19101051

QP CODE: 19101051

Reg No : .....

Name : .....

B.Sc.DEGREE(CBCS)EXAMINATION, DECEMBER 2018

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 (Reappearance)

4305FEF3

Maximum Marks: 60 **Time: 3 Hours**

Part A

Answer any **ten** questions.

Each question carries **1** mark.

1. Define the term workfunction.
2. Using s,p,d notation describe the orbital with these quantum numbers? (i) n=3, l=2, (ii) n=4,l=3.
3. Define the term lattice energy
4. Explain breifly the lewis concept of covalent bond using a suitable example.
5. What is meant by a mole?
6. What is meant by an oxidising agent?
7. Define molar volume.
8. What are standard solutions?
9. Why sodium hydroxide cannot be used as a primary standard.
10. Find out the significant figures in 0.00052 and 12.00 × 102.
11. Name different types of errors.
12. What is the principle of chromatography?

(10×1=10)

Part B

Answer any **six** questions.

Each question carries **5** marks.

13. What are vanderwaal's forces? Explain different types of such intermolecular forces?
14. How elements are clasified in Long Form of the periodic table.
15. State and explain Lowry Bronsted cocept of acids and bases. What are conjugate pair?
16. 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}.
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. What are the basic requirements for titrimetric analysis?
20. What are the advantages of double burette method?
21. Explain the fundamental and optimum conditions for efficient precipitation in gravimetric analysis.

(6×5=30)

Part C

Answer any **two** questions.

Each question carries **10** marks.

22. Define hybridization. What are its characteristics? Explain different types of hybridization using suitable examples.
23. Explain the various periodic properties with their variation along periods and groups.
24. Write briefly on different types of distillation techniques.
25. Discuss ion exchange chromatography and column chromatography.

(2×10=20)