

Avinashilingam Institute for Home Science and Higher Education for Women
(Deemed to be University) Coimbatore-641 043
Bachelor's Degree Examination – November 2018
V Semester

Class : III UG
Major : Botany

Time :3 hours
Max. Marks: 100

15BBOC14- Molecular biology

Part-A

10 x 1=10

Choose the correct answer

1. A Nucleoside is composed of
a. A base + a sugar b. A base + a sugar+ phosphate c. A base+ phosphate
d. Only sugar. Chromosome
2. The two strands of DNA double helix are joined by
a. Covalent bond b. Hydrogen bond c. Ionic bond d. Phosphodiester bond
3. Synthesis of new DNA strand is catalyzed by --
a. Zymase b. Protease c. DNA polymerase d. Ligase
4. Short fragments of lagging strand are called as
a. Pentose sugar b. Okazaki strands c. Templates d. Nitrogen bases
5. RNA is formed from DNA by a process called
a. Transpiration b. Transcription c. Translation d Transition
6. Regulatory RNA's are called as
a. Micro RNA b. Macro RNA c. Sub unit RNA d. NOTA
7. First codon of a messenger RNA transcript translated by a ribosome is
a. Catalyst b. End codon c. start codon d. Primer
8. Set of genes transcribed under the control of an operator gene are called as
a. Template b. Codon c. Triplet codon d. Operon
9. Light dependent enzyme involved in photo reactivation is
a. DNA Photolyase b. Telophase c. Interphase d. Prophase
10. Which one of the following is a bypass system of emergency DNA repair mechanism
a. Translesion synthesis b. SOS c. Mismatch d. Excision

Part B

5 X 6=30

Answer the following

Answer should not exceed 400 words or two pages

- 11.a. Write a brief account on the functions of DNA
(or)
- 11.b. Write an account on the physical properties of DNA
- 12.a. Explain in brief about the role of restriction endonucleases
(or)
- 12.b. Explain the function of ligases
- 13.a. Write about the functions of RNA.
(or)
- 13.b. Write short notes on mRNA
14. a. Explain initiation and elongation of Translation.
(or)
14. b. Define termination of Translation

15. a. Write about mismatch repair mechanism.
(or)

15. b. Explain about SOS in brief

Part C

5 x 12=60

Answer the following

Answer should not exceed 800 words or four pages

16. a. Explain Watson and Cricks model of DNA in detail
(or)

16. b. Write an essay on Chloroplast and Mitochondrial DNA

17. a. Write an account on the semi-conservative replication in E. coli
(or)

17. b. Explain the role of polymerase enzyme in DNA replication

18. a. Give a detailed account on r RNA

18. b. Write about t RNA in detail
(or)

19. a. Describe Lac operon concept
(or)

19. b. Explain about the steps involved in Transcription

20. a. Give an account on Photo reactivation in detail
(or)

20. b. Write an essay on DNA damage
