

Code No. : B02/107

Second Semester Online Examination, May-June, 2022

M. Sc. MICROBIOLOGY**Paper I****CELL AND MOLECULAR BIOLOGY**

Time : Three Hours]

[Maximum Marks : 80

Note : Part A and B of each question in each unit consist of 'very short answer type question' which are to be answered in one or two sentences. Part C 'Short answer type' and D 'Long answer type' of each question should be answered within the word limit mentioned.

UNIT-I

1. (A) Write the definition of DNA replication. 2
- (B) Define proof reading. 2
- (C) Write note on Topological properties.

*(word limit 200-250) 4***OR**

Explain Exonuclease activity is Eukaryotic DNA polymerase.

- (D) Write detail note on super helicity in DNA.

*(word limit 400-450) 12***P.T.O.****OR**

Write detail note on Retroviruses and their modes of DNA synthesis.

UNIT-II

2. (A) Define nucleotide polymerization. 2
- (B) Define cell cycle. 2
- (C) Write note on altering DNA structures.

*(word limit 200-250) 4***OR**

Write note on inhibitors of DNA replication.

- (D) Write detail note on Apoptosis.

*(word limit 400-450) 12***OR**

Explain relationship between replication and cell cycle.

UNIT-III

3. (A) Write types of RNA polymerase. 2
- (B) What is capping ? 2
- (C) Write note on cutting and trimming of rRNA. *(word limit 200-250) 4*

[2]

Code No. : B02/107

OR

Write note on inhibitors of RNA synthesis.

(D) Write an essay on protein synthesis.

(word limit 400-450) **12**

OR

Write an essay on polyadenylation and splicing of *mRNA*.

UNIT-IV

4. (A) What are co-repressors ? **2**

(B) What are inducers ? **2**

(C) Write note on use of alternate sigma factors. *(word limit 200-250)* **4**

OR

Write note on protein binding sites on DNA.

(D) Write an essay on Gene regulation.

(word limit 400-450) **12**

OR

Write detail note on Operon concept.

□ □ □ □ □ d □ □ □ □ □