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Reg. No.....

Name.....

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, NOVEMBER 2022

Fourth Semester

Core Course 12 : MOLECULAR BIOLOGY

[For B.Sc. Biotechnology]

(2013—2016 Admissions)

Time : Three Hours Maximum Marks : 80

Part A

Answer **all** *questions.*
Each question carries 1 *mark.*

1. What is TATA box ?
2. What are snurps ?
3. Give the function of gyrase.
4. What is SOS repair ?
5. What are concatamers ?
6. Name the coregulated gene cluster in bacteria.
7. Name the scientist who dissevered t RNA structure.
8. Name Griffitb's transforming principle.
9. What is NER ?
10. What is UTR ?

(10 × 1 = 10)

Part B

Answer any **eight** *questions.*
Each question carries 2 *marks.*

11. Give the significance of telomerase.
12. What are the types of DNA polymerases in prokaryotes ?

Turn over

13. Give the purpose and method of Avery - Mac Leod - Mc canty experiment.

14. What is meant by C - value paradox ? Cite an example.

15. What are histones ? Give types of histones.

16. What is excision repair ?

17. What are tandem repeats ?

18. What is the use of DNA foot printing ?

19. State wobble hypothesis.

20. Give function of rho factor.

21. Explain the structure of bacterial ribosome.

22. Write a note on retropasone.

(8 × 2 = 16)

Part C

Answer any **six** *questions.*
Each question carries 4 *marks.*

23. Give the structural organisation of λ -phase genome.

24. Explain the Blendor experiment.

25. Give the structure and properties of non-genetic RNAs.

26. Describe the structure of nucleosome with appropriate diagram.

27. Write a note on codon assignment.

28. Describe the steps involved in the elongation of poly peptide chain.

29. Draw a prokaryotic replication fork, and explain its components.

30. Give evidences for RNA as genetic material in virus.

31. Describe the mechanism of direct reversal repair.

(6 × 4 = 24)

Part D

Answer any **two** *questions.*
Each question carries 15 *marks.*

32. Describe prokaryotic gene regulation.

33. Explain the mechanism of transcription in prokaryotes.

34. Compare the physico - chemical properties of DNA and RNA. Give the salient features of Watson - Crick model.

35. Describe the mechanism of bacterial DNA replication.

(2 × 15 = 30)