

6/H-77 (viii) (Syllabus-2015)

2 0 2 2

(May/June)

BIOTECHNOLOGY

(Honours)

**(Genomics, Proteomics and Computer
Application)**

Marks : 56

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

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





1. Write notes on the following : 2×6=12

- (a)* KDD
- (b)* Algorithm
- (c)* Cistron
- (d)* Composite database
- (e)* C-value paradox
- (f)* Protomer

(2)

2. (a) List the salient features of *Arabidopsis* genome. 4
- (b) Elaborate the following : $3\frac{1}{2} \times 2 = 7$
- (i) Microsatellite
- (ii) Minisatellite
3. (a) Discuss the primary, secondary and tertiary structure of proteins. 7
- (b) What is the significance of BLAST and FASTA? 4
4. (a) The Human Genome Project (HGP) is an international scientific research project with the goal(s) of
- (i) determining the sequence of chemical base pair which make up human DNA
- (ii) identifying and mapping all of the genes of the human genome
- (iii) Both (i) and (ii)
- Which of the above is/are correct? Support your answer with explanation. 4
- (b) How would genome sequence of human lead to many social and ethical implications? 7

(3)

5. (a) Define database. How are they classified? Support your answer with suitable examples. $2+4=6$
- (b) Write a note on a typical OS architecture with one example. 5
6. (a) Differentiate between STS and EST. 5
- (b) Briefly explain your understanding of data mining. 6
7. (a) Define the following : $2 \times 3 = 6$
- (i) Domains
- (ii) Oligomers
- (iii) Chaperones
- (b) Differentiate between System Software and Application Software. 5
8. (a) Define flowchart. 2
- (b) Explain the following symbols : 4
- (i) 
- (ii) 
- (iii) 
- (iv) 
- (c) Discuss the application of transcriptions in bioinformatics. 5

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