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10BT64

Sixth Semester B.E. Degree Examination, June/July 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. What is Polymorphism? Describe different types of polymorphism in detail. **(10 Marks)**
b. Write explanatory notes on :
i) Database subscription of genomic sequences.
ii) Prediction of new gene and their function by database. **(10 Marks)**

2 a. What is shotgun method of DNA sequencing? "shotgun" sequencing (or) sequencing through "Sanger" method, which is the better method and why? Explain. **(10 Marks)**
b. Describe genomic projects on Arabidopsis and Rice. **(10 Marks)**

3 a. What is SNP? How it is useful for identification of gene variation? **(06 Marks)**
b. Define ESTs and outline the generation of ESTs. **(04 Marks)**
c. Compare between drosophila and yeast through functional genomic studies. **(10 Marks)**

4 a. Describe different types of post translational modification in detail. **(10 Marks)**
b. What is SiRNA? Explain the application of SiRNA in functional genomics. **(10 Marks)**

PART – B

5 a. Compare between prokaryotic and eukaryotic genome. **(10 Marks)**
b. Write explanatory notes on :
i) Mitochondrial genome ii) Chloroplast genome. **(10 Marks)**

6 a. What is Molecular marker? Describe the use of RAPD and AFLP techniques as molecular marker. **(10 Marks)**
b. Write a note on : i) TONA ii) FISH. **(10 Marks)**

7 a. Describe the method of protein isolation, purification and quantification in detail. **(10 Marks)**
b. Can proteins be used as a drug? Explain. **(10 Marks)**

8 a. How can you identify Post Translation modification through protein expression and mass spectrometry? **(10 Marks)**
b. What is 2D PAGE? Describe the image analysis for 2D PAGE. **(10 Marks)**

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