

(6 pages)

Reg. No. :

Code No. : 7421

Sub. Code : ZCHM 34

M.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2023.

Third Semester

Chemistry — Core

SCIENTIFIC RESEARCH METHODOLOGY

(For those who joined in July 2021-2022 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. What is the purpose of doing research?
(a) To identify problem (b) To find solution
(c) Both (a) and (b) (d) None
2. Research means
(a) To identify problem
(b) To find solution
(c) Working in a scientific way to search the truth of any problem
(d) None

3. Literature collected is reviewed and preferably arranged
(a) Alphabetically (b) Chronologically
(c) Randomly (d) None of these
4. Literature collected for review includes
(a) Primary and secondary sources
(b) Secondary and tertiary sources
(c) Primary and tertiary sources
(d) None of these
5. Bibliography means
(a) Foot notes
(b) Index
(c) List of referred books
(d) Quotations
6. The list of special terms and phrases used be in a form of
(a) Foot notes (b) Index
(c) Glossary (d) Quotations



7. This software is plagiarism checker
(a) Fast pencil (b) Grammarly
(c) Turnition (d) Standards
8. Plagiarism in research is
(a) Creative use of previous data
(b) Copying unscrupulously and making use of it
(c) Quoting some one and citing him
(d) Refering previous data
9. Which of the following microscope is best suited for studying ultrastructure of cell?
(a) TEM (b) SEM
(c) Confocal (d) Bright field
10. Atomic force microscopy uses —————
(a) X-rays (b) Infrared light
(c) Nanosized tip (d) All of the above

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PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words.

11. (a) Give a brief note on significance of research.
Or
(b) Write briefly about selection of research problem.
12. (a) Write briefly on primary and secondary sources.
Or
(b) Write a note on science citation index and other ISI.
13. (a) Write briefly about types of research paper.
Or
(b) Write a note on process of giving oral presentation in seminar.
14. (a) Write briefly about cyber and digital plagiarism.
Or
(b) Write briefly about patent and copyright.

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15. (a) Write briefly about HRTEM.

Or

- (b) Write briefly about energy dispersive X-ray analysis.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)
Each answer should not exceed 600 words.

16. (a) Give a detailed account on characteristic of a good research problem.

Or

- (b) Write the explanations on sources of research problems and funding agencies.

17. (a) Write a note on database. Scifinder, Scopus and impact factor.

Or

- (b) Give a detailed account on Beilstein and chemical abstracts.

18. (a) Write a note on style of writing the research report.

Or

- (b) Give a detailed account on ways of communicating the research paper both postal and oral.

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19. (a) Discuss different forms of intellectual property rights.

Or

- (b) Give a note on techniques to avoid plagiarism.

20. (a) Discuss about x-ray photo electron spectroscopy and single crystal XRD.

Or

- (b) Discuss about transmission electron microscopy and difference between SEM and TEM.

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