

Printed Pages : 3



EBT062

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

**PAPER ID : 154854**

Roll No.

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**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 detail.
  - (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 proteomic 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.

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