22102180

QP CODE: 22102180

Reg No : .....

Name : .....

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

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

B9FF51CB

Time: 3 Hours Max. Marks : 60

Part A

*Answer any **ten** questions.*

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

1. Moving with same velocity an elctron or proton which will have higher wavelength? Why?
2. Define quantum number.
3. Differentiate between covalent bond and coordinate bond using an example.
4. Give the hybridization and geometry of ClF_3 molecule.
5. What is meant by a mole?
6. Define mole fraction.
7. Calculate the pH of 0.05 M sulphuric acid solution.
8. Differentiate primary and secondary standards.
9. Mention any two types of titrations.
10. Give the principle of gravimetric analysis.

11. Give the SI unit of mass and amount of substance.

12. Define chromatogram.

(10×1=10)

Part B

*Answer any **six** questions.*

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

13. Explain sp^3 hybridization using a suitable example.

14. How elements are clasified in Long Form of the periodic table.

15. Distinguish between valency and oxidation number.

16. Explain Lowry-Bronsted and Lewis concepts of acids and bases with suitable examples.

17. Write down Henderson-Haselbach equation explaining the terms involved. Give applications of the equation.

18. a) State and explain solubility product. b) The solubility of silver chloride in water at 250C is 0.00179gl-1. Calculate the solubility product at 250c.

19. Differentiate equivalence point and end point.

20. What are the advantages of double burette method?

21. Distinguish between accuracy and precision.

(6×5=30)

Part C

*Answer any **two** questions.*

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

22. Discuss valence bond theory in detail using suitable examples. What are its limitations?

23. What is meant by ionisation enthalpy? What are the factors affecting it?

24. Write briefly on different types of distillation techniques.

25. Discuss ion exchange chromatography and column chromatography.

(2×10=20)