

D 73140

(Pages : 2)

Name.....

Reg. No.....

FIRST SEMESTER B.A./B.Sc. DEGREE EXAMINATION, NOVEMBER 2019

(CUCBCSS—UG)

Biochemistry

BCH 1C 01—Biochemistry—I

Time : Three Hours

Maximum : 64 Marks

Section A

Answer all questions.

Each question carries 1 mark.

1. Write the expansion of HPLC.
2. Name an acid-base indicator.
3. Write the value of universal gas constant R.
4. A combination of ammonium hydroxide and ammonium chloride will give a ———— buffer.
5. Name the major carbohydrate seen in seminal fluid.
6. The globulin which is elevated during conditions of inflammation/infection is ————.
7. Name a biological buffer.
8. An example for a natural emulsifier is ————.
9. Name the law on which spectrophotometry is based.
10. Name the colloidal system in which dispersion medium is gas and dispersed phase is liquid.

(10 × 1 = 10 marks)

Section B

Answer any seven questions.

Each question carries 2 marks.

11. Calculate the pH of 0.002M solution of HCl.
12. Define molality.
13. What is a titration curve ?
14. State vant Hoff's law of osmotic pressure.

Turn over

15. What are conjugate acid-base pairs ?
16. Calculate the osmotic pressure of a 10% solution of glucose at 20 °C.
17. What is meant by auto-ionization of water ?
18. Illustrate the pH scale.
19. What are the components of an acidic buffer ?
20. Define K_a of an acid.

(7 × 2 = 14 marks)

Section C

Answer any four questions.

Each question carries 5 marks.

21. What are the methods used for the determination of pH ?
22. Explain the mechanism of buffer action.
23. Write a short note on factors influencing osmotic pressure.
24. Differentiate between lyophobic and lyophilic colloids.
25. Explain Donnan-Membrane Equilibrium.
26. Write short note on emulsions and emulsifying agents.

(4 × 5 = 20 marks)

Section D

Answer any two questions.

Each question carries 10 marks.

27. Explain the biochemistry of blood clotting.
28. Give a detailed account of absorption photometry.
29. Write an essay on the principle, methodology and applications of gel filtration chromatography.
30. Discuss in detail the types and functions of plasma proteins.

(2 × 10 = 20 marks)