



VINAYAKA MISSION'S RESEARCH FOUNDATION, SALEM

(Deemed to be University under Section 3 of the UGC Act, 1956)

Pre – Ph.D. Written Examination – January – 2023

Microbiology

Paper I: Research Methodology

Time: 2 Hours

Marks: 50

PART –A

(5*2M= 10M)

Write Brief notes about the following

Answer all questions

All questions carry equal marks

1. What is research?
2. What is a condenser?
3. Give few examples of thin layer chromatography.
4. Explain a sample.
5. Define research ethics.

PART – B

(5*4M=20M)

Write Short answers to the following

Answer all questions choosing either a or b

All questions carry equal marks

1. a. What is a research design?
Or
b. Give the types of research design.
2. a. Give the filter types used in Fluorescent microscopy.
Or
b. List the different fluorescent agents and their purpose in Fluorescent microscopy.
3. a. Define an agar gel electrophoresis and its purpose
Or
b. Define PAGE and its purpose.



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4. a. How do you calculate a Z score .

Or

b. What do you mean by confidence interval.

5. a. Write notes on indexing data bases.

Or

b. Write notes on citation databases.

PART – C

(2*10M=20M)

Answer any two essay type questions

All questions carry equal marks

1. Explain the different types of report.
2. Explain the working of TEM with suitable diagram.
3. Give the principle and working of pulsed field gel electrophoresis.
4. Discuss the use of computers in research.
5. Discuss how an impact factor for a journal is fixed.

