

E 2435

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Reg. No.....

Name.....

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, NOVEMBER 2015

First Semester

Complementary Course—BIOCHEMISTRY—ELEMENTARY BIOCHEMISTRY

(Common for all programmes having Biochemistry as Complementary Subject)

[2013 Admission onwards]

Time : Three Hours

Maximum : 60 Marks

Part A (Short Answer Questions)

*Answer all questions.
Each question carries 1 mark.*

1. What is a buffer solution ?
2. List out the two main categories of WBCs and give the different types in each category.
3. What are colloids ? Give *two* examples.
4. What is cerebrospinal fluid ? What is its role ?
5. Differentiate between Molarity and Molality.
6. What are the functions of blood platelets ?
7. Colligative properties of solution. What does it mean ?
8. What is the meaning of K_a and pK_a values ?

(8 × 1 = 8)

Part B (Brief Answer Questions)

*Answer any six questions.
Each question carries 2 marks.*

9. Name the important clotting factors.
10. Derive Henderson-Hasselbach equation.
11. What is an emulsion ? Name few emulsifying agents.
12. What is the principle of spectrophotometry ?
13. Describe the function and composition of gastric juice.
14. Describe the methods of preparation of colloidal solutions.
15. What is radio immunoassay ?

Turn over

16. Write notes on Tyndall effect.
17. How is the pH of an aqueous solution of a salt between a weak acid and strong base calculated?
18. Write down the composition and function of saliva.

(6 × 2 = 12)

Part C (Short Essay Type Questions)

*Answer any four questions.
Each question carries 4 marks.*

19. What is a suspension? What are the properties of suspension?
20. The weak acid HA is 2% ionized (dissociated) in a 0.20 M solution.
 - (a) What is K_a for this acid?
 - (b) What is the pH of this solution?
21. What is an ampholyte? What is the purpose of using its separation methods?
22. Write notes on leucocytes.
23. Distinguish between lyophilic and lyophobic sols.
24. Write notes on southern blotting technique.

(4 × 4 = 16)

Part D (Long Answer Type Questions)

*Answer any two questions.
Each question carries 12 marks.*

25. Explain the principle and application of Immunoelectrophoresis.
26. What is a solution? How will you calculate the concentration of a solution? What are the different types of solutions?
27. Write down the composition of human blood.
28. Explain the mechanism of blood clotting.

(2 × 12 = 24)