

**D-6841**

**M.Sc. (IV<sup>th</sup> Semester) Examination, 2020**

**MICROBIOLOGY**

**(Research Methodology)**

***Time Allowed : Three Hours***

***Maximum Marks : 70***

**SECTION - A**

**Note :** Attempt any ten questions. Each question carries  
one mark. **1×10=10**

**Q. 1.** Objective type :

- (i) Fundamental research is otherwise called \_\_\_\_\_.
- (a) Action research
  - (b) Survey
  - (c) Pilot study
  - (d) Pure research

**D-6841**

**P.T.O.**

**D-6841**

**(2)**

- (ii) Which of the following is an example of primary data \_\_\_\_\_.
- (a) Book
  - (b) Journal
  - (c) News paper
  - (d) Census report
- (iii) Testing hypothesis is a \_\_\_\_\_.
- (a) Inferential statistics
  - (b) Descriptive statistics
  - (c) Data preparation
  - (d) Data analysis
- (iv) \_\_\_\_\_ prevent a researcher from blind search and intellectual wandering :
- (a) Data
  - (b) Sample
  - (c) Research tools
  - (d) Research design

**(3)**

- (v) Survey is a \_\_\_\_\_ study.
- (a) Descriptive
  - (b) Fact finding
  - (c) Analytical
  - (d) Systematic
- (vi) What is a good research ? The following are correct except :
- (a) Purpose clearly defined
  - (b) Research process detailed
  - (c) Research design thoroughly planned
  - (d) Findings presented ambiguously
- (vii) Hypothesis must have :
- (a) Applicability
  - (b) Durability
  - (c) Testability
  - (d) Measurement

**(4)**

- (viii) Which of the following is not an essential element of report writing ?
- (a) Research Methodology
  - (b) Reference
  - (c) Conclusion
  - (d) None of these
- (ix) Sampling is advantageous as it :
- (a) Saves time
  - (b) Helps in capital-saving
  - (c) Both (a) and (b)
  - (d) Increases accuracy
- (x) Which method can be applicable for collecting qualitative data ?
- (a) Artifacts (Visual)
  - (b) People
  - (c) Media products (Textual, Visual and Sensory)
  - (d) All of these

**(5)**

- (xi) The first page of the research report is :
- (a) Appendix
  - (b) Bibliography
  - (c) Index
  - (d) Title page
- (xii) A research which follows case study method is called :
- (a) Clinical or diagnostic
  - (b) Causal
  - (c) Analytical
  - (d) Qualitative

**SECTION - B**

**(Very Short Answer Type)**

**Note :** Attempt any five questions. Each question carries 2 marks. **5×2=10**

**Q. 2.** Very short answer type (25-30 words) :

- (i) Define applied research
- (ii) What are variables

**(6)**

- (iii) What are edited books
- (iv) Define citation
- (v) Define monograph
- (vi) What do you mean by bibliography
- (vii) Explain JCR and NAAS

**SECTION - C**

**(Short Answer Type)**

**Note :** Attempt any five questions. Each question carries 4 marks. **5×4=20**

**Q. 3.** Short answer type (250 words) :

- (i) Explain quantitative research
- (ii) Write a note on reference style
- (iii) Explain various bio-safety level
- (iv) Explain some important standard of research journals
- (v) What is difference between review article and research paper

**D-6841**

**P.T.O.**

**D-6841**

**(7)**

- (vi) Write four name of journals related to microbiology and biotechnology
- (vii) Write general laboratory manual

**SECTION - D**

**(Essay Type)**

**Note :** Attempt any three questions. Each question carries 10 marks. **3×10=30**

**Q. 4.** Essay type (more than 500 words)T:

- (i) Explain how to draft a research proposal
- (ii) Write a note on sampling techniques and sampling error
- (iii) What are scientific ethics ? Write a note on plagiarism and its importance

**Or**

- (iv) Explain layout of research paper in detail.

\_\_\_\_\_