

2022

Microbiology

[HONOURS]

(CBCS)

(B.Sc. Third Semester End Examination-2022)

PAPER-CC7T

Full Marks: 40

Time: 02 Hrs

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

[Molecular Biology]

Group-A

Answer any five questions of the following:

5x2=10

1. What are wobble base pairs? Write its significant. 2
2. What is Cot curve? 2
3. What is primosome? 2
4. What is the function of telomerase? 2
5. What is Si RNA and what is its significance? 1+1
6. Explain why the two strands of DNA are antiparallel in nature. 2
7. What is the function of aminacyl tRNA synthetase? 2
8. What is meant by proofreading activity of DNA polymerase? 2

(2)

Group-B

Answer any four questions of the following: 4x5 = 20

1. Write down the differences between A DNA, B DNA and 2 DNA. What is linking number? How is it related to supercoiling?

What are the difference between mitochondrial DNA and chloroplast DNA? 2+1+2

2. Describe the Rho independent transcriptional termination process.

What is chargraff's rules? 3+2

3. Write down the mechanism of mismatch repair.

State the elongation process of translation. $2\frac{1}{2} + 2\frac{1}{2}$

4. What is mi RNA? State the function of DNA ligase. What are Okazaki fragments? 2+2+1

5. Write down the catabolite repression of lac operon.

What is inducer? Give example with its function.

6. Write down the names of some inhibitors of replication transcription and transation, with its specific function.

Group -C

Answer any one question: 1x10 = 10

1. Write down the significance of role of RNA polymerase in prokaryotic transcription. Write down the differences among DNA polymerase I, II and III.

(3)

What is the function of different types of topo isomerase enzymes? 2+3+5

2. Write briefly on the attenuation model of trp operon.

Write down the effect of inhibitors on translation. 5+5
