



[Time: 3 Hours]

[Max. Marks: 100]

**MOLECULAR BIOLOGY**

**PAPER IV**

**(RS 2 & RS 3)**

**Q.P. CODE: 9244**

Your answers should be specific to the questions asked.  
Draw neat labeled diagrams wherever necessary. Answer all questions

**LONG ESSAY (Answer any TWO)**

**2 X 20 = 40 Marks**

1. Explain briefly about principles, applications and process of recombinant DNA technology
2. a) DNA based diagnosis of genetic diseases  
b) Human genome project
3. a) Principles and process of gene cloning  
b) Application of cloning vectors

**SHORT ESSAY (Answer any FIVE)**

**5 X 10 = 50 Marks**

4. Animal cell culture
5. Bio sensors
6. Role of DNA technology in monoclonal antibodies
7. Explain the organization of signal transduction
8. Principle and applications of polymerase chain reaction
9. Nucleic acid technology

**SHORT NOTES**

**2 X 5 = 10 Marks**

10. Glycobiology
11. Gene expression

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