6 SEM TDC ZOO M 4

2 0 1 5

(May)

ZOOLOGY

(Major)

Course : 604

(Biotechnology and Bioinformatics)

Full Marks : 48

Pass Marks : 19

Time : 2 hours

The figures in the margin indicate full marks for the questions

Answer Question No. **1** and *any* **three** from the rest

1. *(a)* Choose and write the correct answer for the following :　　　1×3=3

　　(i) ICGEB stands for International Centre for Genetic Engineering and Bioinformatics/International Centre for Genetic Engineering and Bioscience/International Centre for Genetic Engineering and Biotechnology/International Centre for Genetic Engineering and Biology.

(ii) *E. coli* stands for *Enzyme coli/ Escherichia coli/Engineering coli/ Echo coli.*

(iii) HTML stands for High Text Markup Language/Higher Text Mark-up Language/Hypotext Mark-up Language/Hypertext Markup Language.

(b) Fill in the blanks : 1×2=2

(i) Indian borne American scientist A. M. Chakravarty *et al.* (1979) produced a genetically engineered strain from *Pseudomonas putida* which is known as ——.

(ii) The —— is a graphical interface based on hypertext by which text and graphics can be displayed and highlighted.

(c) Write short notes on the following : 3½+3½=7

(i) Structural genomics

(ii) Proteomics

2. What do you mean by recombinant DNA technology? Write critically on merits and demerits of recombinant DNA technology.

2+5+5=12

(Continued)

3. What is bioethics? Give a general overview on transgenic plants. Compare the advantages and disadvantages of GMO. 2+5+5=12

4. How does NCBI in 2001 define bioinformatics? Write about the history and applications of bioinformatics. 2+4+6=12

5. What is ENTREZ and how is it related to NCBI? Write about the major functions of NCBI associated databases included in the ENTREZ. 3+3+6=12

6. Write short notes on any *three* of the following : 4×3=12

    (a) Biological database

    (b) Computational biology

    (c) FASTA

    (d) Phylogenetic tree

★ ★ ★