

M.Phil (Microbiology) Examination

Paper-I : Research Methodology

May-2017

[Max. Marks : 70]

Time : 3 Hours]

- Q.1.** What is research design? Discuss various types of research designs and write their significance. 14

OR

Write in detail the attributes of scientific report writing with their importance.

- Q.2.** Describe principle, types, components, and applications of AAS **OR** NMR 14

- Q.3.** What are extremophiles? Describe isolation, identification and preservation of halophiles. 14

OR

Give comparison between QA and QC and discuss their methods and significance in fermentation industry.

- Q.4.** Describe *in vitro* techniques used for gene manipulation. Write its limitations and applications. 14

OR

Give an overview on techniques used for isolation and purification of nucleic acids of microbial community from environmental samples.

- Q.5.** Write short notes on **any four** of the following 14

- (A) Use of computers in Microbiology
- (B) Bioassay
- (C) Strain improvement
- (D) ELISA
- (E) HPLC
- (F) 2nd Generation sequencers

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