

Registration No. :

--	--	--	--	--	--	--	--	--	--	--

Total number of printed pages – 2

B. Tech  
PEBT 5403

## Seventh Semester Examination – 2011

### GENOMICS AND PROTEOMICS

Full Marks – 70

Time : 3 - Hours

Answer Question No. 1 which is compulsory and any **five** from the rest.

The figures in the right-hand margin indicate marks.

1. Answer the following questions : 2×10
- (a) What do you mean by annotation of human genome (DNA) sequence ?
- (b) Differentiate between minisatellite and microsatellite.
- (c) What do you mean by SNP? How many numbers of alleles are there in SNP mapping ?
- (d) What is pharmacogenomics ?
- (e) State the strategies used for diseases gene identification and cataloguing.
- (f) Name two primary database of gene sequence.
- (g) Why reverse genetics play significant role in the genome analysis of higher eukaryotes ?
- (h) What do you mean by SAGE ?
- (i) What is peptide fingerprinting ?
- (j) Write the applications of protein micro array ?
2. Define genome. Briefly explain the pattern of genome organization in human with emphasis on repetitive DNA and renaturation kinetics. 2+8

P.T.O.

3. What is the goal of human genome project? Explain various physical and genetic mapping strategies used for human genome project. 2+4+4
4. What do you mean by functional genomics? Briefly explain the various gene knockout approaches utilized for gene to function assignments both are in vitro and in vivo. 2+4+4
5. Write short notes on : 5×2
- (i) Comparative genomics
  - (ii) DNA micro array
6. Briefly explain the principles of matrix assisted laser desorption/ionization time of flight mass spectrometry and make a schematic drawing of the MALDI-ion source and time of flight mass analyzer. 5+5
7. Write short notes on : 5×2
- (i) 2-D gel electrophoresis
  - (ii) Yeast two hybrid system
8. What is proteomics? How recombinant protein is characterized? Explain different strategies of protein sequencing. 2+4+4