



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

**M.Sc. DEGREE EXAMINATION - CHEMISTRY**

**THIRD SEMESTER – NOVEMBER 2013**

**CH 3815 - SCIENTIFIC RESEARCH METHODOLOGY**

Date : 09/11/2013

Dept. No.

Max. : 100 Marks

Time : 9:00 - 12:00

**Part-A**

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

1. Define research methodology.
2. What is descriptive research?
3. Abbreviate the following journals as they appear in references:  
(a) Helvetica Chimica Acta and (b) Heterocycles.
4. Write a short note on patents.
5. Why are textbooks considered as both secondary and tertiary sources?
6. Name any two publishers of spectral data as indexes.
7. Write the expansion of following abbreviations:(a) et. al. and (b) e.g.
8. What is tautology? How is it handled during a scientific writing?
9. How are exclamatory words handled when they appear in series in a sentence?
10. What is ASAP alert?

**Part-B**

*Answer eight questions. Each question carries five marks*

11. Differentiate quantitative and qualitative research?
12. Describe positivistic research methodology.
13. What are primary sources? Briefly describe two of them.
14. Write a short note on the following: (a) dictionary of organic compounds and  
(b) Merck Index.
15. What are Awareness Services? Explain any two in detail.
16. Compare monographs and treatises with suitable examples.
17. Give the expansion for the following abbreviations used in research articles and mention the conditions pertaining to their use: (a) *ibid.* and (b) *q.v.*
18. What are the guidelines followed for evaluating experimental research?
19. How is budget drafted for a research proposal?
20. Write notes on (a) Patent index and (b) Beilstein.

21. Give the outline of thesis writing. Briefly describe each chapter.
22. How is SciFinder useful for online searching of research information?

**Part-C**

*Answer four questions. Each question carries ten marks*

23. Explain the following: (a) Historical research, (b) Action research, (c) Fundamental research.
24. (a) Give a detailed account on Science Citation Index.  
(b) What are annual reviews? Describe briefly.
25. Give a detailed account on CA volume indexes and CA collective indexes.
26. (a) How is a research proposal written?  
(b) Name six funding agencies which extend financial support to research projects.
27. (a) Convert the following hints into an experimental procedure.  
Ethyl acetate (10 ml), sodium hydroxide (4 g), benzyl bromide (12 g), refluxing, nitrogen atmosphere, 24 h, colorless crystals, water/ethanol wash, 10 g (45 %) yield.  
(b) How is an abstract written?
28. (a) Give an account of eliminating wordiness and jargon in technical communications.  
(b) How are books and monographs cited under references.