

S.Y.B.SC. SEM – III (CBCS - 2016 Course) : SUMMER - 2019
SUBJECT: MICROBIOLOGY: BACTERIAL GENETICS

Day: Saturday
Date: 11/05/2019

S-2019-0833

Time: 03.00 P.M. To 06.00 P.M
Max. Marks: 60

N.B:

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Draw neat labeled diagrams **WHEREVER** necessary.
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Q.1 Attempt **ANY TWO** of the following: **(12)**

- a) Describe B form of DNA.
- b) "DNA is the genetic material in viruses". Prove with the help of a suitable experiment.
- c) Describe the structure of prokaryotic chromosome.

Q.2 Attempt **ANY TWO** of the following: **(12)**

- a) Enlist the enzymes in DNA replication. What are their functions?
- b) How did Avery, Mcleod and McCarty prove that DNA is the transforming principle?
- c) Explain the concept of Wobble hypothesis.

Q.3 Attempt **ANY TWO** of the following: **(12)**

- a) Draw dictionary of the genetic code.
- b) Describe the action of base analogues.
- c) Explain Luria and Delbrücks experiment.

Q.4 Attempt **ANY THREE** of the following: **(12)**

- a) Explain the concept of reversion with suitable examples.
- b) Justify: Genetic code is degenerate.
- c) Differentiate between Transition and Transversion.
- d) What are nucleotides? Name the nucleotides in DNA and RNA.

Q.5 Explain/ define/comment on write in short on/ draw a well labeled diagram of **(12)**
ANY FOUR of the following:

- a) Termination codons
- b) Semiconservative replication
- c) Point mutations
- d) Spontaneous mutations
- e) Contributions of Crick to the genetic code
- f) DNA methylation

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