

QP Code:102103

Reg. No.:.....

**PG Degree Regular/Supplementary Examinations in Biochemistry  
(MD) January 2025**

**Paper II – Molecular Biology, Immunology & Cancer**

**Time: 3 hrs**

**Max marks:100**

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw table/diagrams/flow charts wherever necessary*

**Essay:**

**(20)**

1. What is recombinant DNA technology. List the various applications of it, in the medical field. Elaborate the different steps involved in the synthesis of human insulin.

**Short essays:**

**(8x10=80)**

2. DNA fingerprinting and its application in medicine
3. Tumor markers
4. Newborn screening
5. Explain different DNA repair mechanisms. How are defects in DNA repair mechanisms associated with the pathogenesis of cancer
6. Describe the structure of Immunoglobulins and compare the salient features of the different classes of immunoglobulins
7. Explain differential splicing with a suitable example. Add a note on the role of microRNA
8. Control of gene expression
9. Applications of bioinformatics

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