Total No. of Questions: 3 *Total No. of Printed Pages:2*

Enrollment No.....

Faculty of Pharmacy
End Sem Examination May-2024
PY3CO27 Pharmaceutical Biotechnology

Programme: B. Pharm. Branch/Specialisation: Pharmacy

Duration: 3 Hrs. **Maximum Marks: 75**

Note: All questions are compulsory. Internal choices, if any, are indicated. Assume suitable data if necessary. Notations and symbols have their usual meaning.

Q.1	i.	Enlist any four mechanism of enzyme immobilization.	**2**
	ii.	Write any four applications of biosensors.	**2**
	iii.	Give any four applications of rDNA technology.	**2**
	iv.	Define PCR.	**2**
	v.	Define vaccines and antitoxins.	**2**
	vi.	Define immunity and its types.	**2**
	vii.	Write names of any four methods of microbial genetics.	**2**
	viii.	Define mutation.	**2**
	ix.	Write any four factors affecting fermentation.	**2**
	x.	What are components of whole human blood?	**2**
Q.2		Attempt any two:	
	i.	Write a detail note on protein and genetic engineering.	**10**
	ii.	Write a detail note on rDNA technology.	**10**
	iii.	(a) Write a brief note on history and applications of biotechnology.	**5**
		(b) Write a note on vectors in rDNA technology.	**5**
Q.3		Attempt any seven: Two questions from each section is compulsory.	
		Section - A	
	i.	What are storage conditions for vaccines? Write about stability of vaccines.	**5**
	ii.	Define structure and functions of MHC.	**5**

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	iii.	Write a note on hybridoma technology.	**5**
		Section - B	
	iv.	Classify mutations.	**5**
	v.	Define different reactions of microbial biotransformation.	**5**
	vi.	Write a note on immune blotting techniques.	**5**
		Section - C	
	vii.	Write a note on blood products.	**5**
	viii.	Write a note on different products of fermentation.	**5**
	ix.	Discuss the design of fermenter with various controls.	**5**

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Marking Scheme

Pharmaceutical Biotechnology (T) - PY3CO27 (T)

Q.1	i)	Each mechanism –	0.5 Marks	**2**
	ii)	Each applications –	0.5 Marks	**2**
	iii)	Each applications –	0.5 Marks	**2**
	iv)	Definition –	2 Marks	**2**
	v)	Define Vaccines -	1 Marks	**2**
		Define antitoxins.-	1 Marks	
	vi)	Define Immunity- 1mark its type-	1 Marks	**2**
	vii)	Each method-	0.5 Marks	**2**
	viii)	Definition –	2 Marks	**2**
	ix)	Each factor –	0.5 Marks	**2**
	x)	Each Components –	0.5 Marks	**2**

Q.2 Attempt any two:

i.	protein engineering – 5 marks Genetic engineering. – 5 Marks		**10**
ii.	rDNA Technology. Steps- 2 Marks Diagram – 3marks Details – 3 Marks Application- 2 marks		**10**
iii.	(a) history- applications of biotechnology- (b) Each vectors in rDNA technology-	2.5 Marks 2.5 Marks 1 Marks	**5**

Q.3 Attempt any seven: Two questions from each section is compulsory.

Section - A

i.	storage conditions for vaccines - stability of Vaccines-	2.5 Marks 2.5 Marks	**5**
ii.	Define Structure Functions of MHC-	2.5 Marks 2 Marks	**5**
iii.	Diagram with Steps- Details	2.5 Marks 2.5 Marks	**5**

Section - B

iv.	Each type of classification-	1 Mark each	**5**
v.	Each reactions of Microbial biotransformation-	1 Mark	**5**
vi.	Types immune blotting techniques. – Details of ELISA, Northern and western blotting-	2 Marks 3 Marks	**5**

Section - C

vii.	Each Blood products. –	1 Mark each	**5**
viii.	Each products of fermentation. –	1 Mark Each	**5**
ix.	Discuss design of fermenter – Various controls-	2 Marks 3 Marks	**5**

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