



61514

Fifth Semester B.Sc. Degree Examination, April/May 2023

(CBCS – Semester Scheme) (F+R)

BIOCHEMISTRY (Paper – VI)

Time : 3 Hours

Max. Marks : 70

Instructions : 1) This paper is for the students of new syllabus 2014 – 15.

2) The question paper has **two** Parts : Part – **A** and Part – **B**.

3) Answer **any eight** questions from Part – **A**.

4) Answer **any nine** questions from Part – **B**.

PART – A

Answer **any eight** of the following questions.

(8×2=16)

1. What is active site of an enzyme ?
2. Write a short note on induced fit model of enzyme substrate interaction.
3. What is meant by shine Dalgarno sequence ?
4. What are nucleotides ? Give an example.
5. Write a note on renaturation of nucleic acids.
6. What are Okazaki fragments ?
7. Write a note on chemical mutagens with a suitable example.
8. Mention different types of RNA.
9. What is an operon ?
10. Give the role of topoisomerase.
11. Mention the components of prokaryotic ribosome.
12. What is meant by phosphodiester bond ?



P.T.O.



PART – B

Answer **any nine** of the following questions. **Each** question carries **6** marks. **(9×6=54)**

13. a) Discuss about uncompetitive inhibition using Line-weaver-Burk plot.
b) Give a reaction catalysed by Isomerase. (4+2)
14. a) Explain about the lock and key model with suitable diagram.
b) What are monomeric enzymes ? (4+2)
15. a) How will you prove that DNA is the genetic material ?
b) Mention the types of DNA polymerase. (4+2)
16. a) Explain the Sanger's method of DNA sequencing.
b) What is nucleotide excision repair mechanism ? (4+2)
17. a) Discuss in detail about steps involved in prokaryotic transcription.
b) Write a note on TATA box. (4+2)
18. a) Explain how uv radiation causes mutation.
b) What are primers ? Mention the function. (4+2)
19. a) Explain about Lac operon concept.
b) Write a note on Rho independent termination of transcription. (4+2)
20. a) Enumerate the steps involved in prokaryotic DNA replication.
b) List out the characteristic features of genetic code. (4+2)
21. a) Write a note on specificity of enzymes.
b) State Wobble's hypothesis. (4+2)
22. a) Explain the steps involved in Hershey and chase experiment.
b) What is meant by mis-sense mutation ? (4+2)
23. a) Explain about post transcriptional modification of m-RNA.
b) Mention the role of PLP. (4+2)
24. a) Explain Griffith experiment to prove that DNA is the genetic material.
b) Give the unit of enzyme activity. (4+2)
25. a) Distinguish between Prokaryotic and Eukaryotic transcription.
b) What are endonucleases ? Give an example. (4+2)

