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Fifth Semester B.E. Degree Examination, Dec.2024/Jan.2025
Genomics & Proteomics

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. What is polymorphism? Explain different types of polymorphism with suitable example. (10 Marks)
- b. What is NGS? Explain illumine NGS method of sequencing and its application. (10 Marks)

OR

- 2 a. Explain Automated method of sequencing. Add a note on its advantages over Sanger method of sequencing. (10 Marks)
- b. Illustrate the pyrosequencing method of DNA sequencing, add a note on its limitation. (10 Marks)

Module-2

- 3 a. Explain specific goal, sequencing strategies, Mapping strategies and application of HGP. (10 Marks)
- b. What are ESTs? Explain the construction and application of ESTs. (10 Marks)

OR

- 4 a. Summarize on genome project on E. coli and its database. (10 Marks)
- b. Describe the steps involved in DNA chip Technology with interpretation of results. (10 Marks)

Module-3

- 5 a. Summarize on C-value of genomes. (10 Marks)
- b. Explain general architecture of prokaryotic and eukaryotic genome. (10 Marks)

OR

- 6 a. Explain Si RNA and its application is functional genomics. (10 Marks)
- b. What is Gene editing? Explain -CRISPR –Cas 9 and its importance. (10 Marks)

Module-4

- 7 a. What are molecular markers? Explain RFLP and RAPD with suitable example. (10 Marks)
- b. Describe any two method of detection of SNPs. (10 Marks)

OR

- 8 a. Explain the types steps involved in SCAR worker preparation as a tool is molecular mapping. (10 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.

- b. Write a explanatory Note on FISH-DNA amplification marker. (10 Marks)

Module-5

- 9 a. Discuss on large scale preparation of proteins. (10 Marks)
- b. Examine on two-hybrid interaction screening in yeast as host organisms (10 Marks)

OR

- 10 a. Analyze and indentify the protein of same molecular weight by using two dimensional PAGES. (10 Marks)
- b. Explain mass spec based technology for study of protein expression. (10 Marks)

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