

**FIRST SEMESTER B.Sc. DEGREE EXAMINATION
JANUARY 2013**

(CCSS)

Biochemistry – I

BC 1C 01 – ELEMENTARY BIOCHEMISTRY – I

Time : Three Hours

Maximum : 30 Weightage

I. Objective Type Questions. Answer *all* questions :

Choose the correct answer from the brackets :

1. The buffer has maximum efficiency when :

- (a) The ratio of salt to acid is greater.
- (b) The ratio of acid to salt is greater.
- (c) When the ratio is equal.
- (d) None of these.

2. The substance in tears which helps to control infection :

- (a) Urea.
- (b) Water.
- (c) Bases.
- (d) **Lysozyme.**

3. The number of moles of a solute dissolved in a litre of solution is known as :

- (a) **Molarity.**
- (b) Molality.
- (c) Normality.
- (d) None of these.

4. Largest **leucocytes** present in the blood :

- (a) Lymphocyte.
- (b) **Monocyte.**
- (c) **WBC.**
- (d) **RBC.**

Fill in the blanks:

- 5. Migration of ions in a medium under the influence of an electric field is known as _____
- 6. Sugar present in cerebrospinal fluid is _____
- 7. Compounds having same molecular formula but different structures are called _____ structural isomers.
- 8. Saliva cannot digest _____ of food. _____

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Answer in one word/sentence :

9. What is R_f value?
10. Name the protein present in milk.
11. Define pH value.
12. What are colloids?

(12 x 3 = 36 weightage)

II. Short Answer Type Questions. Answer all *nine* questions :

13. Give an example for a decarboxylation reaction.
14. Applications of gel filtration chromatography.
15. What is Western blotting? What is its application?
16. What is isoelectric point?
17. Role of hydrogen bonds.
18. What is the use of a spectrophotometer?
19. Biochemistry of blood clotting.
20. Emulsifying agents.
21. What is the use of radio immunoassay?

(9 x 1 = 9 weightage)

III. Answer any *five* questions :

22. Applications of gel electrophoresis.
23. What are the types of centrifuges?
24. Principle and applications of colorimeter.
25. What are oxidation reduction reactions? Give examples.
26. Give an account of the composition and function of gastric juice.
27. Give an account of HPLC.
28. Give examples for a substitution reaction and an addition reaction.

(5 x 2 = 10 weightage)

IV. Answer any *two* questions :

29. Give an account of buffers. Explain the mechanism of buffer action. Add a note on the application of buffers in biological systems.
30. Give an account of the different chromatographic techniques.
31. Write the composition and function of lymph, seminal fluid, tears and sweat.

(2 x 4 = 8 weightage)