



Reg. No. :

Name :

Second Semester B.Sc. Degree Examination, July 2016
First Degree Programme under CBCSS
CHEMISTRY
Foundation Course – II
CH 1221 : Methodology and Perspectives of Sciences and General
Informatics
(2013 Admission Onwards)

Time : 3 Hours

Max. Marks : 80

SECTION – A

Answer **all** questions in a word or **one** or **two** sentences. **Each** question carries **one** mark.

1. What are auxiliary and ad-hoc hypotheses ?
2. What is meant by computer simulation ?
3. Explain the term scientific vocabulary.
4. Distinguish between information and knowledge.
5. Why Antoine Lavoisier is considered as father of modern chemistry ?
6. What is meant by an operating system ? Give two examples.
7. What is NICNET ?
8. Explain the term Intellectual Property Right (IPR).
9. Write any four chemistry journal websites.
10. Write the name of any two chemistry software that can be used for structural drawing. (10×1=10 Marks)

SECTION – B

Answer **any eight** questions. **Each** question carries **two** marks.

11. What are the strengths and limitations of models in science ?
12. Why should scientific tests be reproducible ?
13. Differentiate between precision and accuracy.
14. Distinguish between induction and deduction.
15. What are the major contributions of Marie Sklodowska Curie in chemistry ?



16. Write notes on copy right and patent.
17. What is plagiarism ?
18. Distinguish between system software and application software.
19. "Correlation does not imply causality". Discuss this statement.
20. What is the importance of citation index of a scientific article ?
21. Explain various format used in molecular modeling software.
22. Write the SMILES notation for benzene and cyclohexane. (8×2=16 Marks)

SECTION – C

Answer **any six** questions. **Each** question carries **four** marks.

23. Revision of scientific laws and theories are necessary. Illustrate with examples.
24. What distinguishes science from other approaches in gaining knowledge ?
25. Explain the difference between enquiry and discovery approach.
26. Discuss the impact of science and technology on day to day life.
27. Write a note on different branches of Chemistry.
28. Give an account on open access initiation and open access publishing.
29. Why are samples used in research ? What is meant by representative sample ?
30. How can statistical tools be used in data interpretations ? Explain with examples.
31. Discuss the various aspects of the scientific methods in research.

(6×4=24 Marks)

SECTION – D

Answer **any two** questions, **not** exceeding **four** pages. **Each** question carries **fifteen** marks.

32. Discuss the importance of science strategies to meet the challenges of our country.
33. Discuss in detail the role of Chemistry as a central science.
34. a) In the context of scientific knowledge analyse the Rutherford's Alpha ray scattering experiment.
b) Write a brief note on Bohr atom model.
35. a) Give a brief account on scope of cheminformatics.
b) Write a note on material safety data sheet.

(2×15=30 Marks)