

E 2512

(Pages : 2)

Reg. No.....

Name.....

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

First Semester

Core Course 2—ELEMENTARY CHEMISTRY

(For B.Sc. Biotechnology)

[2013 Admission onwards]

Time : Three Hours

Maximum : 80 Marks

Part A (Short Answer Questions)

Answer all questions.

Each question carries 1 mark.

1. What are enantiomers ?
2. What is covalent bond ?
3. What is Tyndall effect ?
4. Write about uses of Phenolphthalein.
5. What is normality ?
6. Explain bond order.
7. What is VSEPR theory ?
8. Define pH.
9. What is rate constant ?
10. Write about two factors influencing polarity of a bond.

(10 × 1 = 10)

Part B (Brief Answer Questions)

Answer any eight questions.

Each question carries 2 marks.

11. Write about Heisenberg uncertainty principle.
12. Explain atomic orbitals.
13. Differentiate Molarity and Molality.
14. Explain pK value.
15. Write a note on structure of water molecule.
16. What is lattice energy ?

Turn over

17. What is fractional life time ?
18. Write a note on types of Colloids.
19. Write about rotation in C-C single bond.
20. Write an account of redox indicators.
21. Explain dissociation constant.
22. Explain Bohr atom model.

(8 × 2 = 16)

Part C (Short Essay Type Questions)

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

23. Write a note on problems related to acid base titrations.
24. Explain integrated rate equation.
25. Write a note on intermolecular forces.
26. Give an account of optical isomerism.
27. Explain De Broglie equation.
28. Write about conformation of ethane.
29. Explain quantum numbers and its significance.
30. Explain collision theory of reaction rate.
31. Write about buffer systems.

(6 × 4 = 24)

Part D (Long Essays)

*Answer any two questions.
Each question carries 15 marks.*

32. Explain rate of reactions and various factors influencing rate of reaction.
33. Explain volumetric experiments and its significance.
34. What is configuration of organic molecules ?
35. Describe hybridization of orbitals and shapes of molecules.

(2 × 15 = 30)