USN | | | | | | | | | | |

10BT64

Sixth Semester B.E. Degree Examination, Dec.2018/Jan.2019
Genomics and Proteomics

Time: 3 hrs. Max. Marks:100

Note: ***Answer any FIVE full questions, selecting atleast TWO questions from each part.***

PART – A

1 a. Define polymorphism. Briefly discuss various types of polymorphism. **(10 Marks)**

b. Investigate how do you predict new genes and their functions by databases. **(10 Marks)**

2 a. Elaborate the principle, methodologies and applications of fluorescence sequencing. **(10 Marks)**

b. Discuss the genome sequencing projects of Arabidopsis. **(10 Marks)**

3 a. Write critical notes on :
(i) EST (ii) Genotyping tools **(10 Marks)**

b. What do you mean by comparative genomics? Discuss the relevance of comparative genomics in genome projects. **(10 Marks)**

4 a. Discuss the salient features of the functional genomic studies with C.elegans and Drosophila sp. **(12 Marks)**

b. Write relevant notes on :
(i) Interference RNA (ii) RNA silencing **(08 Marks)**

PART – B

5 a. Define C-value paradox. Extend a short note on the structural organization of mitochondrial genome. **(10 Marks)**

b. Critically discuss various molecular markers used for the analysis of genome. **(10 Marks)**

6 a. Describe the applications of microarray in functional genomics. **(10 Marks)**

b. Write relevant note on :
(i) FISH (ii) Telomerase as molecular marker. **(10 Marks)**

7 a. Discuss the principle, protocol and applications of Merrifield synthesis of peptides. **(08 Marks)**

b. Write critical note on :
(i) Yeast two hybrid systems.
(ii) Proteomics database **(12 Marks)**

8 a. Discuss the following :
(i) SAGE (ii) 2D PAGE **(10 Marks)**

b. Discuss in detail the applications of proteome analysis to drug development and toxicology. **(10 Marks)**

* * * * *