K19U 2449

Reg. No. : .....

Name : .....

III Semester B.Sc. Degree (CBCSS-Reg./Sup./Imp.) Examination, November - 2019

(2014 Admn. Onwards)

GENERAL COURSE IN BIOCHEMISTRY

3A12BCH : MOLECULAR BIOLOGY

Time : 3 Hours

Max. Marks : 40

SECTION-A

Answer **All** the questions. Each question carries **one** mark. **(4×1=4)**

1. What is a lagging strand? How is it formed?
2. What is the action of RNA polymerase?
3. What is the central dogma of molecular biology?
4. All t RNAs have ___ bases at 3' end.

SECTION-B

Answer any **Seven** questions out of 10. Each question carries **two** marks. **(7×2=14)**

5. Differentiate between DNA and RNA.
6. Outline the role of sigma factor in transcription.
7. Write notes on Z DNA
8. What are the function of helicases and topoisomerases in replication?
9. What is the function of DNA methylase in the regulation of replication?
10. Explain rho dependent termination of transcription in prokaryotes.
11. "Genetic code is universal". Justify this statement.
12. What is Wobble hypothesis?
13. Write the structure of adenine and thymine and mark the hydrogen bonds between them.
14. Describe 5' end capping of RNA transcript.

P.T.O.

SECTION-C

Answer any **Four** questions. Each question carries **three** marks. **(4×3=12)**

15. Explain the salient features of Watson and Crick model DNA structure.
16. Differentiate between repression and induction.
17. Give an account of major types RNA and their functions.
18. Write notes on Tm value.
19. Compare the actions of different DNA polymerases.
20. Give an account of denaturation of nucleic acid.

SECTION-D

Answer any **Two** questions. Each question carries **five** marks. **(2×5=10)**

21. Briefly describe the process of replication in prokaryotes.
22. Describe the initiation, elongation and termination of translation in prokaryotes.
23. Describe the working of lac operon.
24. Describe the structure of tRNA. Describe the processing of the primary transcript of tRNA.
