

2019

(May)

ZOOLOGY

(Major)

Course : 604

(Biotechnology and Bioinformatics)

Full Marks : 48

Pass Marks : 19/14

Time : 2 hours

The figures in the margin indicate full marks
for the questions

1. Choose and write the correct answer for the
following : 1×4=4

(a) The complete set of mRNA in an
organism is called as

(i) transcriptome

(ii) metabolome

(iii) genome

(iv) nucleome

(Turn Over)

(2)

- (b) Biological database contains
- (i) DNA
 - (ii) protein
 - (iii) structure
 - (iv) All of the above
- (c) SWISS-PROT is a
- (i) database of nucleic acid
 - (ii) database of structures
 - (iii) database of protein sequences
 - (iv) None of the above
- (d) BLAST stands for
- (i) Basic Local Analysis Search Tool
 - (ii) Basic Local Analysis Seek Tool
 - (iii) Basic Local Alignment Search Tool
 - (iv) Basic Local Alignment Seek Tool

2. What does it mean by protoplast fusion or somatic hybridization technique? Write with suitable examples, the techniques of protoplast fusion. $2+7=9$

3. What is bioethics? Compare the advantages and disadvantages of genetically modified organisms. $3+6=9$

(Continued)

(3)

4. Write the salient features of Human Genome Project. Describe the applications and future challenges of HGP. $4+2\frac{1}{2}+2\frac{1}{2}=9$

5. What is ENTREZ? How is it related to NCBI? Write about the major functions of NCBI associated databases. $2+3+4=9$

6. What do you mean by sequences alignment? Write about the methods of sequence alignment. $2+6=8$

Or

Write short notes on the following : $4 \times 2 = 8$

(a) FASTA

(b) Phylogenetic tree
