

Reg. No. :

Code No. : 5550

Sub. Code : ZMBM 34

M.Sc. (CBCS) DEGREE EXAMINATION,
APRIL 2023

Third Semester

Microbiology – Core

RESEARCH METHODOLOGY

(For those who joined in July 2021 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. A research process starts with
 - (a) Hypothesis
 - (b) Experiment to test hypothesis
 - (c) Observation
 - (d) None of the above

6. The choice of research design is influenced by the _____
 - (a) The nature of the research problem
 - (b) The audiences for the study
 - (c) The researcher's personal experiences
 - (d) All of the above

7. Interpretation should be _____
 - (a) Subjective
 - (b) Objective
 - (c) Integrity
 - (d) None of the above

8. A abstract is a _____
 - (a) Synopsis
 - (b) Quotations
 - (c) Glossary
 - (d) Bibliography

9. A literature review requires _____
 - (a) Planning
 - (b) Good and clear writing
 - (c) Lot of rewriting
 - (d) All of the above

10. Which of the following plagiarism software is available under open access?
 - (a) Turnitin
 - (b) Urkund
 - (c) Viper
 - (d) None of the above

2. Which of the following is NOT the type of research?
 - (a) Applied research
 - (b) Empirical research
 - (c) Environmental research
 - (d) Discriptive research

3. Hypothesis refers to _____
 - (a) The outcome of an experiment
 - (b) A conclusion drawn from an experiment
 - (c) A form of bias in which the subject tries to outguess the experimenter
 - (d) A tentative statement about the relationship

4. Which of the following is not a characteristic of scientific method?
 - (a) Deterministic
 - (b) Rationalism
 - (c) Empirical
 - (d) Abstraction

5. What is a research design?
 - (a) A way of conducting research that is not grounded in theory
 - (b) The choice between using qualitative and quantitative methods
 - (c) The study in which you present your research findings e.g. a graph
 - (d) A frame work for every stage of the collection and analysis of data.

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PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words

11. (a) Define research. Discuss its objectives.

Or

(b) Though light on the scope of scientific methods.

12. (a) Discuss the importance and need of research ethics.

Or

(b) Note on concept of hypothesis.

13. (a) Elaborate the basic principles of experimental design.

Or

(b) Discuss the meaning and need of research design.

14. (a) Explain editing and evaluation of research report.

Or

(b) Give a short note on foot notes.

15. (a) Write the essential features of abstract.

Or

(b) Discuss the major objective of review of related literature.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b). Each answer should not exceed 600 words.

16. (a) Define experimental research and discuss its major steps.

Or

(b) Highlight the various considerations in formulating a research problem.

17. (a) What is hypothesis? Explain its types.

Or

(b) The procedure of testing hypothesis requires a researcher to adopt several steps, describe in detail all such steps.

18. (a) Explain the important concepts related to research design.

Or

(b) Explain and illustrate the following research design:

(i) Two group simple randomized design

(ii) Random replications design

(iii) Simple factorial design

(iv) Informal experimental design

19. (a) Describe the major steps of report writing.

Or

(b) Briefly explain about types of report.

20. (a) Describe the format for writing thesis.

Or

(b) Throw light on the importance of computers and internet in research.