

V Semester B.Sc. Examination, Nov./Dec. 2018
(Semester Scheme)
(CBCS) (F+R) (2016 – 17 and Onwards)
BIOCHEMISTRY
(Paper – VI)

Time : 3 Hours

Max. Marks : 70

- Instructions :** i) The question paper has **two** Parts, Part – A and Part – B.
ii) Answer **any eight** questions from Part – A and **nine** questions from Part – B.

PART – A

Answer **any eight** of the following questions. **Each** question carries **two** marks. (8×2=16)

1. Write the Michaelis-Menten equation for single substrate reactions.
2. Give the effect of substrate on Enzyme activity.
3. What is absolute specificity ? Give an example.
4. What is active site of an enzyme ?
5. Write the structure of Adenosine.
6. What is Nucleosome ?
7. Mention the role of rRNA and mRNA.
8. Give the role of Topoisomerases.
9. What is Missense mutation ?
10. What is central dogma of molecular Biology ?
11. Mention any two non-sense codons.
12. Give the role of IF₃ and IF₂.



PART – B

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

13. a) Explain characteristic features of active site of enzyme.
- b) What is Feedback inhibition ?

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14. a) Differentiate non-competitive and competitive inhibition using L.B. plot.
b) Give the role of TPP. (4+2)
15. a) What do you mean by the terms Apoenzymes, Holoenzymes, Cofactors and Coenzymes ?
b) Give the graphical representation of MM equation. (4+2)
16. a) Explain the steps involved in isolation of nucleic acids.
b) Give any two non-histone proteins. (4+2)
17. a) Write the structure of (i) AMP (ii) GMP.
b) What is meant by Denaturation of DNA ? (4+2)
18. a) Give the characteristic feature of Watson-Crick DNA model.
b) Why DNA is more stable in Alkali than RNA ? (4+2)
19. a) Explain Hershey and Chase experiment on DNA as genetic material.
b) Give the components of DNA polymerase - III. (4+2)
20. a) What is Bidirectional replication ? How it is proved by Autoradiography ?
b) Differentiate between conservative and dispersive mode of replication. (4+2)
21. a) Explain Nucleotide excision repair mechanism.
b) What are induced mutations ? (4+2)
22. a) What are Frameshift mutations ? Mention their types with an example each.
b) How does HNO_2 bring mutations ? (4+2)
23. a) Explain about rho dependent type of transcription termination in E.Coli.
b) What is capping of mRNA ? (4+2)
24. a) Write the structure of Lac operon. Explain its regulations in the presence of Lactose.
b) What is TATA Box ? (4+2)
25. a) Write the characteristic features of Genetic Code.
b) Give the role of aminoacyl tRNA synthetase. (4+2)

