



QP CODE: 26802004



26802004

Reg No :

Name :

INTEGRATED M Sc DEGREE EXAMINATION APRIL 2026

Second Semester

INTEGRATED M Sc BASIC SCIENCES - CHEMISTRY

CORE - ICH2CR02 - ELEMENTARY TO RESEARCH IN CHEMISTRY - II

2020 Admission Onwards

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Time: 3 Hours

Weightage: 30

Part A (Short Answer Questions)

Answer any **eight** questions.

Weight 1 each.

1. Examine the use of animal fats as biofuel feedstocks.
2. Discuss the uses of bioreactors.
3. What is sampling? Explain different methods of sampling.
4. Correlation does not imply causality. Comment.
5. Calculate the sample standard deviation for the set of numbers 23,92,46,55,63,94,77,38,84,26.
6. Explain how graphical representations can enhance the understanding and interpretation of research data.
7. What are some potential challenges or limitations of using the internet as a knowledge repository, and how can researchers overcome them?
8. How does the impact factor vary across different research disciplines? Are there any discipline-specific factors that should be taken into account when assessing the impact factor of a journal?
9. Explain the concept of patents and their role in promoting innovation and technological progress.
10. Discuss strategies for avoiding plagiarism in academic writing.

(8×1=8 weightage)

Part B (Short Essay/Problems)

Answer any **six** questions.

Weight 2 each.

11. Explain the concept of biodiesel and its significance as a renewable and environmentally friendly alternative to fossil fuels.





12. Explain how accuracy and precision are determined in statistical analysis. Discuss the significance of these concepts in interpreting research findings.
13. Discuss the concept of a models in research and its significance in the research process.
14. Describe the different statistical methods to analyse the experimental data using computers.
15. Discuss the key considerations when selecting a journal to submit a paper for publication in a peer reviewed journal?
16. What types of documents are indexed in Scopus? Does it include only peer-reviewed articles, or does it also cover other types of publications?
17. What is a citation report, and how does it provide insights into the impact and influence of a research paper or a researcher's body of work?
18. Discuss the concept of intellectual honesty in research and its importance in maintaining research integrity.

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

Weight 5 each.

19. Explain nanochemistry. What are its application?
20. Do the journals have different formatting or citation style requirements? If so, what are they? Compare any two journals of your interest.
21. Explain the role and significance of NPTEL (National Programme on Technology Enhanced Learning) and INFLIBNET in enhancing the quality of engineering and science education in India. Discuss its key features and how it benefits students and faculty members across the country.
22. Analyze the emerging trends in cybercrimes and the challenges they pose to cybersecurity.

(2×5=10 weightage)

