

**M. SC. (BIOTECHNOLOGY) SEM-I (2012 COURSE)(CHOICE
BASED CREDIT SYSTEM) : SUMMER - 2018
SUBJECT: MICROBIOLOGY BASIC AND APPLIED**

Day : **Thursday**
Date : **12/04/2018**

S-2018-1082

Time : **10.00 am to 01.00 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.
- 4) Draw neat and labelled diagram **WHEREVER** necessary.

SECTION - I

Q. 1 Attempt **ANY FIVE** of the following: **(10)**

- a) What is the reason of lag phase in growth curve?
- b) What is ray fungus? Write two application of it.
- c) Write two applications of anaerobic bacteria.
- d) Write the functions of divisome?
- e) What are transposons?
- f) Define disinfection.

Q. 2 Attempt **ANY TWO** of the following: **(10)**

- a) What is pure culture? Explain any two methods used for obtaining pure culture.
- b) Write a short note on classification of bacteria based on oxygen requirement.
- c) Write any two nutritional intake mechanisms present in bacteria.

Q. 3 Attempt **ANY TWO** of the following: **(10)**

- a) With the help of a diagram explain the structure of phase contrast microscope.
- b) Explain in detail the mechanism of conjugation.
- c) Describe sexual reproduction method in fungi.

SECTION - II

Q. 4 Attempt **ANY FIVE** of the following: **(10)**

- a) What is cytopathic effect?
- b) What is the function of 'M' proteins in TMV?
- c) What are bio-pesticides?
- d) What are extremophiles?
- e) Write industrial application of amylase.
- f) What is shedding period?

Q. 5 Attempt **ANY TWO** of the following: **(10)**

- a) Explain in detail lysogenic life cycle of bacteriophage.
- b) Describe antigenic shift and drift in influenza virus.
- c) Explain Baltimore system of virus classification.

Q. 6 Attempt **ANY TWO** of the following: **(10)**

- a) What are extremophiles? Explain any two mechanism by which bacteria survive under extreme conditions.
- b) What is biofertilizer? Explain the steps involved in the production of biofertilizer?
- c) What are secondary metabolites? Explain the role of secondary metabolites in biotechnology based industries.

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