

Roll No.....

**P. G. Diploma in Bioinformatics
Annual Examination – 2010
Microbiology
PBID – 106**

Time allowed : 2½ Hours

Max Marks:70

This paper is divided into three sections. Attempt ALL question from Section – I, any SIX questions form Section – II and any THREE questions from Section – III

Section – I

Attempt all questions. Each question carries one(1) mark.

[1x10]

Answer the following in One phrase or sentence only.

1. Mention any two contributions made by Louis Pasteur in Microbiology.
2. Define 'Extreme Halophiles'.
3. What is meant by 'Resolving power' of a microscope?
4. Mention any two beneficial effects of microorganisms.
5. Define Heterocysts.
6. What are Mesosomes?
7. What is Pinocytosis?
8. Define Facultative Anaerobes.
9. What is Binary Fission?
10. State any two common features of Plasmids.

Section – II

Answer any six of the following:

[6 x 5 = 30]

1. Write a note on Archaeobacteria.
2. Describe the structure and characteristics of 'Bacterial Endospore'.
3. State any Five major groups of Eubacteria and mention Two characteristic features of bacteria belonging to each of these groups.
4. Explain the structure and functions of Plasma membrane.
5. Describe the mechanisms utilized by microorganisms for the uptake of nutrients.
6. Discuss the methods used for the measurement of bacterial growth.
7. Explain the structure of DNA.
8. Give an account on recombination in bacteria.

Section – C

Answer any THREE questions of the following

[3 x 10 = 30]

1. Describe the various mechanisms of gene transfer in bacteria (Conjugation, Transformation, and Transduction)
2. Give a detailed account of the types of Culture media for the bacterial cell cultures.
3. Draw a labeled diagram of a eukaryotic cell and discuss the functions associated with its various organelles.
4. Discuss various Physical and Environmental factors that influence the growth of microorganisms.