Roll No..... Total No. of Printed Pages : 4

Code No. : B02/108

Second Semester Online Examination, May-June, 2022

M. Sc. BIOTECHNOLOGY

Paper I

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) What do you mean by capping of RNA ? **2**

(B) What is direct repair of DNA ? **2**

(C) What is RNA editing ? Write about its mechanism. *(word limit 200-250)* **4**

OR

Describe the process of termination of transcription.

P.T.O.

(D) Write in detail about the process of replication. *(word limit 400-450)* **12**

OR

Give a detailed account of the process of translation.

UNIT-II

2. (A) What are oncogenes ? **2**

(B) What is Philadelphia chromosome ? **2**

(C) Write a note on mutations that occur in mitochondrial genomes and diseases related to it. *(word limit 200-250)* **4**

OR

What do you mean by chloroplast inheritance ?

(D) Describe the nucleosome model and how does phosphorylation, acetylation and methylation effect modulate the DNA packaging. *(word limit 400-450)* **12**

OR

Describe in detail about the process of recombination and its types ?

UNIT-III

3. (A) What are CpCr islands. **2**

(B) Write in short about various enzmes involved in epigenetics **2**

(C) Describe the process of protein folding & ubiquitination. *(word limit 200-250)* **4**

OR

Give an account of molecular chaperons.

(D) Describe in detail about various protein that bind to DNA.

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

OR

Write in detail about the operon model and discuss about the operon that are operated in eukaryotes.

UNIT-IV

4. (A) What are group I and group II introns. **2**

(B) What are inteins and exteins. **2**

(C) Write in short about ribozymes.

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

OR

Write about piwi RNA and proteins.

(D) Write in detail about the Noncoding RNAs. *(word limit 400-450)* **12**

OR

Describe in detail about the process of RNA interference.

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