

S. Y. B. SC. (BIOTECHNOLOGY) SEM – III (2010 COURSE) :

WINTER - 2017

SUBJECT: MICROBIOLOGY – II

Day: **Thursday**
Date: **02/11/2017**

W-2017-0952

Time: **10.00 AM TO 01.00 PM**
Max Marks. 80

N.B.

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

- Q.1** **A)** Answer **ANY ONE** of the following **(06)**
 i) Explain various types of capsid symmetry in viruses.
 ii) What is F plasmid? Discuss $F^+ \times F^-$ mating in bacteria.
- B)** Answer **ANY TWO** of the following **(10)**
 i) What are the various methods of virus cultivation? Explain virus cultivation using embryonated eggs.
 ii) Discuss Lederberg and Tatum experiment that proves conjugation.
 iii) Explain the structure of T even bacteriophage.
- Q.2** Write short notes on **ANY FOUR** **(16)**
 i) DNA transformation in bacteria
 ii) Hfr conjugation
 iii) One step growth experiment
 iv) Lysogenic cycle
 v) Holiday model of recombination

SECTION - II

- Q.3** **A)** Answer **ANY ONE** of the following **(06)**
 i) Explain the pathogenesis of *Mycobacterium tuberculosis*
 ii) What are extremophiles? Give their applications.
- B)** Answer **ANY TWO** of the following **(10)**
 i) Explain the interaction of microbes and plant with reference to root nodules.
 ii) What the different types of PCR polymerases? Mention its applications.
 iii) Discuss laboratory diagnosis of AIDS.
- Q.4** Write short notes on **ANY FOUR** **(16)**
 i) Explain pathogenesis & lab diagnosis of Cholera
 ii) Give an account on pneumonia
 iii) Explain various stages of AIDS
 iv) Give significance of probiotics in human health
 v) Give a brief account on mycorrhizae.
- Q.5** Write short notes on **ANY FOUR** **(16)**
 i) HBsAg
 ii) Lichens
 iii) Thermophiles
 iv) Structure of influenza virus
 v) Widal test

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