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B. Sc. (Biotechnology) III Year Examination, 2019

GENOMICS AND PROTEOMICS

Paper : XIII

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt all questions from Section-A, eight questions from Section-B and two questions from Section-C.

SECTION – A

[Marks : 3 × 5 = 15

1. Explain Prokaryotic and Eukaryotic genomics.
2. Explain genome duplication.
3. Write short note on mutations.
4. Write down note on DNA and RNA finger printing.
5. Give basic principles of protein structure.

SECTION – B

[Marks : 5 × 8 = 40

1. Describe acquisition of new genes.
2. Explain origin of genomes and evolution of genes.
3. Explain modeling of *three* dimensional structure of a protein from amino acid sequences.

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4. Explain various methods of nucleic acid sequencing.
5. Write a note on human genome.
6. What are the origins of introns ? Explain.
7. Write down note on designing proteins.
8. What do you understand by evaluation of protein structure ? Explain.
9. What is Restriction Mapping ? Explain.
10. Give comparative analysis of microarray analysis and southern hybridization.

SECTION – C

[Marks : $10 \times 2 = 20$]

1. How will you analyse nucleic acid and protein sequence and structure data; genome and proteome data, using web-based tools ? Describe.
 2. Describe modeling mutants in detail.
 3. Explain DNA sequencing by chemical and enzymatic methods.
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