QP CODE: 24046296

Reg No : .....

Name : .....

B.Sc DEGREE (CBCS) IMPROVEMENT/REAPPEARANCE/MERCY CHANCE EXAMINATIONS, DECEMBER 2024

First Semester

Complementary Course - CH1CMT01 - CHEMISTRY - BASIC THEORETICAL AND ANALYTICAL CHEMISTRY

(Common to B.Sc Botany Model I, B.Sc Botany Model II Environmental Monitoring And Management, B.Sc Botany Model II Food Microbiology, B.Sc Botany Model II Horticulture and Nursery Management, B.Sc Botany Model II Plant Biotechnology, B.Sc Family & Community Science Model I, B.Sc Food Science & Quality Control Model III, B.Sc Food Technology & Quality Assurance, B.Sc Geology and Water Management Model III, B.Sc Geology Model I, B.Sc Physics Model I, B.Sc Zoology Model I, B.Sc Zoology Model II Aquaculture, B.Sc Zoology Model II Food Microbiology, B.Sc Zoology Model II Medical Microbiology)

2017 Admission Onwards

13F4DC90

Time: 3 Hours Max. Marks : 60

Part A

*Answer any **ten** questions.*

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

1. Why doesn't the wave nature of moving cricket ball become evident to an obsever?
2. Define orbital.
3. Define ionic bond.
4. Explain breifly the lewis concept of covalent bond using a suitable example.
5. Define electron gain enthalpy.
6. Calculate the mass of 1.6 gram atom of sodium. Atomic mass of sodium is 23.
7. What is meant by a buffer solution?
8. What is equivalence point?
9. Mention any two types of titrations.
10. Give the principle of gravimetric analysis.
11. Define accuracy.

12. Define chromatogram.

(10×1=10)

Part B

*Answer any **six** questions.*

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

13. What is VSEPR theory? What are the postulates of VSEPR theory?
14. How elements are clasified in Long Form of the periodic table?
15. Distinguish between normality and molarity of a solution. Calculate the normality and molarity of oxalic acid solution obtained by dissolving 63g oxalic acid in one litre water.
16. Explain Lowry-Bronsted and Lewis concepts of acids and bases with suitable examples.
17. A buffer solution contains 0.20 mole of NH_4OH and 0.25 mole of NH_4Cl per litre. Calculate the pH of the solution. Dissociation constant of NH_4OH at room temperature is 1.81×10^{-5}.
18. What is common ion effect? Mention its applications.
19. Calculate the mass required to prepare 0.1N 250 ml oxalic acid solution.
20. What are the advantages of double burette method?
21. Write a note on scientific and prefix notation.

(6×5=30)

Part C

*Answer any **two** questions.*

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

22. Explain the geometry of acetylene and ethylene using hybridization.
23. What are the rules for assigning oxidation number? Explain with example.
24. Write briefly on different types of distillation techniques.
25. Discuss ion exchange chromatography and column chromatography.

(2×10=20)