

MASTER OF SCIENCE (BIOTECHNOLOGY) (CBCS-2018 COURSE)
M.Sc.(Biotechnology) Sem - I : WINTER :- 2021
SUBJECT: MICROBIOLOGY

Day : Tuesday
Date 1/2/2022

W-19737-2021

Time : 02:00 PM-05:00 PM
Max. Marks: 60

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in **SEPARATE** answer books.

SECTION – I

- Q.1** Attempt any **FIVE** of the following: **(10)**
- a) What is 8 kingdom system of classification of microorganisms?
 - b) Name the antigens associated with capsule and flagella of bacteria.
 - c) What are molecular chaperons?
 - d) What is the cell wall composition of fungi?
 - e) What is cytokinesis?
 - f) Mention various habitats with alkaline pH and give the examples of organisms inhabiting it.
 - g) What is the temperature ranges for psychrophiles, mesophiles and thermophiles?
- Q.2** Attempt any **TWO** of the following: **(10)**
- a) Describe the bacterial endospores with location, chemical composition and function.
 - b) Briefly discuss the biosynthetic pathways in archea.
 - c) Differentiate between archea and other organisms with respect to DNA replication, transcription and translation.
- Q.3** Write short notes on any **TWO** of the following: **(10)**
- a) Methods of cultivation of anaerobes.
 - b) Mechanism of survival of bacteria in low a/w habitat.
 - c) Toxic effects of oxygen on growth of bacteria with reason.

SECTION – II

- Q.4** Attempt any **FIVE** of the following: **(10)**
- a) Define the term 'Commensalism'.
 - b) What are lichens?
 - c) Enlist the antibiotics inhibiting proteins synthesis.
 - d) What are the side effects of Quinolones?
 - e) Enlist s:s RNA viral families of eukaryotes.
 - f) Give the classification of s:s RNA (+) plant viruses.
 - g) What is polyphasic taxonomy?
- Q.5** Attempt any **TWO** of the following: **(10)**
- a) Justify 'microbial community in the rumen is extremely dynamic'.
 - b) How are predation and parasitism similar and different?
 - c) Discuss the pathogenicity of subcutaneous mycoses.
- Q.6** Write short notes on any **TWO** of the following: **(10)**
- a) What is the mode of action of anti-viral drugs?
 - b) What are sulpha drugs? Enlist various members of sulpha drugs with their mode of action.
 - c) Enlist the methods of taxonomy with their applications and explain G+C content method of taxonomy.

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