

CBCS SCHEME

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15NT63

Sixth Semester B.E. Degree Examination, Dec.2019/Jan.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. Discuss about Prokaryotic and Eukaryotic genome organization. (06 Marks)

OR

- 2 a. Discuss in detail about genetic transduction and transformation. (10 Marks)
b. Explain briefly about bacterial conjugation. (06 Marks)

Module-2

- 3 a. Write short note on DNA replication, DNA structure and role of DNA polymerase in replication. (10 Marks)
b. Explain the process of replication of linear viral DNA. (06 Marks)

OR

- 4 a. Write brief note on post – transitional modification, RNA splicing, Ribozymes and RNA editing. (10 Marks)
b. Brief about rolling circle replication. (06 Marks)

Module-3

- 5 a. Write short note on genetic code, codon and reading frame. (08 Marks)
b. Discuss in detail about trp operon. (08 Marks)

OR

- 6 a. Discuss about post – translational modification of proteins. (08 Marks)
b. Discuss about suppressor mutations. Add a note on Intragenic and Intergenic suppression. (08 Marks)

Module-4

- 7 a. Discuss in detail about DNA cloning and its uses. (10 Marks)
b. Write short note on screening techniques used in genetic engineering. (06 Marks)

OR

- 8 a. Explain about Northern Blotting technique. (10 Marks)
b. Explain briefly about vectors. Add a note on DNA cloning using plasmid as vector. (06 Marks)

Module-5

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

OR

- 10 a. Explain about recombinant vaccine. (10 Marks)
b. Write a description on cloning in plants. (06 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.