

2019

B.Sc.

1st Semester Examination  
**ZOOLOGY (Honours)**

Paper - GE 1-T

Full Marks : 40

Time : 2 Hours

*The figures in the margin indicate full marks.  
Candidates are required to give their answers  
in their own words as far as practicable.*

1. Answer any *five* questions of the following :

5×2=10

- (a) Give an example of one modified enzyme and one restriction enzyme.
- (b) What is the advantage of using YAC vector ?
- (c) What is Bioremediation ?
- (d) What do you mean by downstream processing ?
- (e) What do you mean by HAT medium ?

[ Turn Over ]

(f) Write a short note on use of DNA-Microinjection technique in biotechnology. 2

(g) What are the special qualities of totipotent stem cells ? 2

(h) What is cryoprotectants ? Give two examples of cryoprotectants used for cryopreservation of animal cells. 1+1

2. Answer any *four* questions : 4×5

(a) What do you mean by cDNA ? Write the application of cDNA.

(b) Write the advantages of making transgenic animal. Give example.

(c) With a flow chart discuss the production of monoclonal antibodies. 5

(d) What is RFLP ? Explain its application in DNA-fingerprinting. 1+4

(e) With a sketch diagram describe the method of DNA transfer from agarose gel to a blotting membrane by capillary transfer method. 5

(f) Compare and contrast between a expression vector and a cloning vector. 5

3. Answer any *one* question : 1×10=10

(a) (i) Distinguish between stagger cut and blunt cut. Give example.

(ii) What is competent cell ? Mention its use.

(iii) What do you mean by cryopreservation ?  
Write its application. 5+2+3

(b) Give an-account of different properties of as cloning vector. State the underlying principle and identification of recombinant bacteria by Blue-White screening method. 3+2+5

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