22103103

QP CODE: 22103103

Reg No : .....

Name : .....

B.Sc DEGREE (CBCS) REGULAR / IMPROVEMENT / REAPPEARANCE EXAMINATIONS, OCTOBER 2022

Second Semester

B.Sc Biotechnology Model III

Core Course - BT2CRT04 - ELEMENTARY CHEMISTRY FOR BIOLOGY

2017 ADMISSION ONWARDS

E0D62D05

Time: 3 Hours Max. Marks : 60

Part A

*Answer any **ten** questions.*

*Each question carries **1** mark.*

1. List out any four postulates of Bohr atom model.
2. What are the applications of lattice energy?
3. What is VSEPR theory?
4. Define hydrogen bonding and its types.
5. What is a dipole-dipole interaction?
6. What is molarity?
7. What are ideal solutions? Give examples.
8. What are standard solutions?
9. What is optimum temperature?
10. Find out the unit of a second order reaction.
11. What are diastereomers?
12. What are d and l forms of a compound?

(10×1=10)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. What are atomic orbitals and how are they formed?
14. Explain the quantum numbers and its significance.
15. Classify the hybridizations based on the orbitals involved.
16. Discuss the different methods of expressing the concentrations of a solution.
17. Explain permanganometry.
18. Discuss the characteristics of rate constant.
19. Give the significance of probability factor.
20. Distinguish between eclipsed and staggerd conformations of ethane.
21. Explain the phenomenon of isomerism and the isomers.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **10** marks.*

22. Discuss the De Broglie equation, Heisenberg uncertainity principle and Schrodinger wave equation.
23. Discuss the molecular orbital theory.
24. Elaborate on standared solutions, criteria for being a primary standard and preparations of standard solutions.
25. Comment on activation energy, influence of temperature on reaction rates and also calculate the activation energy using Arrhenius equation.

(2×10=20)