

13

Total No. of Printed Pages—3

**6 SEM TDC ZOO M 4**

**2 0 1 6**

( 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) HTML/FTP/SMTP/HTTP is used to assess data using www.

(ii) FASTA is a DNA and RNA/DNA and protein/RNA and protein sequence alignment software package.

(iii) The biological tool of genetic engineering linkers contains target sites for the action of one/one or two/one or more restriction enzymes.



( 2 )

(b) Fill in the blanks :

1×2

(i) The first somatic hybrid between *Nicotiana glauca* and *N. \_\_\_\_\_* was achieved by P. S. Carlson *et al* (1972).

(ii) \_\_\_\_\_ compares an amino acid query sequence against protein sequence database.

(c) Write short notes on the following :

3½×2

(i) Cloning vectors

(ii) Scope of bioinformatics

2. What is genetic engineering? Describe briefly the application of genetic engineering in medicine and agriculture.

2+5+5=

3. What is human genome project? Write the salient goals of human genome project. Give an account of the application and future challenges of human genome project.

2+5+5=

4. What are genomics and proteomics? Write briefly role of internet in bioinformatics.

3+3+6=

5. What is phylogenetic analysis? Describe the steps in evaluation of phylogeny and constructing phylogenetic trees.

2+5+5=

P16/717

( Continue

( 3 )

6. Write short notes on any three of the following :

4×3=12

(a) Primary and secondary databases

(b) Transgenic animals

(c) DNA sequencing

(d) BLAST

(e) IPR

★ ★ ★

P16—2200/717

6 SEM TDC ZOO M 4