Q.P. CODE: 103016 **Reg. No: ……...**

First Year B.Sc Perfusion Technology Degree Supplementary Examinations, February 2015

Biochemistry

Time: 3 Hrs **Max. Marks:80**

- Answer all questions
- Draw diagram wherever necessary

Essays: **(2×10=20)**

1. Describe the principle and parts of a colorimeter & spectrophotometer with the help of a diagram. Describe the different filters and its uses in a colorimeter. (8+2 = 10)

2. Describe the different types of pipettes used in the laboratory. How are they calibrated. What are the advantages of automatic pipettes in laboratory (6+2+2=10)

Short notes: **(6x5=30)**

3. Conventional units and SI units. Mention two sets of examples (unrelated) and how these units are inter converted.
4. A concentrated sulphuric acid solution has a molecular weight of 98.1, the percentage of the acid in the solution is 98% and density of 1.84. How do you make a 1 N. solution of the acid in water.
5. Define and describe with examples buffers and pKa.
6. Different types of strong and weak electronic bonds.
7. Enumerate the different liver function tests and function that is being tested.
8. Define and explain respiratory quotient.

Answer briefly: **(10x3=30)**

9. Describe the principle and calculation of precision in laboratory practice.
10. Principle of estimation of blood glucose.
11. Significance and normal values of different cardiac markers.
12. Composition of normal urine and methods of qualitative analysis.
13. Dietary fibers and its importance in diet
14. Serum lipid profile.
15. Principle of estimation of serum electrolytes.
16. Nutritional importance of carbohydrates
17. Changes and causes of respiratory acidosis.
18. Glucometer.

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