

M. SC. (Microbiology) SEM-I (CBCS 2018 Course) : WINTER - 2018
SUBJECT: GENETICS & MOLECULAR BIOLOGY

Day: Saturday
Date: 13/10/2018

W-2018-1016

Time 03.00 PM TO 06.00 PM
Max. Marks: 60

N.B.:

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Draw neat labeled diagram **WHEREVER** necessary.
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Q.1 Describe the process of transcription in eukaryotes and compare it with transcription in prokaryotes. (15)

OR

Describe in details the structure and regulation in *tol* operon. (15)

Q.2 a) How are DNA molecules joined by different methods in gene cloning? Describe in detail. (10)

b) Name and describe the action of different antibiotics that affect the DNA structure. (05)

Q.3 Attempt any **THREE** of the following: (15)

- a)** Give the use of phages as vectors for gene cloning.
- b)** Describe the isolation and detection of DNA with the help of suitable techniques.
- c)** Justify: The genetic code is universal.
- d)** Describe in short the different classes of RNA.

Q.4 Write short notes on any **THREE** of the following: (15)

- a)** Histidine operon
- b)** Elongation of polypeptide chain
- c)** Euchromatin and heterochromatin
- d)** cDNA cloning

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