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P - 1264

Reg. No. :

Name :

Second Semester B.Sc. Degree Examination, September 2022

First Degree Programme under CBCSS

Chemistry

CH 1221 : METHODOLOGY AND PERSPECTIVES OF SCIENCES AND
GENERAL INFORMATICS

(2017 - 2019 Admission)

Time : 3 Hours

Max. Marks : 80

SECTION - A

(Answer all questions. Each question carries 1 mark)

1. Give an example for primary data.
2. What is standard deviation?
3. Give an example for a molecular visualization tool.
4. What are variables?
5. Give the SMILES notation for cyclohexene.
6. What is INFLIBNET?
7. What are metallochromic indicators?
8. Define common ion effect.
9. What is post precipitation in gravimetric analysis?
10. Write the name of any two carcinogenic chemicals used in laboratory.

(10 × 1 = 10 Marks)

P.T.O.

SECTION – B

(Answer any eight questions from the following. Each question carries 2 marks)

11. Explain the scope of cheminformatics in chemistry.
12. Distinguish between primary and secondary data.
13. Explain sampling with example.
14. Explain the concept of IPR.
15. Elucidate the importance of virtual modelling in chemistry.
16. What are the advantages of computational chemistry?
17. What is redox indicator? Give an example.
18. What is TLC?
19. Why group IV cations are not precipitated in group II while adding H_2S ?
20. What are the advantages of microscale analysis?
21. Name any two flammable solvents used in laboratory.
22. What are the features of modern personal computers?

(8 × 2 = 16 Marks)

SECTION – C

(Answer any six questions from the following. Each question carries 4 marks)

23. Explain the steps involved in conducting scientific experiments.
24. What is hypothesis? Explain different forms of hypothesis.
25. Write a note on educational softwares.

26. Differentiate between accuracy and precision.
27. What is a patent? Explain the steps involved in obtain a patent.
28. Discuss the Bohr model of atom.
29. Give a short account of ion exchange chromatography.
30. Discuss the various factors affecting the solubility of precipitate.
31. Explain the emergency procedures in chemical splashes to skin and eyes.

(6 × 4 = 24 Marks)

SECTION – D

(Answer any two questions from the following. Each question carries 15 marks)

32. (a) Discuss the major contributions of Mendeleev.
(b) Explain any three branches of chemistry.
33. (a) Discuss the theory of acid-base indicators.
(b) Write a note on adsorption chromatography.
34. (a) Explain the applications of common ion effect and solubility product in cation analysis.
(b) Explain the terms co-precipitation and aging of precipitate.
35. (a) Write a note on hazard warning informations.
(b) Explain the toxicity of halogens and chromates.

(2 × 15 = 30 Marks)