



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 ?

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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)