Printed Pages : 3

EBT062

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

PAPER ID : 154854

Roll No.

B. Tech.

(SEM. VIII) THEORY EXAMINATION, 2014-15

GENOMICS & PROTEOMICS

Time : **3** Hours] [Total Marks : **100**

1 Attempt any four parts. **4x5=20**

(a) What is polymerase chain reaction? Explain its principle.

(b) What do you know about Phenylketonuria?

(c) What is DNA finger printing? Describe any PCR based techniques.

(d) Write a note on high throughput screening for drug discovery.

(e) What is RFLP? What are its applications?

(f) Write a short note on thermostable polynuram and their proof reading activity.

2 Attempt any two of the following. **2x10=20**

(a) What do you understand by homology & paralogy? How does homology help in gene prediction.

(b) How are the physical maps constructed and how are they useful?

(c) Give a brief note on evolution of HCV.

3 Attempt any two of the following. **2x10=20**

(a) What is 16S rRNA typing? How is it used for the taxonomic classification of organisms?

(b) Discuss the basic principle behind DNA microarray technology. What are its disadvantages?

(c) What do you know about identification and analysis of proteins by 2D analysis? Describe with the help of suitable diagrams.

4 Write any two of the following. **2x10=20**

(a) What is tryptic digestion of the protein? What are its advantages? Discuss in detail.

(b) What are the different types of analyzers used in mass spectrometry? Describe any one analyzer in detial.

(c) What is the pull down assay? Describe the role of GST-tagged protein in such analysis.

5 Attempt any two of the following. **2x10=20**

(a) What is the surface plasmon resonance technique? Mention its advantages.

(b) How is proteomics helpful in drug discovery? Mention any proteonic tool and discuss its role in drug discovery in detail.

(c) Write short notes on:

(i) Yeast two hybrid system and its advantages.

(ii) Phage Display and its advantages.