

USN

--	--	--	--	--	--	--	--	--	--

10BT64

Sixth Semester B.E. Degree Examination, Dec.2017/Jan.2018
Genomics and Proteomics

Time: 3 hrs.

Max. Marks:100

Note: Answer FIVE full questions, selecting at least TWO questions from each part.

PART - A

- 1 a. Define polymorphism. Explain different types of polymorphisms seeking human genome. (10 Marks)
- b. Give a detailed historical note on sequencing methods. Explain how Sanger dideoxy method can be automated. (10 Marks)
- 2 a. Shot gun approach is the best method of DNA sequencing for whole genome sequencing. Justify the statement. (10 Marks)
- b. Write a short note on followings :
 - i) Human genome project
 - ii) Rice genome. (10 Marks)
- 3 a. What are EST's? Give an explanatory note on their importance genome informatics. (10 Marks)
- b. Describe the functional genomics studies with model system Drosophila. (10 Marks)
- 4 a. Define Mutations and add an explanatory note on Regulating Transcription. (08 Marks)
- b. Write a short note on following :
 - i) SiRNA
 - ii) Post translational modification. (12 Marks)

PART - B

- 5 a. What is E values of genome? Explain the general architecture of prokaryotic genome. (12 Marks)
- b. Discuss the salient features of mitochondrial genome. (08 Marks)
- 6 a. List out the various molecular markers used in genome mapping. Explain how RFLP can be used as molecular marker in mapping. (08 Marks)
- b. Write a short note on Transposon tagging. (06 Marks)
- c. Explain the role of micro array in functional genomics. (06 Marks)
- 7 a. Write a short notes on :
 - i) Protein purification (06 Marks)
 - ii) Merrifield synthesis of peptides (06 Marks)
- b. Write about Mass-Spec analysis of protein expression. (08 Marks)
- 8 a. Compare and construct the differences between DNA arrays and non-DNA arrays. (08 Marks)
- b. Discuss on :
 - i) Stable isotope labeling (06 Marks)
 - ii) Proteomics as tool for disease diagnostics (06 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.