

S. Y. B. Sc. (Biotechnology) SEM – III (CBCS - 2015 COURSE) :
SUMMER - 2019

Subject: Concepts in Microbiology

Day: Wednesday
Date: 03/04/2019

S-2019-1376

Time: 02.00 PM TO 05.00 PM
Max. Marks: 60

N.B.:

- 1) Q1 and Q5 are compulsory.
- 2) Answer ANY TWO questions from Q 2, 3, 4 in Section I.
- 3) Answer ANY TWO questions from Q 6, 7, 8 in Section II.
- 4) Answers to Both the sections to be written in **SAME** answer books.
- 5) Draw a labeled diagram WHEREVER necessary.

SECTION - 01

Q.1) Answer the following: (ANY FIVE) (2 Marks X 5 = 10)

- a) Fungi act as important source of antibiotics. Give examples in support of this statement.
- b) Define the term "transformation".
- c) Define archaea. How do they differ from eubacteria?
- d) What are conjugative plasmids? Give example.
- e) Enlist general properties of viruses.
- f) What is "binnal symmetry"?

Q.2) Answer the following: (5 Marks X 2 = 10)

- a) Define "transduction". Differentiate between generalized and specialized transduction.
- b) With the help of suitable diagram explain "morphology of fungi" in detail.

Q.3) Explain the following: (5 Marks X 2 = 10)

- a) Enlist different methods of sexual reproduction in fungi. Add a note on different types of sexual spores produced by fungi.
- b) Explain in detail synthesis of phage nucleic acids and proteins in ds DNA phages (with reference to T4 phage.)

Q.4) Write short notes on the following: (5 Marks X 2 = 10)

- a) Homologous recombination.
- b) Cro protein of phage λ

SECTION - 02

Q.5) Answer the following: (ANY FIVE) (2 Marks X 5 = 10)

- a) Enlist six stages in the reproduction of vertebrate viruses.
- b) Enlist the criteria used for ICTV classification of eukaryotic viruses.
- c) Define "epidemic and endemic" diseases.
- d) Define final host, intermediate host, transfer host and reservoir host.
- e) Define pathogen and virulence.
- f) Name the organisms that produce cephalosporins and streptomycin.

Q.6) Answer the following: (5 Marks X 2 = 10)

- a) Explain in detail genome replication in DNA viruses of vertebrates.
- b) Explain the following terms: incubation period, prodromal stage, illness period and period of decline with respect to infectious diseases.

Q.7) Explain the following: (5 Marks X 2 = 10)

- a) Cytological changes in TMV infected cells.
- b) What are the different methods to determine the level of antimicrobial activity of a chemotherapeutic agent? Add a note on dilution susceptibility test.

Q.8) Write short notes on the following: (5 Marks X 2 = 10)

- a) Endotoxins
- b) Airborne transmission of a pathogen
