



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

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

THIRD SEMESTER – APRIL 2017

**CH 3815- SCIENTIFIC RESEARCH METHODOLOGY**

Date: 22-04-2017  
Time: 09:00-12:00

Dept. No.

Max. : 100 Marks

**Part-A**

*Answer ALL questions.*

**(10 × 2 = 20)**

1. What is a scientific method?
2. What are predictor and criterion variables?
3. State the criteria for objectives of a research.
4. Mention the requirements for a patent.
5. What does cross-referencing mean?
6. Name any two periodicals which accept only communications.
7. Expand SCI. Mention its significances.
8. What is CAS Registry Number? Mention its significance.
9. What is ChemPort?
10. What do you mean by ASAP articles?

**Part-B**

*Answer any EIGHT questions.*

**(8 × 5 = 40)**

11. Outline the steps involved in a scientific method.
12. Elaborate the pure research.
13. Compare and contrast assessment and evaluation.
14. Give an account of peer review process.
15. How do the following indexing journals contribute to the chemical literature? Explain.  
a) Index chemicus                      b) current chemical reactions
16. What are index names? How are they developed? Cite few examples.
17. Why is plagiarism regarded as a serious offence? Suggest the measures to avoid it.
18. What are redundancy and tautology? Describe each with suitable examples.
19. Explain the steps involved in current awareness searching in CAS with a flow chart.
20. Write a short note on requirements of technical communications.
21. Discuss the various SciFinder databases.
22. Compare and contrast qualitative and quantitative research.

## Part-C

*Answer any FOUR questions.*

**(4 × 10 = 40)**

- 23a. Outline the general methodology used for assessment and evaluation. (7)
- b. Comment upon the uncertainty associated with scientific knowledge. (3)
24. Illustrate the characteristics of research.
- 25a. How are collective indexes consulted in retrospective searching? Explain with a flow chart. (7)
- b. Name the indexes which accompany the CA weekly issues. (3)
- 26a. What are the information available in article- and patent abstract from CA? Mention their significances in searching the article of interest. (5)
- b. Elaborate the types of research article how are they different from each other. (5)
27. Give an account of access points for searching CA indexes.
- 28a. What is an index guide? How is it useful for searching CA? Explain. (5)
- b. What are monographs and treatises? How do they differ from each other? (5)

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