CBCS SCHEME

USN

18BT54

Fifth Semester B.E. Degree Examination, June/July 2023
Genomics and Proteomics

Time: 3 hrs. Max. Marks: 100

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

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.

Module-1

1 a. Explain Sanger Dideoxy method of DNA sequencing in comparison with fluorcence method. **(10 Marks)**
b. Discuss on different types of polymorphism with suitable example. **(10 Marks)**

OR

2 a. What is NGS? Illustrate on Ion torrent method sequencing. Add a note on its benefits limitations. **(10 Marks)**
b. Explain Maxam Gilbert method of sequencing in detail. **(10 Marks)**

Module-2

3 a. Summary on rice genome project and its database. **(10 Marks)**
b. What are EST_S? Explain the construction and applications of EST_S. **(10 Marks)**

OR

4 a. Discuss in detail on function genomics using C – elegans as a model system. **(10 Marks)**
b. Explain in detail on DNA chip technology and its diagnostic array and services. **(10 Marks)**

Module-3

5 a. Outline on organization of chloroplast and mitochondrial genome. **(10 Marks)**
b. Explain SiRNA and its application in functional genomics. **(10 Marks)**

OR

6 a. Explain Gene editing – CRISPR – Cas 9 and its importance. **(10 Marks)**
b. Summarize on general architecture of prokaryotic and eukaryotic genome. **(10 Marks)**

Module-4

7 a. What are molecular marker? Explain RFLP and RAPD used as molecular marker technique in detail. **(10 Marks)**
b. Illustrate on principle and working FISH – DNA application marker and its application. **(10 Marks)**

OR

8 a. Write a Eaplainatory note on AFLP and its advantages and disadvantages. **(10 Marks)**
b. Explain Gene expression analysis by using differential display via RT-PCR **(10 Marks)**

Module-5

9 a. Explain Mass spec based technique for study of protein expression. **(10 Marks)**
b. Discuss on two hybrid interaction screening technique in yeast as a host organism. **(10 Marks)**

OR

10 a. Explain application of proteomic analysis to drug development and toxicology. **(10 Marks)**
b. Explain Edman protein micro sequencing in detail. **(10 Marks)**

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