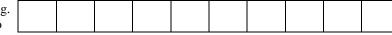
Reg. No





QP Code: RD21BTECH247

GIET UNIVERSITY, GUNUPUR – 765022

B. Tech (Fifth Semester Regular) Examinations, December - 2023

21BBTPC35001 - Genetic Engineering and r-DNA Technology (Biotech)

Time: 3 hrs Maximum: 70 Marks

Answer all questions

(The figures in the right hand margin indicate marks)

PART – A (2)		$(2 \times 5 =$	$2 \times 5 = 10 \text{ Marks}$		
Q.1. Answer <i>ALL</i> questions			CO#	Blooms Level	
a.	How bacteria protect its own DNA from restriction enzymes?		CO1	K2	
b.	Differentiate between cloning vector and expression vector.		CO1	K2	
c.	In a double strand DNA, both the ends are unknown and the middle part of the se	quence	CO2	K4	
	is known. What type of PCR you can use to amplify the whole DNA?				
d.	List the chemicals used in Maxam and Gilbert method.		CO3	K4	
e.	Which disease was first treated using gene therapy? Write the name of patient first.	treated	CO4	K3	
PA	RT - B	(15 x 4	= 60 M	Iarks)	
Answer ALL questions Marks		CO#	Blooms Level		
2. a	. Diagrammatically explain about Polynucleotide kinase and Alkaline phosphatise.	7	CO1	K2	
b	Explain the structure and cloning mechanism by using YAC?	8	CO1	K2	
	(OR)				
c	. Explain the mechanism and functions of DNA ligase and terminal transferase?	7	CO1	K2	
d	. What is restriction enzyme? Discuss different types of restriction enzymes and its nomenclature?	8	CO1	K2	
3.a	. What is genomic DNA library? Explain the preparation of genomic DNA library?	7	CO2	K2	
b	•	8	CO2	K2	
	(OR)				
c	. Define Microarray. Explain principle and manufacturing process of DNA chips?.	7	CO2	K2	
d	. Write the principle and steps of PCR.	8	CO2	K2	
4.a	. Write the principle and techniques of DNA foot printing with applications.	7	CO3	K2	
b	. Define RNAi. Explain the mechanism of generation and action miRNA.	8	CO3	K2	

c.	Write any five strategies for expression of heterologous gene expression in prokaryotic cells.	7	CO3	K3
d.	Discuss the process of random mutagenesis.	8	CO3	K2
5.a.	Define Molecular markers. Write the principle and techniques of RFLP.	7	CO4	K2
b.	Highlight the major findings of Human genome project.	8	CO4	K4
	(OR)			
c.	Write the principle and techniques of AFLP.	8	CO4	K3
d.	Enlist in details about the steps and major techniques of HGP.	7	CO4	K4

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