

**LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034**



**M.Sc. DEGREE EXAMINATION – CHEMISTRY**

**THIRD SEMESTER – NOVEMBER 2022**

**PCH 3503 – SCIENTIFIC RESEARCH METHODOLOGY AND COMMUNICATIONS**

Date: 28-11-2022

Dept. No.

Max. : 100 Marks

Time: 09:00 AM - 12:00 NOON

**PART – A**

Answer **ALL** Questions.

**(10 x 2 = 20)**

01. What are the objectives of research?
02. Compare quantitative and qualitative research.
03. Classify the sources of information with suitable example.
04. What is index guide?
05. Compare technical and non-technical communications.
06. What is redundancy? How is it overcome?
07. Write the importance of period in technical writing with suitable example.
08. Mention the difference between summary and abstract.
09. What is plagiarism?
10. What is STN? Mention its importance.

**PART – B**

Answer any **EIGHT** Questions.

**(8 x 5 = 40)**

11. What are the important avenues of research? Explain them.
12. Explain the phenomenological research methodology.
13. What are the qualities of a good research? Explain.
14. Demonstrate the role and importance of reviews in chemical literature.
15. Write a short note on Merck index and its importance.
16. How are tautology and imprecise words eliminated in scientific writing?
17. What is the format for writing a thesis?
18. Discuss various referencing styles with suitable examples.
19. Mention the significance of following punctuations in technical writing.  
(i) colon                      (ii) semicolon                      (iii) comma
20. How are structures, graphs and tables numbered and presented in the thesis? Explain with suitable examples.
21. Write the importance of citation of a paper. What are the types of plagiarism?
22. Write a short note on chemport and ASAP alerts.

**PART – C**

Answer any **FOUR** Questions.

**(4 x 10 = 40)**

- 23 a. Describe historical and experimental research. How are they important? **(6)**  
b. Compare deductive and inductive research. **(4)**
- 24 a. How do textbooks and encyclopedias serve as sources of information for research. **(5)**  
b. Explain the searching methods and the process of locating a journal article using chemical abstract services. **(5)**
- 25 a. How is technical report prepared for secondary and primary audiences? **(5)**  
b. What are the precautions to be followed during laboratory note book maintenance? **(5)**
26. How is a project proposal written for major research project? Write a proposal on ANY ONE of the following titles in detail. **(10)**  
(i) Synthetic organic compounds (ii) Coordination complexes (iii) Applied field of chemistry
- 27 a. Discuss the RSC and ACS method of writing references for journals and books. **(6)**  
b. Write the types of outlining with specific examples. **(4)**
28. Describe the scientific approach of searching in google scholar, science direct and scopus.

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