**Research Methodology Set 1**

Q.1. Attempt any one of the following. (15)

a) What is primary and secondary data? Explain methods of collecting primary data and drafting and framing of questionnaire.

Or

b) Explain the excel spreadsheet with reference to its applications, formulas and functions for statistical data analysis. (15)

Q.2. Attempt the following.

a) Explain in detail protein docking methodology. (07)

b) Describe different types of research in brief. (08)

or

a) Describe proportion data with an example of infection and immunisation studies. (8)

b) Elaborate on the oral presentation of scientific paper. (7)

Q.3. Attempt any three of the following. (15)

1. Describe the concept of IPR in brief.

2. Elaborate on the material and method part of research paper.

3. Describe the layout of an ideal poster

4. Explain handling proportion data with an example of animal toxicity.

5. Discuss various methods of studying correlation.

Q.4 Write a short note on any three of the following. (15)

1. Mean

2. Histogram

3. BLAST analysis

4. ENTREZ

5. Eviews and MATLAB

**Research Methodology Set 2**

Q.1. Attempt any one of the following. (15)

a) What is the role of computer and internet in conducting research?

Or

b) Explain the general aspects of scientific writing with reference to organising time, words and phrases and sentences. (15)

Q.2. Attempt the following.

a) Explain major indexing data bases. Add a note on impact factors of journals, citation index and h index. (07)

b) Explain the handling count data with an example of radioactivity count. (08)

or

a) What is central tendency and explain various measures of central tendency. (07)

b) Differentiate between data representation by diagrams and graphs. (08)

Q.3. Attempt any three of the following. (15)

1. Explain patents, designs, trademarks and process of patent development

2. Discuss the steps in BLAST analysis.

3. Explain handling proportion data with an example of sterility testing of medicines.

4.

5. Describe ethics in research with concept of plagiarism.

Q.4 Write a short note on any three of the following (15)

1. Application of excel spreadsheet tool

2. Animal toxicity

3. Correlation analysis vs. regression analysis

4. Poster display

5. Result and discussion part of research paper

**Research Methodology Set 3**

Q.1. Attempt any one of the following. (15)

a) Describe in detail the formulation of research design.

Or

b) Explain various components of writing a research paper.

Q.2. Attempt the following.

a) Elaborate on intellectual property rights. (07)

b) Enlist the three popular internet browser with its advantages. (08)

or

a) Explain linear and nonlinear regression. Add a note on linear regression. (07)

b) Describe classification of data and frequency distribution (08)

Q.3. Attempt any three of the following. (15)

1. What are measures of dispersion? Explain range and variance.

2. Explain steps in writing review article.

3. Elaborate on the oral presentation of the scientific paper.

4.

5. What are histograms? Explain.

Q.4 Write a short note on any three of the following (15)

1. MATLAB and Minitab

2. Steps of data mining

3. LD 50

4. Hypothesis

5. Mode