shape of methane using hybridization
10. Explain why benzyl carbonium ion is more stable than ethyl carbonium ion.
11. Isomerism of lactic acid
12. Geometrical isomerism.
13. Preparation of sulphapyridine.
14. Classification of vitamins
15. Friedel-Crafts alkylation.
16. How will you distinguish between glucose and sucrose.
17. Hydrolysis products of lactose and maltose.

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

18. The hybridization of carbon in ethene is _____
19. _____ is the provitamin for Vitamin A.
20. The stationary phase in paper chromatography is _____
21. The deficiency of which vitamin cause scurvy_____
22. The principle sugar in blood is _____

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