



**DATE: 02/09/2025**

**DURATION - 3 HOURS**

**III - B PHARMACY - VI SEMESTER**

**MODEL THEORY EXAMINATION**

**PHARMACEUTICAL BIOTECHNOLOGY- 562066**

**Total Marks: 75**

**Section A: Elaborate on: Answer any TWO questions**

**(2x10 = 20)**

1. Biosensors – types, principles & applications. (*Mar 2021, Sep 2021, Jan 2022, Aug 2023, Dec 2023, May 2024, GPAT, NIPER*)
2. Recombinant DNA technology (rDNA): Restriction enzymes & cloning vectors. (*Mar 2021, May 2022, Mar 2025, GPAT, NIPER*)
3. Immobilization of enzymes – methods & applications. (*Mar 2021, Jan 2022, Mar 2023, Oct 2024, GPAT, NIPER*)

**Section B: Write notes on: Answer any SEVEN Question**

**(7x5 =35)**

1. Polymerase Chain Reaction (PCR) – steps & applications (*Mar 2021, Jan 2022, May 2022, Oct 2022, May 2024 GPAT, NIPER*)
2. Production of Insulin by genetic engineering. (*Jan 2022, Mar 2023, GPAT 2022, NIPER*)
3. Production of Penicillin by fermentation. (*Oct 2022, Mar 2025, Oct 2024, GPAT, NIPER, MRB*)
4. Define Immunity. Differentiate between Active & Passive immunity (*Sep 2021, Aug 2023, GPAT 2023, NIPER*)
5. Plasma Substitutes / Blood products (*Sep 2021, Aug 2023, Dec 2023, May 2024, Drug Inspector, MRB*)
6. ELISA technique. (*Mar 2023, May 2024, Oct 2024, GPAT, NIPER, Drug Inspector*)
7. Western blotting technique (*Mar 2021, Mar 2023, GPAT, NIPER*)
8. Applications of Genetic Engineering (*Mar 2021, May 2024, GPAT, NIPER, Drug Inspector*)
9. Hypersensitivity reactions. (*Mar 2021, Oct 2022, May 2024, GPAT, NIPER*)

**Section C: Write notes on: Answer ALL Questions**

**(10x2 =20)**

1. Define Transduction process (*Sep 2021, Oct 2024, Mar 2025, GPAT, NIPER*)
2. Define Protein engineering (*Mar 2021, Mar 2025, GPAT, NIPER*)
3. Define Sparger (*Mar 2021, May 2024, Oct 2024, GPAT, NIPER*)
4. Define Conjugation (*Oct 2022, May 2024, GPAT, NIPER*)
5. Define Transduction process (*Sep 2021, Oct 2024, Mar 2025, GPAT, NIPER*)
6. Define Fermentation (*Oct 2024, Mar 2025, GPAT, NIPER*)
7. Define Genome (*Mar 2021, GPAT*)
8. Define Immobilization (*Mar 2021, May 2024, GPAT, NIPER*)
9. What is Mutagenesis? (*May 2022, May 2024. GPAT*)
10. What is the Triple vaccine? (*Mar 2023, Dec 2023, GPAT, NIPER*)

\_\_\_\_\_ ALL THE BEST \_\_\_\_\_