

**M. SC. (Microbiology) SEM-I (C.B.C.S.) (2012 COURSE) : WINTER -
2018**

SUBJECT : GENETICS & MOLECULAR BIOLOGY

Day : Saturday
Date : 13/10/2018

Time 03.00 PM TO 06.00 PM
Max. Marks : 60

W-2018-1021

N.B.

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Draw neat and labeled diagrams **WHEREVER** necessary.
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Q.1 Explain the structure of Eukaryotic Chromosome. **(15)**

OR

Describe and differentiate between the process of transcription in prokaryotes and eukaryotes.

Q.2 a) Explain the different methods of cutting and joining the DNA molecules in gene cloning. **(08)**

b) What is positive regulation? Explain with the help of an example. **(07)**

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

- a)** Name and describe the antibiotics that affect DNA replication.
- b)** Justify: Genetic code is degenerate.
- c)** Differentiate between BACs and YACs.
- d)** What are transgenic plants? Give their importance.

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

- a)** Plasmid vector
- b)** Initiation of translation
- c)** Blotting techniques
- d)** PCR

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