

2025

M.Sc. 1st Semester Examination

CHEMISTRY

Paper : CEMC404X0

(Research Methodology and Ethics)

Full Marks : 50

Time : Two Hours

*The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.*

Group - A

Answer any *four* questions : $2 \times 4 = 8$

1. What is snowball sampling?
2. What do you mean by "Research Design"?
3. What is meant by transcription of data? State the methods of transcription of data.
4. What is the difference between pure and applied research?
5. What is plagiarism?
6. What do you mean by research ethics?

P.T.O.

(2)

Group - B

Answer any *four* questions : $4 \times 4 = 16$

7. Discuss the principles/essentials of sampling process.
8. What do you mean by "coding of data"? State the different types of data coding. $2+2$
9. State the essentials of a good research design.
10. Distinguish between a hypothesis and a problem. What are the characteristics of a good hypothesis? $2+2$
11. What are the reasons for misconduct in publication?
12. Write down the criteria for authorship in research publications.

Group - C

Answer any *two* questions : $8 \times 2 = 16$

13. What is probability sampling? Discuss about the various types of probability sampling. $2+6$
14. What do you mean by "Bivariate Analysis" and "Multivariate Analysis" of data? Discuss the need and importance of data interpretation. $3+5$
15. Briefly discuss the different types of research design.
16. Write-down the ethical principles for scientific research. Discuss the reasons why researchers are hesitant to share their data. $4+4$

Internal Assessment : 10 marks
