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BT-2/M-14

8203

INTRODUCTION TO BIOTECHNOLOGY

(w.e.f. 2009-10)

Paper-BT-101-E

Time Allowed : 3 Hours] [Maximum Marks : 100

Note : Attempt five questions in all, selecting at least one question from each Unit. All questions carry equal marks.

UNIT-I

1. Describe in detail cell ultra-structure and functions of cell organelles. 20
2. Differentiate :
 - (a) DNA and RNA
 - (b) Prokaryotic and Eukaryotic cell. 2×10=20

UNIT-II

3. (a) Define gene and briefly describe its structure and location. 10
(b) Discuss genetics of Type-I and Type-II diabetes. 10
4. Briefly describe process of replication, transcription and translation. 20

UNIT-III

5. Write notes on :
 - (a) Plasmids as nature's interlopers
 - (b) Restriction enzymes as nature's pinkish shears. 2×10=20

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6. What are genetically modified organisms? How are they prepared and what are the ethical issues associated with them? 20

UNIT-IV

7. (a) Define Biotechnology. Describe their salient applications in agriculture and forensic science. 10
(b) Write notes on :
 - (i) Nanotechnology
 - (ii) Bio-MEMS. 2×5=10
8. (a) How has biotechnology improved field of medicine and environment globally? 10
(b) Discuss the role of biology in information technology (Bio-information). 10

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