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Roll No.: .....

Total No. of Questions : 6] [Total No. of Printed Pages : 2

SV-456

M.Sc. 1st Semester (NEW/ATKT)

Microbiology Examination December, 2017

MICROBIAL GENETICS

Paper : MB-103

Time Allowed : Three Hours] ***[Maximum Marks : 85***

Note : Attempt all questions.

Section - 'A'

Q.1. Write short notes on any 10 of the following: 10×3½=35

a) Chargaff's equivalence rule
b) Forms of DNA
c) Cairns model of DNA replication
d) Recon
e) Transition mutation
f) Intercalating agents
g) Photolyase enzyme
h) Very short patch repair
i) Polycistronic and monocistronic RNAs
j) Sigma protein
k) Splicing of mRNA
l) Ribosome Editing
m) Transfection
n) Hfr strain
o) Restricted Transduction

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Section - 'B'

5×10=50

Unit - I

Q.2. Explain mechanism and involvement of enzymes in DNA replication.

OR

Differentiate between fine structure and organization of prokaryotic and eukaryotic DNA.

Unit - II

Q.3. Describe different chemical and physical mutagens and their action.

OR

Describe base excision repair and SOS repair in detail.

Unit - III

Q.4. Explain part transcriptional processing of RNAs.

OR

Discuss inhibitors of gene expression in detail.

Unit - IV

Q.5. Describe signal hypothesis (protein export) elaborately.

OR

Explain Lac operon and its negative regulation.

Unit - V

Q.6. Describe types of transduction and also their applications.

OR

Write the mechanism of transformation with Griffith's experiment and application.

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