

TB141040

Reg.No.....

Name.....

B.SC DEGREE (C.B.C.S.S.) EXAMINATION, NOVEMBER 2014

B.Sc. CHEMISTRY – FIRST SEMESTER-CORE COURSE

CHE1MCDS- METHODOLOGY OF CHEMISTRY AS A DISCIPLINE OF SCIENCE

Time: Three Hours

Maximum Marks: 60

PART A

Answer all questions. Each question carries 1 mark.

1. Name one homologous series.
2. “Elements are made of tiny particles called atoms”. This is a statement of ____ atomic theory.
3. What do you mean by IMRAD method in writing science?
4. Values close to +1 indicate ____ correlation.
5. -----is an indicator used in complexometric titration.
6. Give the full name of EDTA.
7. An accurate result is always precise. Say true or false?
8. To find the accuracy of a resultis needed.

(8 × 1 = 8)

PART B

Answer any six questions. Each question carries 2 marks.

9. State Avogadro’s hypothesis.
10. What do you mean by falsification?
11. What is the difference between preparation and synthesis?
12. What is the significance of models in science?
13. Write a note on sampling in research.
14. Explain the concept of mole and molar volume.

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15. A solution is prepared by dissolving 2g NaOH in 250 ml water. Calculate the molarity of the solution.
16. Explain the terms mean and standard deviation.
17. Explain different types of errors in analysis.
18. What is the Q test for rejecting a suspected data ?

(6 × 2 = 12)

PART C

Answer any four questions. Each question carries 4 marks.

19. State and explain Charle's law?
20. "Correlation does not imply causality". Discuss.
21. How is a hypothesis developed?
22. What are errors in an experiment? How are they classified? What are the ways to reduce errors?
23. Explain the ways of expressing precision.
24. At a certain temperature the solubility product of AgCl is 1×10^{-10} . Calculate the solubility in g/litre at this temperature.

(4 × 4 = 16)

PART D

Answer any two questions. Each question carries 12 marks.

25. Explain the role of chemistry as a central science.
26. Discuss the different methods of writing science.
27. Write a detailed account of various separation and purification techniques.
28. Briefly discuss about the tests of significance used in statistical analyses.

(2 × 12 = 24)