



**HCX-003-1013016**

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

**B. Sc. (Microbiology) (Sem. III) (CBCS) Examination**

**October / November – 2017**

**MB-301 : Microbial Systematics &  
Environmental Microbiology  
(New Course)**

**Faculty Code : 003**

**Subject Code : 1013016**

Time :  $2\frac{1}{2}$  Hours]

[Total Marks : 70

- Instructions :** (1) All questions are compulsory.  
(2) Figures on the right indicates total marks of the question.  
(3) Draw neat diagrams wherever necessary.

- 1 (a) Answer the following : **4×1=4**
- (1) What are Stromatolites?
  - (2) Sedimentary and Igneous are the types of \_\_\_\_\_.
  - (3) Define Species.
  - (4) What is Polyphasic Taxonomy?
- (b) Answer in brief : (any **one**) **1×2=2**
- (1) What is alpha taxonomy?
  - (2) What is Biodiversity? What are its types?
- (c) Answer in brief : (any **one**) **1×3=3**
- (1) Discuss Whittaker's Five kingdom classification.
  - (2) What are Molecular Chronometers?
- (d) Write a note on : (any **one**) **1×5=5**
- (1) Numerical taxonomy.
  - (2) Major characters used in taxonomy.

- 2** (a) Answer the following : **4×1=4**
- (1) What are Archaea?
  - (2) Salmonella, Shigella, Yersinia and Serratia are all \_\_\_\_\_ bacteria.
  - (3) Define Protobacteria
  - (4) What are Spirochetes?
- (b) Answer in brief : (any **one**) **1×2=2**
- (1) What is Zooglea?
  - (2) What are Methanogens?
- (c) Answer in brief : (any **one**) **1×3=3**
- (1) Discuss Dissimilatory Sulfate reducing bacteria.
  - (2) What are Actinomycetes?
- (d) Write a note on : (any **one**) **1×5=5**
- (1) Photosynthetic bacteria
  - (2) Extremophiles
- 3** (a) Answer the following : **4×1=4**
- (1) What are Zoospores?
  - (2) Agar-agar, Carrageenin and Funori are all obtained from \_\_\_\_\_.
  - (3) Define Fungi.
  - (4) What are Protozoa?
- (b) Answer in brief : (any **one**) **1×2=2**
- (1) What are the locomotory organs of Protozoa?
  - (2) What is Houstoria?
- (c) Answer in brief : (any **one**) **1×3=3**
- (1) Discuss Ultra structure of Algal cell.
  - (2) Explain reproduction in Protozoa.

- (d) Write a note on : (any **one**) **1×5=5**
- (1) Economic importance of Algae
  - (2) Reproduction in Fungi
- 4 (a) Answer the following : **4×1=4**
- (1) What is Virus?
  - (2) Icosahedral, Helical and Complex are the types of \_\_\_\_\_.
  - (3) Define Capsid.
  - (4) What is Plaque?
- (b) Answer in brief : (any **one**) **1×2=2**
- (1) Explain Structure of TMV.
  - (2) What is Viroid?
- (c) Answer in brief : (any **one**) **1×3=3**
- (1) Discuss Lysogeny with suitable example.
  - (2) Explain Animal virus classification.
- (d) Write a note on : (any **one**) **1×5=5**
- (1) Lytic lifecycle of virus
  - (2) Cultivation of Animal virus
- 5 (a) Answer the following : **4×1=4**
- (1) What is Biodegradation?
  - (2) Dust, Droplets and Droplet nuclei are the examples of \_\_\_\_\_ pollutants.
  - (3) Define Pollution.
  - (4) What is Biobleaching?

- (b) Answer in brief : (any **one**) **1×2=2**
- (1) Explain Biodeterioration of textiles.
  - (2) What is Metal corrosion?
- (c) Answer in brief : (any **one**) **1×3=3**
- (1) Discuss Bioplastics
  - (2) Explain Air sanitation process
- (d) Write a note on : (any **one**) **1×5=5**
- (1) Air pollution
  - (2) Biofuel.
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