



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.Sc. DEGREE EXAMINATION – CHEMISTRY

THIRD SEMESTER – NOVEMBER 2016

CH 3815 - SCIENTIFIC RESEARCH METHODOLOGY

Date: 05-11-2016
Time: 09:00-12:00

Dept. No.

Max. : 100 Marks

Part-A

Answer ALL questions.

(10 × 2 = 20)

1. Mention the various forms of scientific knowledge.
2. State the purpose of an assessment.
3. What would be the result of an exploratory research?
4. What is plagiarism?
5. List out the information available in MSDS.
6. What cannot be patented?
7. Define an index.
8. Name the indexes which accompany the CA weekly issues.
9. List out some of the services offered by *Web of Science*.
10. What is ChemPort?

Part-B

Answer any EIGHT questions.

(8 × 5 = 40)

11. Compare and contrast qualitative and quantitative research.
12. Write a short note on error handling in testing hypothesis.
13. Show how the applied research would yield the solution for current problems in a real world.
14. How do the following indexing journals contribute to the chemical literature? Explain.
a) Index chemicus b) current chemical reactions
15. Comment upon the kind of review articles published in *Accounts of Chemical Research*, *Coordination Chemical Reviews*, and thematic issues in *Chemical Reviews*.
16. Give an account of the information available in handbooks and chemical catalogues. Mention their significances.
17. Outline the compilation, grouping of sections and publication frequency of CA.
18. Explain the two services available for accessing original article of interest.
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 various SciFinder databases.
22. What is an index guide? How is it useful for searching CA?

Part-C

Answer any FOUR questions.

(4 × 10 = 40)

23. Analyse the nature of scientific knowledge and elaborate the uncertainty and limitations associated with it. Also show how critical thinking contributes to the scientific knowledge.
24. Illustrate the characteristics of research.
- 25a. How are collective indexes consulted in retrospective searching? Explain with a flow chart. **(7)**
b. What are CI and DI in CAS? **(3)**
26. Give an account of access points for searching CA indexes.
- 27a. What are index names? How are they developed? Cite few examples. **(5)**
b. What are monographs and treatises? How do they differ from each other? **(5)**
28. Write a short note on the following.
(i) text books (ii) science citation index (iii) current contents (iv) applied science and technology index
