

This question paper contains **3** printed pages]

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S. No. of Question Paper : **9558**

Unique Paper Code : **2533012012**

Name of the Paper : **Research Methodology**

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

Semester : **VII**

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 the question together.

1. (a) Give an example of each of the following (any *three*) : 1×3=3

- (i) Bibliographic database
- (ii) Software for checking similarity
- (iii) Statistical Software used for data analysis
- (iv) Tool used for quantitative data collection.

(b) Justify the given statements (any *three*) : 3×3=9

- (i) Good Laboratory Practices (GLP) improve the reliability of experimental results.
- (ii) Biosafety levels are designed to handle progressively hazardous biological agents.

P.T.O.

- (iii) Proper documentation in lab notebooks is important for reproducibility and accountability.
- (iv) Calculating sample size before conducting research ensures meaningful and statistically valid results.

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

- (a) Research ethics
- (b) Intellectual property
- (c) Impact factor
- (d) Stratified sampling.

3. (a) Expand the following (any *five*) : 1×5=5

- (i) ANRF
- (ii) DOI
- (iii) IEC
- (iv) ICJME
- (v) APA
- (vi) JCR.

(b) What are the components of a scientific poster to be presented in a conference ? 4

(c) What steps should be taken in case of a radiation spill ? 3

4. (a) Differentiate between the following terms : 3×3=9
- (i) Primary and a secondary publication
 - (ii) Basic and Applied Research
 - (iii) Experimental and Non-experimental Research.
- (b) What is a control group, and why is it necessary in a research study ? 3
5. (a) Explain the structure of Research Article. What are the key factors to consider when selecting a journal for publishing a research paper ? 6
- (b) What is the primary aim of descriptive research ? What are its limitations ? 6
6. (a) What is a hypothesis, and what essential characteristics must it have to qualify as a good research hypothesis ? 6
- (b) How can Mendeley/Endnote assist in literature review writing ? 3
- (c) Discuss the importance of double blind studies with suitable example. 3

