BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: B. PHARM **SEMESTER: VI**
BRANCH: PHARMACY **SESSION: SP-2025**

SUBJECT: BP605T PHARMACEUTICAL BIOTECHNOLOGY

TIME: 3.00 Hours **FULL MARK: 75**

INSTRUCTIONS:

1. **The missing data, if any, may be assumed suitably.**
2. **Before attempting the question paper, be sure that you have got the correct question paper.**
3. **Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.**
4. **This question paper consists of (03) three parts. Read the part wise instructions before attempting the questions.**

PART-I
Objective types questions (Instruction: Answer all questions)

(10 x 2 = 20 Marks)

1.	Immobilized cells are often preferred over immobilized enzyme. Cite reasons.	CO4
2.	Differentiate between the function of different nuclease enzymes	CO3
3.	Write the full form of APT, PTAP, TAF and FT.	CO1
4.	What is affinity and avidity? What do you mean by stringency in Blotting Techniques?	CO2+CO3
5.	Explain the geneology of pBR322 and pUC8.	CO4
6.	Write the full form of TEMED, IPTG, SDS-PAGE, EtBr?	CO1
7.	What is CDR?	CO1
8.	Classify blood and related official products with examples.	CO2
9.	Classify official immunological products with examples.	CO2
10.	Differentiate between active and passive immunity.	CO3

PART-II
Short Answers
(Instruction: Answer seven out of nine questions) (7 x 5 = 35 Marks)

1.	Describe about the principle and method of different ELISA	CO1
2.	Explain the principle behind identification of recombinants by blue and white colony selection?	CO4
3.	Write a comparative analysis of anticoagulants used in whole human blood along with storage and test requirements.	CO4+CO5
4.	Classify biosensors with examples. Write principle and mechanisms of each class of biosensors.	CO2
5.	Describe the preparation of diptheria toxoid.	CO5
6.	Illustrate the structure and functions of different parts of a bioreactor.	CO3
7.	Describe the principle and process of SDS PAGE.	CO2
8.	Detail out the strategies of recombinant insulin preparation.	CO4
9.	What is the principle and process of hybridoma technique?	CO3

PTO

PART-III
Long Answers
(Instruction: Answer two out of three questions) (2 x 10 = 20 marks)

1.	Demonstrate different immobilization reactions based on covalent binding and microencapsulation with examples	CO4, CO5
2.	Illustrate the principle and process of PCR along with its application.	CO2, CO3
3.	Demonstrate the steps and process of phagocytosis and inflammation in the light of immunological reactions.	CO1

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