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6 SEM TDC ZOO M 4

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(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. (a) Choose the correct answer : 1×3=3

(i) Restriction enzymes are named for

(1) the person who discovered

(2) the bacterium they are derived
from

(3) the viral DNA that they attack

(ii) Gene Bank, the nucleic acid sequence database is maintained by

- (1) DDBI
- (2) EMBL
- (3) NCBI

(iii) Each record in a database is called

- (1) file
- (2) entry
- (3) record

(b) Fill in the blanks : 1×2=2

(i) Analyzing or comparing entire genome of species is ____.

(ii) DNA base pairs in human genome are about ____.

(c) Write short notes on any *two* of the following : 3½×2=7

(i) GMO

(ii) ENTREZ

(iii) Protoplast fusion

2. Write a detailed note on the process and application of any one technique of genetic engineering. 6+6=12

(3)

Or

Explain any one method of DNA sequencing along with its advantages and disadvantages.

8+2+2=12

3. What is bioinformatics? Explain the similarities and differences between BLAST and FASTA tools for sequence alignment.

2+5+5=12

Or

What is biological database? Write the features of biological database and describe briefly on primary and secondary databases.

2+2+4+4=12

4. Write short notes on the following : 4×3=12

- (a) Transgenic animals
- (b) Proteomics
- (c) IPR
