Unique Paper Code	:	32237903
Name of the Paper	:	DSE – Animal Biotechnology
Name of the Course	:	B.Sc. (H) Zoology
Semester	:	VI
Duration	:	3 hours
Maximum Marks	:	75 Marks

Instructions for Candidates

Write your Roll No., Name of the paper, Course, Semester, and Date of examination on the first page of answer sheet.

Attempt **ANY FOUR** questions. **All questions carry equal marks**.

Illustrate your answers with appropriate diagrams wherever necessary.

SET 2

Q1. In a biotechnology laboratory, students are routinely performing various techniques like PCR, DNA sequencing, construction of DNA libraries and various blotting techniques. Enlist the various enzymes used in this laboratory and their role in these techniques.

Q2. Explain the ways of stopping the expression of a gene in an organism by genetic manipulations. Also justify the statement "Mammary glands act as bioreactors".

Q3. What gene manipulation strategies can be adopted for generating herbicide-resistant plants? Elaborate the strategy that was used for creating Roundup Ready crops that were resistant to glyphosate.

Q4. Identify a lethal autosomal disorder which is commonly a result of deletion of phenylalanine at position 508 in chloride ion channel protein. Discuss the diagnostic tools that can be employed for its detection at genetic level.

Q5. With the help of a well-illustrated diagram explain how high capacity cloning vectors can be used for the construction of genomic libraries. Suggest any two methods for screening a DNA library for detecting lipase encoding gene.

Q6. How is genetic recombination different from recombinant DNA? How has recombinant DNA technology been helpful in treating dwarfism using recombinant Growth Hormone?