QP CODE: 23104626

23104626

Reg No : .....

Name : .....

B.Sc DEGREE (CBCS) REGULAR/IMPROVEMENT/REAPPEARANCE EXAMINATIONS, FEBRUARY 2023

First Semester

Core Course - CH1CRT01 - GENERAL AND ANALYTICAL CHEMISTRY

(Common to B.Sc Chemistry Model I, B.Sc Chemistry Model II Industrial Chemistry, B.Sc Chemistry Model III Petrochemicals)

2017 Admission Onwards

1F893A98

Time: 3 Hours

Max. Marks : 60

Part A

*Answer any **ten** questions.*

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

1. What is photochemistry? Give an example of photochemical reaction.
2. Define nanotechnology.
3. How many elements are present in the first transition series?
4. How is Mulliken's electronegativity related to Pauling's value?
5. Define common ion effect.
6. What is meant by standardisation?
7. Give the name of the indicator used for the titration of weak acid against weak base and justify your answer.
8. Permangnometric titrations are done under acidic conditions. Why?
9. What is back titration ?
10. Give two examples for the carrier gas used in gas chromatography.
11. Give any two applications of high performance liquid chromatography..
12. How many significant digits are there in following measurements? (a) 1.9020 g and (b) 200.04 mL

(10×1=10)

Part B

*Answer any **six** questions.*

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

13. What is a scientific statement? Explain with examples.
14. "Darwin's theory of evolution is based on inductive reasoning". Justify this statement.
15. What is electron affinity? What are the factors affecting electron affinity?
16. Write a note on Slaters rule.
17. Define oxidation and reduction with examples in terms of oxygen transfer, hydrogen transfer and electron transfer.
18. Defiene the following concentration terms: (i) weight percentage, (ii) molality, (iii) molarity, (iv) normality and (v) mole fraction.
19. Illustrate the gravimetric estimation of barium.
20. Explain the principle and applications of column chromatography.
21. Which chromatographic technique is used for softening of hard water? Discuss.

(6×5=30)

Part C

*Answer any **two** questions.*

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

22. Give an account of evolution of chemistry and its progress.
23. Explain the following
    (i) Fractional distillation (ii) Solvent extraction
    (iii) Crystallisation (iv) Filtration
24. Briefly explain the principle, procedure and applications of TLC
25. Explain different types of errors and the methods used to reduce systematic errors.

(2×10=20)