

NOVEMBER/DECEMBER 2018

**BABT22 — PRINCIPLES OF CHEMISTRY
IN BIOLOGY**

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. State Hund's rule
2. Write any two features of s block elements.
3. Define electro affinity
4. Prepare 1L of 2 N hydrochloric acid solution.
5. Write the electronic configuration of sodium.
6. Define molarity
7. List any two uses of buffers.
8. Write the significance of Hydrogen bonds.
9. What are the types of antioxidants?
10. List any two free radicals.



SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL questions.

11. (a) Explain Aufbau principle with example.
Or
(b) Give the significance of magnetic quantum number.
12. (a) Explain the role of sodium and potassium ions in the body.
Or
(b) Discuss the metallic character of alkaline earth metals in the body.
13. (a) Explain the acid-base reactions and its significance.
Or
(b) Describe any two indicators commonly used in chemical analysis.
14. (a) What is the effect of change in pH in buffer system?
Or
(b) What are the types of isomerism?
15. (a) Write about the properties of water.
Or
(b) Discuss the role of superoxide and hydroxyl radicals in biology.

SECTION C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Describe the salient features of block elements.
17. Discuss the importance of atomic size in selection of ion channels in neurons.
18. Give a detailed account of complex metric titration.
19. Explain the role of covalent and hydrogen bonds in biology.
20. What are antioxidants? List the sources of antioxidants of plant and animal origin.

