

(Following Paper ID and Roll No. to be filled in your
Answer Books)

Paper ID : 154854

Roll No.

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B.TECH.

Theory Examination (Semester-VIII) 2015-16

GENOMICS & PROTOMICS

Time : 3 Hours

Max. Marks : 100

Section-A

Q.1. Attempt all parts. All parts carry equal marks. Write answer of each part in short. (2×10=20)

- (a) What is gene annotation? Give some tools for Gene and ORF prediction.
- (b) State the differences between prokaryotes and eukaryotes.
- (c) Define pairwise and multiple sequence alignment?
- (d) What are model organisms?
- (e) Define Phylogenetics and its application.

- (f) Describe the relationship between protein structure and function.
- (g) Explain the technique of Document clustering.
- (h) What is cDNA? How is it prepared for microarray experiment?
- (i) What is the principle of automated DNA sequencing?
- (j) Explain RFLP and RAPD.

Section-B

Q.2. Attempt any five parts. All parts carry equal marks:
(10×5=50)

- (a) Write a short note on Human Genome Project.
- (b) Explain Microarray experiment. How bioinformatics is applied to analyse microarray data?
- (c) Describe the method and application of DNA fingerprinting.
- (d) Describe the identification and analysis of proteins by 2D analysis.
- (e) Describe the Global gene expression analysis.

(2)

- (f) Explain Pharmacogenomics & Pharmacogenetics.
- (g) Explain DNA polymorphism including those involved in disease.
- (h) Describe the primary, secondary, tertiary and quaternary structure of protein with examples.

Section-C

Note: Attempt any two questions from this section.

(15×2=30)

- 3. What is the principle of mass spectrometry? Describe the methods of mass spectrometry.
- 4. Explain protein-protein interaction (Yeast two hybrid systems and Phage display).
- 5. Explain in detail the steps involved in drug discovery.