

(Pages : 4)



P – 1270

Reg. No. :

Name :

Second Semester B.Sc. Degree Examination, September 2022

First Degree Programme under CBCSS

Chemistry

CH 1221 : CHEMISTRY-ITS ORIGIN METHODOLOGY AND IMPACTS

(2020 Admission Onwards)

Time : 3 Hours

Max. Marks : 80

SECTION – A

Answer **all** questions in one word to maximum of **two** sentences. Each question carries 1 mark.

1. Explain Alchemy.
2. Write any two contributions of Michael Faraday.
3. What is hard soap give example.
4. List out the ingredients in sunscreen lotion.
5. What do you mean by impact factor?
6. Give the expansion for NPTEL and BRNET.
7. What is the basic principle of chromatography?
8. What is co-precipitation?

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9. What is chrome yellow?
10. What are flammable solvents?

(10 × 1 = 10 Marks)

SECTION – B

Answer **any eight** question. Each question carries 2 marks.

11. Give a short note on the contributions of Marie Curie.
12. Explain the contribution of Nobel laureates in Chemistry 2021.
13. What is green Chemistry?
14. What are taste enhancers? Give eg?
15. What is the principle of MRI scanning?
16. What is the use of Origin Softwares?
17. What are chemical data bases? Give examples.
18. What is repeatability and replication?
19. Explain the principle of gas chromatography.
20. What is microscale analysis?
21. What is Portland cement?
22. What is lithopone and Guignet's green?
23. What are flammable solvents?
24. What are the toxic effects of using chromates?
25. What are the errors in gravimetric analysis?
26. What are explosive compounds?

(8 × 2 = 16 Marks)

SECTION – C

Answer any **six**. Each question carries **4** marks.

27. Explain the inter-disciplinary approach of Chemistry.
28. Explain the role of industries in environmental pollution.
29. Give a short note on health effect of fast food.
30. Explain the disadvantages of MRI scanning and dialysis.
31. What are the steps involve in solving a problem in research?
32. What are the softwares used in structure drawing in chemistry?
33. Explain the principle of Complexometric titration.
34. Explain why the fourth group ions not precipitated while passing H_2S in during second group analysis.
35. How ceramic materials are made? What are the applications of it?
36. What are safety measures to be taken while doing a experiment in laboratory?
37. What are metallochromic indicators?
38. What are pigments? Give examples?

SECTION – D

(6 × 4 = 24 Marks)

Answer any **two** questions. Each question carries **15** marks.

39. Explain in detail the Principles and Procedures involved in Gravimetric analysis.
40. Explain the contributions of Faraday, Mendeleev and Wohler in Chemistry.
41. What are the types of Cement? Explain its manufacturing, setting and hardening.

42. Explain photovoltaic cell, conventional solar cells and nanostructured solar cells. Explain the principle involved in tapping solar energy.
43. Explain the theory of redox titrations Fe^{2+} vs KMnO_4 and $\text{K}_2\text{Cr}_2\text{O}_7$.
44. Discuss on paints, Classification and Constitution.

(2 × 15 = 30 Marks)
