

CBCS SCHEME

USN

Librarian					
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18BT42

Fourth Semester B.E. Degree Examination, July/August 2022 Molecular Biology

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Describe the process of leading and lagging strand synthesis in prokaryotic replication. (10 Marks)
- b. Write short notes on:
- i) Reversible denaturation
- ii) Hyper chromic effect. (10 Marks)

OR

- 2 a. Explain any fine characteristic features of genetic code. (10 Marks)
- b. Illustrate the concept of central dogma with suitable examples. (10 Marks)

Module-2

- 3 a. Define post transcriptional processing. Explain any two post transcriptional events in Eukaryotic cells. (10 Marks)
- b. Write short notes on:
- i) Ribozymes
- ii) Transcription Inhibitors. (10 Marks)

OR

- 4 a. Identify and explain the process of Rho dependent and Rho independent termination in prokaryotic transcription. (10 Marks)
- b. Organize and explain the stages of transcription in Eukaryotes. (10 Marks)

Module-3

- 5 a. Organize and illustrate the stages of translation in prokaryotes with suitable diagram. (12 Marks)
- b. Summarize how nascent proteins are converted to native proteins by post translational modification events. (08 Marks)

OR

- 6 a. Write short note on:
- i) Any two inhibitors of translation
- ii) Protein targeting. (10 Marks)
- b. Demonstrate any five points of differences between prokaryotic and eukaryotic protein synthesis. (10 Marks)

Module-4

- 7 a. Define Operon concept. Describe the process of regulation by lactose operon. (12 Marks)
- b. Illustrate the regulation of gene expression the eukaryotic cells by transcriptional control. (08 Marks)

OR

- 8 a. With suitable diagram, explain the functioning of tryptophan operon. (12 Marks)
b. Explain the role of homeobox in the control of development of in inserts. (08 Marks)

Module-5

- 9 a. Organize the steps involved in site specific recombination. (10 Marks)
b. Explain any one mode of genetic recombination in bacteria. (10 Marks)

OR

- 10 a. Illustrate the various types of DNA damage. (10 Marks)
b. Write short notes on:
i) Any one DNA reprocess (10 Marks)
ii) Transposons.
