

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

**AM-117**

**April-2015**

**B.Sc., Sem.-IV**

**MI-204 : Microbiology**

**(Microbial Biodiversity)**

**Time : 3 Hours]**

**[Max. Marks : 70**

**Instructions :** (1) Draw figures wherever necessary.  
(2) Right side indicates marks.

1. Answer the following questions : (Any **two**) **14**
  - (a) Write an account for chemical theory of evolution leading to origin of life.
  - (b) Describe the role of different classification systems showing biodiversity amongst micro organisms.
  - (c) Discuss the impact of biodiversity on human life.
  - (d) Describe the distribution of micro organisms in nature.
  
2. Write on the following questions : (Any **two**) **14**
  - (a) Write an account on various characteristics examined through cultural methods.
  - (b) Describe the use of staining methods for the assessment of diversity within bacterial cell.
  - (c) Discuss the significance of DNA in assessing biodiversity.
  - (d) Describe the use of rRNA sequencing in biodiversity assessment.
  
3. Answer the following questions : (Any **two**) **14**
  - (a) Discuss major shapes and arrangements of bacteria used for their identification.
  - (b) Write on differentiating characteristics of bacteria and archeobacteria.
  - (c) Describe major nutritional groups exhibiting diversity amongst bacteria.
  - (d) Enlist ultra structures found in bacteria. Discuss any one ultra structure that indicates biodiversity.

4. Write on the following question : (Any **two**) **14**
- (a) Describe the cellular makeup of protozoa.
  - (b) Discuss the physiological characteristics of fungi.
  - (c) Write an account on symbiotic association of Algae & fungi.
  - (d) Discuss general properties of virus.
5. Write briefly in **one** or **two** lines : **14**
- (1) Enlist three branches of evolutionary tree.
  - (2) What is a pure culture ?
  - (3) Define : Microcosm
  - (4) Write names of two anaerobic bacteria.
  - (5) Define : Phytoplankton
  - (6) Write names of two fluorescent dyes.
  - (7) Write characteristic feature of an algal cell wall.
  - (8) Write names of two Acidic dyes.
  - (9) Define : Cyst
  - (10) What are Prions ?
  - (11) What are psychrophilic bacteria ?
  - (12) What are bacteriophages ?
  - (13) Enlist two different locations of spore found inside the bacteria.
  - (14) Mention two names of photosynthetic bacteria.
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