



QP CODE: 19101025



19101025

Reg No :

Name :

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

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 (Reappearance)

42DEE605

Maximum Marks: 60

Time: 3 Hours

Part A

Answer any **ten** questions.

Each question carries **1** mark.

1. What is meant by hypothesis?
2. According to Alchemist what was "Elixir of Life" used for ?
3. The first ionisation energy of beryllium is greater than that of lithium but reverse is true for second ionisation enthalpy. Why?
4. Calculate effective nuclear charge of 3d electron in Cr (atomic number of Cr = 24).
5. Define molar volume
6. How will you apply solubility product value in the precipitation of group II and group IV cations?
7. Differentiate between titrant and titrand
8. What are the requirements of primary standard?
9. Explain the principle behind fractional distillation.
10. Define the term eluent.
11. Name the detectors used in gas 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. Distinguish between inductive and reductive reasoning.





14. Write a note on biotechnology.
15. Write notes on diagonal relationship?
16. How is Mulliken's electronegativity and Pauling's scale of electronegativity inter-related?
17. Explain the various aspects of acid-base titrations taking one example.
18. Write on permagnometric titrations. Explain the principles involved using equations.
19. What are the basic requirements of complexometric titrations?
20. Explain how R_f value is used for the identification of unknown compounds using TLC?
21. Discuss briefly on the applications of ion exchange chromatography.

(6×5=30)

Part C

Answer any **two** questions.

Each question carries **10** marks.

22. Discuss about various branches of chemistry.
23. What is gravimetry? Discuss briefly on gravimetric estimation of Iron
24. HPLC is widely used as an analytical tool nowadays. Comment.
25. Explain different types of errors and the methods used to reduce systematic errors.

(2×10=20)

