

[Time: 2:30 Hours]

[ Marks:60]

Please check whether you have got the right question paper.

- N.B:
1. Attempt all questions.
  2. Figures to the right indicate maximum marks assigned to the sub-question.
  3. Use of non-programmable calculator is allowed

Q.1 a) Attempt **any TWO** of the following. [08]

- i) What is an Abstract? What are the characteristics of a good abstract?
- ii) What is Impact Factor (IF)? Calculate IF of Journal for 2009 with the help of following data. Citations for the year 2008 is 1855, Citations for the year 2007 is 1845 and Published papers for the year 2008 is 850, Published papers for the year 2007 is 790.
- iii) Give the importance of Primary, Secondary and Tertiary sources in research with examples.
- iv) Write a note on Chemicals Abstracts with different types of Indices.

b) Explain how and why Scifinder and Scopus is important for reference work during research. [04]

**OR**

b) Give the importance of Information technology and internet in research. [04]

Q.2 a) Attempt **any TWO** of the following. [08]

- i) Discuss SI - Units and their use in data analysis.
- ii) Write a note on Descriptive Statistics.
- iii) What is Chemometrics? Explain the process involved in Chemometrics.
- iv) Outline the different steps involved in Scientific Methods.

b) Explain the criteria used in choosing and using statistical tests. [04]

**OR**

b) Write a note on Analysis of Variance. [04]

Q.3 a) Attempt **any TWO** of the following. [08]

- i) Give the outline of Scientific Poster. Write the points to be remembered while preparing Scientific Poster.

- ii) Define Plagiarism. How can it be avoided?
- iii) Why are references important in research papers? Give any two formats of writing references in research papers.
- iv) Write a note on general Manuscript Structure.

b) Explain the technical and scientific points to be remembered for Good Research Talk (oral presentation). [04]

**OR**

b) What is Literature Review? Write the details about Literature review. [04]

Q.4 a) Attempt **any TWO** of the following. [08]

- i) Write a note on emergency procedures and emergency plans in chemical laboratory.
- ii) How Chemicals stored in a Laboratory?
- iii) How are waste chemicals of laboratory disposed?
- iv) Explain in detail the importance of incineration of hazardous chemicals.

b) Write a note on General laboratory ventilation. [04]

**OR**

b) What are the general hazards in a laboratory? Give the safety working procedures in laboratory. [04]

Q.5 Attempt **any FOUR** of the following. [12]

- i) What is monograph? Note down different steps of monograph.
- ii) Explain in details UGC infonet.
- iii) What is an experiment? Write the principles of Experimentation.
- iv) Describe two general approaches for curve fitting.
- v) Explain the importance of illustrations in research papers.
- vi) Give the general guidelines for reporting of Practical and Project work.
- vii) Write a note on recovery, recycling and reuse of laboratory chemicals.
- viii) What are the procedures followed for Transportation of Hazardous Chemicals?

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