

This question paper contains 3 printed pages]

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S. No. of Question Paper : 8115

Unique Paper Code : 2533012012

Name of the Paper : Research Methodology (DSE)

Name of the Course : B.Sc. (Hons.) Microbiology

Semester : VI (UGCF)

Duration : 2 Hours

Maximum Marks : 60

(Write your Roll No. on the top immediately on receipt of this question paper.)

Attempt any five questions.

All questions carry equal marks.

Attempt all parts of a single question together.

1. Explain the following terms (any six) :

6×2=12

- (i) Intellectual Property
- (ii) Funding agencies
- (iii) Plagiarism
- (iv) Sampling Frame
- (v) Independent Variable
- (vi) Sampling Error
- (vii) Double-Blind Study

P.T.O.

(viii) Impact Factor of a journal

(ix) Bibliography.

2. Write short notes on the following (any *three*) : 3×4=12

(i) Benefits of conducting research

(ii) Key considerations in selecting a research topic

(iii) Importance of controls in an experimental design

(iv) Chi-square test.

3. (a) Write a short note on research ethics. 4

(b) Outline the key considerations for radiation safety in a laboratory setting. 4

(c) What is the primary purpose of Mendeley or Endnote ? 2

(d) Enlist the advantages offered by applied research. 2

4. (a) Giving suitable examples differentiate between the following (any *three*) : 3×3=9

(i) Descriptive and Analytical research

(ii) Null Hypothesis and an Alternative Hypothesis

(iii) Thesis and Dissertation

(iv) Experimental and non-experimental research designs.

(b) Explain the importance of maintaining detailed lab notebooks. Enlist the key information these must include. 3

5. (a) Describe the process of effective literature search. What strategies and resources can be used to ensure a comprehensive search ? 8
- (b) What are the key elements of Good Laboratory Practices (GLP) ? What purposes do these GLPs serve ? 4
6. (a) Outline the structure of a research article. Explain the purpose and content typically found in each section.

Or

Explain different types of sampling methods used in field experiments. Discuss the factors that influence the choice of a particular sampling method. 7

- (b) What is the primary goal of hypothesis testing ? Discuss the qualities of a good hypothesis and provide examples. 5