

# CBCS SCHEME

USN

15NT63

## Sixth Semester B.E. Degree Examination, Aug./Sept.2020 Molecular Biology and Genetic Engineering

Time: 3 hrs.

Max. Marks: 80

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

### Module-1

- 1 a. Explain briefly about experiments of McLeod and McCarty and Hershey and Chase. (10 Marks)
- b. Explain briefly about Bacterial Conjugation. (06 Marks)

OR

- 2 a. Discuss in detail about genetic transduction and transformation. (10 Marks)
- b. Explain briefly about genes, chromosomes, genetic engineering and molecular genetics. (06 Marks)

### Module-2

- 3 a. Write a short note on DNA replication, DNA structure and the role of DNA polymerase in replication. (10 Marks)
- b. Brief about Rolling circle replication. (06 Marks)

OR

- 4 a. Explain about transcription. Discuss in detail about various stages of transcription. (10 Marks)
- b. Explain the process of replication of linear viral DNA. (06 Marks)

### Module-3

- 5 Explain in detail about the process of translation in prokaryotes and eukaryotes. (16 Marks)

OR

- 6 a. Write a short note on Genetic code, Codon and Reading frame. (08 Marks)
- b. Discuss in detail about Lac Operon. (08 Marks)

### Module-4

- 7 a. Discuss in detail DNA cloning and its uses. (10 Marks)
- b. Write a short note on Recombinant DNA technology. (06 Marks)

OR

- 8 a. Describe about construction of cDNA and genome libraries. (08 Marks)
- b. Explain about Southern Blotting Technique. (08 Marks)

### Module-5

- 9 a. Explain about Recombinant Vaccine. (10 Marks)
- b. Write a description on Cloning in plants. (06 Marks)

OR

- 10 a. Explain in detail about stem cell therapy and its applications. (10 Marks)
- b. Write a note on GMO. Explain about their qualitative and quantitative detection. (06 Marks)

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