JHARKHAND Rai University
RANCHI

End Semester/Reappear (Semester VI) Examination May 2025

Programme: B. Pharm
Course: Pharmaceutical Biotechnology **Full Marks: 75**
Course Code: BP-605T **Time: 3 Hrs.**
Enrolment no. _____

Q.No.	Questions	CO	Bloom Taxonomy Category	Marks
	Section I			
1	**Objective Type Questions**			
	i. The small fragment which are removed from vector after cutting is known as:- a. Stuffer b.Blister c.Cluster d. Octahedron ii. The metallic chloride used for chelation in enzyme immobilization is:- a. Chromium b. Potassium c. Rubidium d. Lead iii.Protein synthesis takes place in:- a. Ribosome b. Lysosomes c. Cytosol d. ESR iv.Antiviral protein is known as: a. Interferon b. Interkeukin c. Histamine d. Cytokinin v. Example of Biosensor are all except:- a. Glucometer b. Covid-19 Kit c. Pregnancy Kit d. None of these	CO1	Remember	**1 x 20 = 20**
	vi. Tanning and dehairing is done by use of:- a. Enzyme b. Oil c. Petroleum product d. Wax vii.The technique for MCA production is: a. Hybridoma b. Myloma c. Carcinoma d. Lymphoma viii. The vector in which small fragment of DNA can be inserted is:- a. Plasmid b. Cosmid c. Bacteriophage d. YAC ix. The fungal source of peroxidase is:- a. Citobactor b. Pseudomonas c. Candida krusei d. Bacillus subtilis x. Protein separation is done by: a. Electrophoresis b. Ligand formation c. Electro blotting d. None of the above			
	xi. The no of base present in PCR primer is: a. 17-30 b. 100-200 c. 150-200 d. 250-300 xii. The chromosomes are made up of: a. DNA b. Proteins c. Vacuoles d. Endoplasmic reticulum xiii. The site on antigen where antibody binds is known as: a. Epitope b. Epitype c. Receptor d. Eclipsed site xiv. The site on Ag where Ab binds is known as: a. Epitope b. Octope c. Heptone d. Eclips xv. The fusion of two cells are promoted by: a. PEG b. PPG c. EDTA d. HAT			
	xvi. Which of the following is an example of immune blotting technique? a. Transformation b. Translation c. Transcription d. Western technique xvii.The immuno blotting technique used to detect DNA is: a. Southern b. Northern c. Eastern d. Western xviii. In immunological cells, NK stands for: a. Natural inhibitor cell b. Natural killer cell c. Occupied inhibitor cell d. Occupied killer cell xix. The blotting paper which is used in western blotting technique is made from: a. Nitrocellulose b. Poly ethylene glycol c. Poly propylene glycol d. All of the above. xx. The other name of Transposons is: a. Chromophore b. Chromophobe c. Jumping gene d. Physiological barriers			
	Section II			
2. Short Answer type questions.				
a	How an enzyme say amylase can be immobilized?	CO1	Understand	

b	Write a note on hepatitis-B.	CO2	Understand	**7 x 5 = 35**
c	What are the uses of Monoclonal Antibody?	CO3	Apply	
d	Explain in brief western blotting techniques used in biotechnology.	CO4	Understand	
e	Explain the factors required which affect the growth of bacteria which produce amylase enzyme.	CO5	Understand	
f	What is non-competitive ELISA?	CO4	Understand	
	or			
	Illustrate about microbial biotransformation with an example.	CO4	Understand	
g	Explain the sequence of events for activation of T_H cells.	CO3	Understand	
	or			
	Enumerate different kinds of Immunoglobulin.	CO3	Understand	
Section III				
Long Answer Type questions				**2 x 10 = 20**
3	Analyze the components and working principles of different types of biosensors and explain how each component contributes to overall sensor performance.	CO1	Analyze	
	or			
	Analyze the steps involved in the production of the enzyme peroxidase and explain how each step influences the yield and activity of the enzyme.	CO1	Analyze	
4	Design a recombinant DNA-based process for producing a therapeutic protein. Explain each step and justify your choices of vector, host, and expression strategy.	CO2	Create	
	or			
	Analyze the key steps of the Polymerase Chain Reaction and explain how changes in temperature and reagent concentrations affect the efficiency and specificity of the amplification.	CO2	Analyze	

Course Outcomes (CO):

CO1: To understand the introduction of biotechnology and its application

CO2: To understand genetic engineering and its application in relation to production of different genetically engineered products.

CO3: To understand about the immunology, production and application of different products like MCA

CO4: To Understand the uses of micro-organisms and microbial genetics.

CO5: To understand and produce different products by fermentation technique.