CBCS SCHEME

USN | | | | | | | | | | |

15NT63

Sixth Semester B.E. Degree Examination, June/July 2019
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. Discuss in detail about genetic transduction and transformation. **(10 Marks)**
b. Discuss about prokaryotic and eukaryotic genome organization. **(06 Marks)**

OR

2 a. Explain in detail about the differences between prokaryotic and eukaryotic cells. **(10 Marks)**
b. Explain briefly about bacterial conjugation. **(06 Marks)**

Module-2

3 a. Explain about DNA replication , similarities and differences of DNA replication in prokaryotes and eukaryotes. **(08 Marks)**
b. Discuss about the importance of promoters and enhancers in DNA transcription. **(08 Marks)**

OR

4 a. Explain about transcription. Discuss in detail about various stages of transcription. **(08 Marks)**
b. Brief about rolling circle replication. **(08 Marks)**

Module-3

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

OR

6 a. Discuss in detail about lac operon. **(08 Marks)**
b. Explain post – translational modification of protein. **(08 Marks)**

Module-4

7 a. Discuss in detail about DNA cloning and its use. **(10 Marks)**
b. Write short note on Restriction enzymes. **(06 Marks)**

OR

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

Module-5

9 a. Discuss about transgenic and knockout animals. **(06 Marks)**
b. Explain in detail about stem cell therapy and its applications. **(10 Marks)**

OR

10 a. Explain about recombinant vaccine. **(10 Marks)**
b. Write a note on GMO. Explain about their qualitative and quantitative detection. **(06 Marks)**

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