

M.Sc.-II Semester-III (CBCS) Examination
MICROBIOLOGY
MOLECULAR BIOLOGY
Paper-IX

Time : Three Hours]

[Maximum Marks : 80

N.B.:— (1) All questions are compulsory.

(2) All questions carry equal marks.

1. Describe the necessity of DNA in living system. Add note on structure of DNA. 16

OR

- (a) Explain various forms of RNA focussing on their role. 8

- (b) What are various types of DNA ? 8

2. How DNA is damaged by UV rays ? Explain various mechanisms of DNA repair. 16

OR

- (a) Explain various enzymes involved in DNA replication. 8

- (b) Take an insight to prokaryotic DNA replication. 8

3. Define transformation. Elaborate the mechanism of transformation. 16

OR

- (a) Explain frameshift mutation with its effect on bacterial cell. 8

- (b) Discuss split genes and overlapping genes. 8

4. Explain the complexity of eukaryotic transcription. 16

OR

- (a) Describe post transcriptional modifications. 8

- (b) Add note on initiation of protein synthesis. 8

5. Explain various ways of gene regulation in eukaryotes. 16

OR

- (a) Explain positive gene regulation. 8

- (b) Add notes on Lac operon. 8

