

Subject Title: Molecular Biology

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Year: 3

Semester: 5

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Unit - I: DNA REPLICATION**Short Answers**

1. Explain Griffith Experiment of DNA As a genetic material.?
2. Explain about DNA polymerases I,II,III?
3. Write an account on Nucleic acids?
4. Explain Watson cric model of DNA Structure?
5. Describe Structure of tRNA?
6. What are the Types of RNA?
7. What are the Enzymes involved in DNA replication?
8. What is Exons and Introns?
9. Describe about Oazaai fragments?
10. Inhibitors of DNA replication?

Essay Questions

11. Genome organization in Euaryotes and proaryotes
12. What is DNA replication? Models of replication? Semi conservative mode of replication with stahl experiment?
13. Explain Bidirectional replication .leading and lagging strand of DNA Synthesis?

Unit - II: TRANSCRIPTION

14. Explain about Core Enzyme?
15. What is Optimal proaryotic promoter?
16. Describe Termination in proaryotes RNA Synthesis?
17. Bacterial RNA polymerase
18. Central dogma of molecular biology?
19. Describe euaryotic mRNA?

20. Explain about Euaryotic RNA polymerase I,II,III?
21. What is Enhancer?
22. Explain about Alternative splicing?
23. Write about Inhibitors of RNA Synthesis?

Essay Questions?

24. Describe the process of transcription in proaryotes with special reference of RNA polymerase enzyme?
25. Briefly describe the process of transcription by RNA polymerase II in euaryotes. How does transcription in euaryotes differ from that in proaryotes?
26. Briefly describe RNA processing in euaryotes ?

Unit - III: **TRANSLATION and REGULATION OF GENE EXPRESSION**

Short Answers

27. Write a note on genetic code?
28. Write a note on wobble hypothesis?
29. Explain about Structure of tRNA?
30. Explain about Nirenberg's and horana's experiment?
31. Write about signal hypothesis?
32. Inhibitors of protein synthesis?
33. Write a short note on Ribosomes?
34. What is operon?

Essay Questions

35. List the various components of protein synthesis. Briefly describe the mode of protein synthesis in proaryotes?
36. Briefly describe the mechanism of translation initiation in proaryotes and euaryotes and list the differences in the translation processes of the two groups of organisms?
37. Define operon. Explain the operon model of gene regulation using Lac operon of E.coli as an example?
38. Define about Tryptophan operon and attenuation?
- 39.

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Unit - V :

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