B.Sc. 3504 - Biotechnology Paper-I (Genetic Engineering)

P. Pages : 2

Time : Three Hours

GUG/W/18/1322

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Max. Marks : 50

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1.		Explain Polymerase Chain Reaction (PCR) in details with its application?	**10**

OR

		What is plasmid vectors? Give details on PBR 322 plasmid vector?	**10**
2.		What is transfection? Explain methods of transfection?	**10**

OR

		Explain in details production of monoclonal antibodies with the help of Hybridoma technology?	**10**
3.	a)	Write a note on cDNA Library?	**2½**
	b)	Draw well labeled diagram of PUC vector?	**2½**
	c)	Explain particle gun method?	**2½**
	d)	Write a note on genetic counselling?	**2½**

OR

	e)	What is restriction endonuclease enzyme and give its types?	**2½**
	f)	Give the uses of linkers and adaptors?	**2½**
	g)	Explain Blue – white selection method of screening of recombinants?	**2½**
	h)	Write a note on gene therapy?	**2½**
4.	a)	Explain direct purification method of isolation of DNA?	**2½**
	b)	Discuss YAC (Yeast Artificial Chromosomes) in details?	**2½**
	c)	Write a note on lipofection?	**2½**
	d)	Write application of rDNA technology?	**2½**

OR

	e)	Write a note on Genomic DNA library?	**2½**
	f)	Explain insertion of foreign DNA into vector with the help of homopolymer tailing?	**2½**

g)	Explain direct selection method of screening of recombinants?	**2½**
h)	Write a note on antenatal diagnosis?	**2½**

5. Attempt **any ten.**

a)	Give types of polymerase enzyme?	**1**
b)	What is the use of ligases in genetic engineering?	**1**
c)	What is cloning?	**1**
d)	Write full form of BAC?	**1**
e)	Define Bacteriophage vector?	**1**
f)	What is Cosmid vector ?	**1**
g)	What is transformation?	**1**
h)	Write a full form of DEAE?	**1**
i)	What is recombinants?	**1**
j)	What is interferon?	**1**
k)	Define DNA fingerprinting?	**1**
l)	Give any two application of DNA fingerprinting?	**1**

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