SN – 348

V Semester B.Sc. Examination, November/December 2017
(Repeaters) (Prior to 2016-17)
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 **any nine** questions from Part – **B**.*

PART – A

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

1. Write Michelis-Menten equation. Mention the terms involved.
2. Give the central dogma of molecular biology.
3. What is nucleotide ? Give an example.
4. What is group specificity ? Give an example.
5. Define Chargoff's rule.
6. What are ribozymes ? Give an example.
7. What is catabolite repression ?
8. Define renaturation of DNA.
9. What are mutagens ? Give an example.
10. Name any two inhibitors of transcription.
11. Mention any two differences betwen RNA polymerase and DNA polymerase.
12. What is meant by translocation ?

PART – B

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

13. a) Give the differences between competitive and non-competitive inhibition.
    b) Name any two metal cofactors. **(4+2)**
14. a) Explain the effect of pH and temperature on the enzyme activity.
    b) What are transferases ? Give an example. **(4+2)**

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15. a) Discuss the Watson and Crick model of DNA.
    b) What is transition and transversion mutation ? (4+2)

16. a) Describe the reverse transcription of HIV-RNA.
    b) Mention any two roles of TPP. (4+2)

17. a) Write a note on :
        i) Lock and Key model
        ii) Induced fit model.
    b) What is replication bubble ? (4+2)

18. a) Describe the steps involved in semi conservative replication of DNA in prokaryotes.
    b) What is missence mutation ? (4+2)

19. a) Explain the role of (i) UV rays (ii) Ionizing radiation as mutagen.
    b) What is Wobble hypothesis ? (4+2)

20. a) Explain the elongation step of prokaryotic translation.
    b) Mention the role of sigma factor in transcription. (4+2)

21. a) Write the general features of genetic code.
    b) Write any two differences between the polymorphic forms of DNA. (4+2)

22. a) Explain the post translational modification of proteins.
    b) Write the structure of adenosine. (4+2)

23. a) What is T_m ? Explain the factors that affect the melting temperature.
    b) Mention the significance of K_m and V_{max}. (4+2)

24. a) Give an account of allosteric enzymes.
    b) What is phosphodiester linkage ? (4+2)

25. a) Name different types of RNA. Mention their functions.
    b) What are histones ? Mention their biological role. (4+2)