DB-003-001320 Seat No. _____

Second Year B. Sc. (Sem. III) (CBCS) Examination

March – 2022

MB - 301 : Microbiology

(Microbial Diversity)

(Old Course)

Faculty Code : 003

Subject Code : 001320

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

Instructions : (1) All Questions are Compulsory

(2) The right side figure indicates total marks of the question.

(3) Draw the figure wherever necessary

(4) Write answers of all the questions in main answer sheet

1 Answer the following questions : **20**

(1) Define Strain.

(2) _____ classification system is based on evolutionary relationships rather than general resemblance.

(3) What do you mean by dendogram?

(4) What are molecular chronometers?

(5) Define Archaea

(6) _____ is a genus of Gram negative obligate aerobic bacteria that can parasitize other Gram negative bacteria.

(7) Write two examples of Dissimilatory Sulphate Reducing Bacteria.

(8) Give two examples of gram negative cocci.

(9) Define Halophiles.

(10) Write any two examples of sheathed bacteria.

(11) Define Prosthecae.

(12) Enlist diseases caused by Rickettsia.

(13) Define Algae.

(14) _____ is the spore producing organ of a fungus, often seen as a toadstool.

(15) Enlist locomotory organs in protozoa

(16) Enlist two asexual spores produced by fungi

(17) Define Virus.

(18) _____ is an abnormal form of a normally harmless protein found in the brain that is responsible a variety of fatal neurodegenerative diseases.

(19) Name any two plant viruses.

(20) What do you mean by prophage?

2 (A) Answer in short : (**3** out of 6) **6**

(1) Explain the term polyphasic taxonomy.

(2) Give four characteristics of Family Enterobacteriaceae.

(3) Draw neat and labeled diagram of Ultrastructure of Algal cell.

(4) Differentiate Archaea and Eubacteria.

(5) How viruses differ from other microorganisms?

(6) Explain Cytopathic Effects.

(B) Answer specifically : (**3** out of 6) **9**

(1) Discuss numerical taxonomy.

(2) Write general features of nonmotile curved bacteria.

(3) Write a note on Mycobacteria.

(4) What do you mean by gliding motility? Give examples of gliding bacteria.

(5) Explain various ways of reproduction in protozoa

(6) Discuss possible capsid symmetry in viruses.

(C) Write short notes on : (**2** out of 5) **10**

(1) Major characters used in taxonomy

(2) Photosynthetic bacteria

(3) Reproduction in Fungi

(4) General characteristics and life cycle of Rickettsia

(5) Lytic cycle of T-even phages

3 (A) Answer in short : (**3** out of 6) **6**

(1) Write the Taxonomic ranks of microorganisms in sequence.

(2) What are the goals for universal phylogenetic tree.

(3) Give general characters of Acidophiles.

(4) Write general features of Actinomycetes.

(5) Definition and occurrence of Protozoa.

(6) How plant viruses get transmitted?

(B) Answer specifically : (**3** out of 6) **9**

(1) Discuss Whittaker's five kingdom concept.

(2) Write general characters of dissimilatory sulfate reducers.

(3) Write a note on Mycoplasma.

(4) Draw a chart of Classification of fungi.

(5) How can we cultivate animal viruses?

(6) Write a note on lysogeny.

(C) Write short notes on : (**2** out of 5) **10**

(1) Explain phylogenetic assessment of prokaryotes

(2) Endospore forming rods

(3) General characteristics of chlamydia

(4) Economic Importance of Algae

(5) General Characteristics of Viruses
