

**Zoology [Honours]**

**[CBCS]**

**B.Sc. Fifth Semester End Examination-2023**

**(Regular & Supplementary Paper)**

**PAPER-DSE2T**

**Animal Biotechnology**

**Full Marks: 40**

**Time: 02 Hrs**

*The figures in the right hand margin indicate marks*

*Candidates are required to give their answers in their own words as far as practicable*

*Illustrate the answers wherever necessary*

**Group A**

1. Answer any FIVE questions of the following: **5x2= 10**
  - a. Name the polymerase that used in PCR write its source.
  - b. What is cosmid?
  - c. What do you mean by rDNA technology?
  - d. Name any two molecular marker and their use in molecular biology.
  - e. Mention any two gene transfer method in plant.
  - f. What is reporter gene?
  - g. What is eDNA libramy?
  - h. What is YAC?

(2)

**Group B**

2. Answer any FOUR questions of the following:  $4 \times 5 = 20$
- a. Describe the polymerase chain reaction along with its applications. 5
  - b. Write the steps of cDNA formation along with proper diagram. 5
  - c. What do you know about plaque hybridization? What is electroporation?  $2\frac{1}{2} + 2\frac{1}{2}$
  - d. Briefly describe the technique for DNA sequencing by Sanger method. 5
  - e. What is transfection. Describe the chemical nature of transfection 1+4
  - f. What is DNA micro array. Write the appliatsm of DNA micro array. 1+4

**Group C**

3. Answer any ONE question of the following:  $1 \times 10 = 10$
- a. i) Write down the properties of type I, type II and type III restriction endonucleases.
  - ii) What is palindromic sequence? Describe with example.
  - iii) What do you mean by multiple cloning site.  $6+2+2$
  - b. i) Briefly describe about DNA microinjection and Embryonic stem cell (ES) method to produce transgenic animals.
  - ii) Write down two applications of transgenic animals.  $(4+4)+2$