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Total No. of Printed Pages—3

6 SEM TDC DSE ZOO (CBCS) 1 (H)

2023

( May/June )

ZOOLOGY

( Discipline Specific Elective )

( For Honours )

Paper : DSE-1

( Animal Biotechnology )

Full Marks : 53

Pass Marks : 21

Time : 3 hours

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

.. Fill in the blanks :

1×5=5

- (a) The full form of BAC is \_\_\_\_\_.
- (b) Southern blotting is named after its inventor \_\_\_\_\_.
- (c) \_\_\_\_\_ is the collection of clones that represents the complete genome of an organism.

( 2 )

(d) The enzymes that cleave the phosphodiester bond within a polynucleotide chain are called \_\_\_\_\_.

(e) \_\_\_\_\_ is a naturally occurring protein that breaks the inactive zymogen plasminogen into active plasmin.

2. Write short notes on any three of the following :  
5×3=15

(a) DNA sequencing

(b) DNA microarray

(c) Gene therapy

(d) Application of transgenic animals

3. What is restriction enzyme? Mention its function with a suitable example.  
1+4=5

Or

How biotechnology helps in our day-to-day life?  
5

4. What is DNA transformation? Describe the calcium chloride and electroporation method of transformation.  
2+8=10

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( Continued )

( 3 )

Or

What is DNA fingerprinting? How Southern blotting helps in DNA sequencing study?

3+7=10

5. What is cloning? Write about the process of cloning and mention its merits and demerits.

1+4+2+2=9

Or

What are the scopes of recombinant DNA in medicine? Write in detail the working principle of PCR.  
3+6=9

6. What is gene therapy? How biotechnology helps in molecular diagnosis of genetic diseases?  
2+7=9

Or

What is animal cell culture? Give an outline of the cell culture technique.  
3+6=9

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