

M.Sc. (Microbiology) (NEP Pattern) Semester-I
NEP-71 / 01MSCMB01-Paper-I : Microbial Diversity and Evolution

P. Pages : 1

Time : Three Hours



GUG/W/23/15125

Max. Marks : 80

-
- Notes : 1. All questions are compulsory and carry equal marks.
2. Draw diagram wherever necessary.

1. Describe Ribosomal RNA sequencing as a method for determining evolutionary relationship. 16

OR

Write notes on:

- a) Derivation of Microbial phylogeny on the basis of classical taxonomy. 8
b) Evolution of earth and early life forms. 8

2. Discuss in detail heat stable biomolecules, characteristics and applications. 16

OR

- a) Discuss the characteristics of Halophilic Archaea. 8
b) Describe the differentiating features of sulfobacterales and desulfobacterales. 8

3. Describe in detail the characteristics of sulphur and iron oxidizing bacteria with their ecological role. 16

OR

Write notes on:-

- a) Nutritional importance of Cyanobacteria. 8
b) Extremely acidophilic members of Verrucomicrobia. 8

4. Describe in detail three hyperthermophilic phyla of bacteria with suitable examples. 16

OR

- a) Discuss about Cytophage as a causative agent of Columnaris disease. 8
b) Add a note on industrial importance of Green Sulphur bacteria (GSB). 8

5. Write short notes on:
a) Evolutionary Chronometers. 4
b) Autotrophy in Archea. 4
c) Free living N₂ fixing bacteria. 4
d) Arsenic resistant bacteria. 4
