

BACHELOR OF SCIENCE (CBCS-2018 COURSE)
S. Y. B. Sc. Sem-III : WINTER :- 2021
SUBJECT: MICROBIOLOGY : BACTERIAL GENETICS

Day : Saturday
Date 22-01-2022

W-18360-2021

Time : 10:00 AM-01:00 PM
Max. Marks: 60

N.B.

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Draw neat and labelled diagrams **WHEREVER** necessary.
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- Q.1** Attempt any **TWO** of the following: (12)
- a) Describe in detail the structure of DNA.
 - b) Name and describe the three alternative models proposed for DNA replication.
 - c) Elaborate on 'Genetic Code is commaless and universal.'
- Q.2** Answer any **TWO** of the following: (12)
- a) Describe the effect of ultra violet rays on DNA .
 - b) How are auxotrophic mutants isolated by replica plate technique?
 - c) Explain the mechanism of DNA replication.
- Q.3** Attempt any **TWO** of the following: (12)
- a) Discuss the process of translation.
 - b) Discuss the Newcombe experiment to detect clones of resistant bacteria.
 - c) Describe the principle, procedure and application of Ame's test.
- Q.4** Write short notes on any **THREE** of the following: (12)
- a) Bends in DNA
 - b) Dark repair mechanism
 - c) Transition and Transversion mutation
 - d) RNA as a genetic material
- Q.5** Attempt any **FOUR** of the following: (12)
- a) Explain the mechanism of DNA recombination.
 - b) What is the action of Acridine orange on DNA.
 - c) Write a note on DNA Polmerases.
 - d) Describe essential and fundamental properties of genetic material.
 - e) Describe the process of DNA methylation.

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