C 6881 (Pages : 2) Name

Reg. No.....

SECOND SEMESTER M.Sc. DEGREE EXAMINATION, JUNE 2010

Microbiology

MB 2.4 T—BIOPHYSICS, BIOSTATISTICS AND BIOINFORMATICS

(2005 Admissions)

Time : Three Hours Maximum : 80 Marks

Section A

Write about / answer **all** *the questions, very briefly.*

1. Give the difference between collection and classification.
2. What are dependent and independent variables in regression ?
3. Positive correlation.
4. Scatter diagram method.
5. Standard error.
6. Analysis of variance.
7. Explain the terms, level of significance, rejection region and statistical hypothesis.
8. Assumption of ANOVA.
9. Student - *t* distribution.
10. Type I and Type II errors.
11. Primary structure of protein.
12. Operating system.
13. Relational databases.
14. GTP.
15. Helix turn helix.
16. Conformation of Monosaccharides.
17. Donnan equilibrium.
18. Unusual base pairs in t-RNA.
19. ATP - age.
20. Tertian structure of t-RNA.

(20 x 2 = 40 marks)

Turn over

Section B

Answer any **five** *questions.*

1. **What are nucleic acid ? Describe the main points of difference between DNA and RNA. Mention the biological importance of nucleic acid.**
2. **Structure and conformation of immunoglobulin.**
3. **Give an idea about conformation of protein and Ramachandran plot.**
4. **Explain the important tools for sequence Alignment.**
5. **How the crystallographic techniques help in structural determination of biomolecules ?**
6. **Discuss the application of statistics in biological system.**
7. **What is phylogenetic analysis and explain its methods ?**

(5 x 8 = 40 marks)