

19. What is genetic code? Discuss the salient features and Wooble hypothesis in genetic code?
20. What is mutation? Explain different types of mutation and inducers of mutation?
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S.No. 2548

P 16 BC 22

(For candidates admitted from 2016–2017 onwards)

M.Sc. DEGREE EXAMINATION, NOVEMBER 2022.

Biochemistry

MOLECULAR BIOLOGY

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20)

Answer ALL questions.

1. What is Eukarya?
2. What is the function of nuclear pore?
3. What is Rec BCD?
4. What is transposable elements?
5. Differentiate the role of enhancers and silencers.
6. How does beta barrels frame the structure?
7. Define Chaperons and write their molecular role.
8. What is the role of TAG protein?

9. Define programmed cell death.
10. Define mutation and give two examples.

SECTION B — ($5 \times 5 = 25$)

Answer ALL questions, choosing either (a) or (b)

11. (a) What is histone? Brief on role of histones in chromatin folding with a neat diagram.

Or

- (b) Write a note on gene concept.

12. (a) With a neat diagram write about initiation sequences of replication fork in eukaryotes.

Or

- (b) Detail about Messelsson Radding Model in recombination.

13. (a) Write about role of Zinc fingers and helix loop helix.

Or

- (b) Narrate structure and functions of eukaryotic RNA polymerase.

14. (a) Narrate three stages in mRNA translation into protein.

Or

- (b) Brief a note on proof reading mechanism in eukaryotic translation.

15. (a) Explain the phenomenon insertional mutagenesis.

Or

- (b) How do virus induces transformation in eukaryotes.

SECTION C — ($3 \times 10 = 30$)

Answer any THREE questions.

16. Diagrammatically describe in detail differences in prokaryote and eukaryote chromosomes.
17. Narrate in detail ARS in Yeast.
18. Describe stages in prokaryotic Transcription and mention types of post transcriptional modification.