



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

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

**THIRD SEMESTER – APRIL 2014**

**CH 3815 - SCIENTIFIC RESEARCH METHODOLOGY**

Date : 10/04/2014

Dept. No.

Max. : 100 Marks

Time : 01:00-04:00

**Part-A**

**Answer all the questions. Each carries two marks.**

1. What is research methodology?
2. Compare basic and applied research.
3. Abbreviate the journals, Acta Chemica Scandinavica and Angewandte Chemie.
4. What are periodicals?
5. Compare articles and communications.
6. Name the different Indexes.
7. How is a reference written in a research paper?
8. What is redundancy?
9. What is science citation index?
10. Mention two search engines for online literature search?

**Part-B**

**Answer any eight questions. Each carries five marks.**

11. Compare quantitative and qualitative research.
12. Describe phenomenological research methodology.
13. What are secondary sources? Briefly describe each one.
14. Write a short note on (a) CRC Handbook of Chemistry and Physics and (b) Merck index.
15. What are general treatises? Explain any two in detail.
16. Compare monographs and reviews with examples.
17. Explain the significance of the abbreviations: (a) *ibid.*, (b) *et al.*, and (c) *q. v.*
18. What are the criteria set for assessing research thesis?
19. Explain the format of writing a thesis.
20. What is Beilstein? How does it serve as secondary source of information?
21. How is SciFinder useful for online literature search?
22. Mention the CA volume indexes for retrospective literature search.

**Part-C**

**Answer any four questions. Each carries ten marks.**

23. Explain the following: (a) exploratory research, (b) descriptive research, (c) analytical research, and (d) predictive research.
- 24a. How is Science Citation Index helpful for literature search?  
b. What are patents? Describe briefly. (5+5)
- 25a. Give an account of the CA cumulative and collective indexes.  
b. Write a note on CA Index Guide.
26. Give a detailed account on writing a proper research proposal.
- 27a. What are the guidelines followed in maintaining a laboratory notebook.  
b. Write a note on Merck Index (6+4)
- 28a. Write a note on the Dictionary of Organic Compounds.  
b. Explain the use of CA weekly issues for current awareness search. (5+5)

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