

BACHELOR OF SCIENCE (BIOTECHNOLOGY) (CBCS - 2015 COURSE)

S.Y.B.Sc. (Biotech) Sem-III : WINTER :- 2021

SUBJECT: CONCEPTS IN MICROBIOLOGY

Day : Tuesday
Date 25-01-2022

W-13230-2021

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

N.B:

- 1) Q. 1 and Q.5 are **COMPULSORY**.
- 2) Attempt **ANY TWO** from Q. 2, Q.3 and Q. 4 in Section-I and **ANY TWO** from Q.6, Q.7 and Q.8 in Section-II.
- 3) All questions carry **EQUAL** marks.
- 4) Answer the questions of Section-I and Section-II in **SEPARATE** answer books.

SECTION-I

- Q.1** Explain in brief (**ANY FIVE**): **(10)**
- a) Different types of symmetry exhibited by bacterial viruses.
 - b) Burst size and rise period
 - c) Importance of *Saccharomyces* and *Aspergillus*.
 - d) Sex factors in bacteria.
 - e) Distinguishing characteristics of myxomycetes, oomycetes.
 - f) Coliphage and prophage
- Q.2** Answer the following: **(10)**
- a) Explain the following terms:
 - i) Hyphae
 - ii) Dimorphic fungi
 - iii) Vegetative reproduction
 - iv) Plasmogamy
 - v) Fruiting body
 - b) With the help of suitable diagram explain in detail mechanism of lysogeny.
- Q.3** Answer the following: **(10)**
- a) Compare physiological characteristics of bacteria and fungi.
 - b) Elaborate on: bacterial transformation.
- Q.4** Write short notes on **ANY TWO**: **(10)**
- a) Replication of bacterial viruses with respect to adsorption, transcription, assembly and release.
 - b) Distinguishing characteristics of mycoplasma and rickettsia.
 - c) Nucleic acid present in viruses.

SECTION-II

- Q.5** Explain in brief (**ANY FIVE**): **(10)**
- a) Toxins
 - b) Acute infection
 - c) Sporadic
 - d) Endemic
 - e) Karyotype
 - f) Secondary culture
- Q.6** Answer the following: **(10)**
- a) Explain in detail families and groups of plant viruses.
 - b) Enlist different virulence factors. Add a note on endotoxins.
- Q.7** Explain in detail: **(10)**
- a) The process of virus adherence required to initiate the infection with the help of suitable bacterial and viral examples.
 - b) Different types of infectious diseases with suitable example.
- Q.8** Explain in detail **ANY TWO**: **(10)**
- a) Airborne transmission of infectious diseases.
 - b) Chemotherapeutic agents damaging cell membrane.
 - c) Epidemiological markers to identify specific bacterial strain.

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