

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai - 600 044.

M.Sc. Chemistry - END SEMESTER EXAMINATIONS APRIL - 2024

SEMESTER - IV

22PCHET4004 - Research Methodology

Total Duration : 2 Hrs. 30 Mins.

Total Marks : 60

Section B

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. Differentiate between basic research, applied research, and other types of research in chemistry. Provide examples of each.
2. Describe the process of problem selection in scientific research. What factors should be considered when selecting a research problem.
3. Distinguish primary and secondary methods of collecting data in chemistry. Provide examples of each.
4. Assess some simple sampling techniques used in chemistry research. How is the size of the sample determined in these techniques.
5. How can you locate a reference within the CA indexes? Describe the process of finding the abstract and the original document.
6. Discuss the procedure for presenting tables, graphs, and figures in a research document.
7. Illustrate plagiarism in the context of scientific writing. What are the consequences of committing plagiarism in academic and professional settings
8. Explain the concept of a citation index. How is it used to assess the scholarly impact of a journal or researcher.

Section C

I - Answer any **TWO** questions ($2 \times 10 = 20$ Marks)

9. Differentiate between primary, secondary, and tertiary sources of chemistry literature. Provide examples of each type and explain their roles in contribution to the formulation of a research question or hypothesis.
10. Explain the importance of classification and tabulation of data in chemistry. What are the different types of classification
11. What are the access points for searching CA indexes? Provide examples of search criteria such as general subject terms, chemical substance names, molecular formulas, ring systems, author names, and patent numbers.

12. What are some journals published by the American Chemical Society (ACS) and the Royal Society of Chemistry (RSC)? How do these journals contribute to the field of chemistry?

II - Compulsory question ($1 \times 10 = 10$ Marks)

13. Exemplify the fundamental elements of a research report and the significance of accurately employing abbreviations, symbols, and SI units.
