



Seat No. : \_\_\_\_\_

**XZ-132**

**B.Sc. Semester – IV**

**April-2013**

**Microbiology (204)**

**(Microbial Biodiversity)**

**Time : 3 Hours]**

**[Max. Marks : 70**

- Instructions :** (1) **All** questions carry equal marks.  
(2) Draw figures wherever needed.  
(3) Mention appropriate question number against your answer.

1. Answer any **two** : **14**
- (a) How did the life originate ? How did the diversification occur ?
  - (b) Discuss the species concept and its significance.
  - (c) How the phylogenetic tree can be prepared ? Give its importance.
  - (d) Describe the relationship between environment and microorganisms.
2. Answer any **two** : **14**
- (a) How the microscopic methods can be used to study the microbial diversity ?
  - (b) Discuss the use of cultural characteristics on solid media in the understanding of diversity among micro organisms.
  - (c) Discuss the role of DNA hybridization in establishing relationship among microbes.
  - (d) Describe the significance of 16S r.RNA sequencing.
3. Answer any **two** : **14**
- (a) Discuss the variations among Bacteria with reference to their shape and cellular arrangements.
  - (b) Describe the chemical composition of cell wall of Gram –ve Bacteria.
  - (c) Discuss the variation in the mode of nutrition among microorganisms.
  - (d) What is an ecosystem ? Write about the microbes of extreme environments.

4. Answer any **two** : **14**
- (a) Describe the cellular structure of Protozoa.
  - (b) Discuss the morphology and ecological features of Algae.
  - (c) Explain the parasitic and saprophytic nature of Fungi.
  - (d) Give an introductory account of Slime molds.
5. Answer in **one** or **two** lines only : **14**
- (a) Define Biodiversity.
  - (b) Who gave scientific explanation to the origin of life ?
  - (c) In which environment the first forms of life originated ?
  - (d) Why certain microorganisms develop a pelical in liquid media ?
  - (e) What is T<sub>m</sub> value ?
  - (f) What is pleomorphism ?
  - (g) Name different types of surface appendages found in Bacteria.
  - (h) Give names of at least two Bacteria, which produce endospores.
  - (i) What is the basic difference between Prokaryotes and Eukaryotes ?
  - (j) Name the main constituent of Fungal cell wall.
  - (k) What is a consortium ?
  - (l) What is a phytoplankton ?
  - (m) What is the contribution of Carl Woese ?
  - (n) What are Prions ?
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