Roll No:

JAMIA HAMDARD
DEPARTMENT OF BIOCHEMISTRY
SCHOOL OF CHEMICAL AND LIFE SCIENCES, NEW DELHI-110062

B.Sc.-M.Sc. Integrated Biochemistry, Semester-III Examination-2023
Paper Title: Recombinant DNA Technology
Paper Code: BBC SEC 04

Time: 1.5 hours **Max Marks: 37**

Note: *This paper has 3 sections A, B, and C, Attempt all the three sections*
Section A: Answer all the questions; Section B: Answer any 1 out of 2; Section C: Answer all the questions, each question has an internal choice

Abbreviations Used
CLO- Course Learning Outcome, PLO- Program Learning Outcome, BTL- Bloom Taxonomy Level: BT level 1-Remember; BT level 2-Understand; BT level 3-Apply; BT level 4-Analyse; BT level 5-Evaluate, BT level 6-Create

Section A (Attempt all questions) **(1X7=07 Marks)**

Q. No.	Questions	BTL	CLO	PLO
a	.....is a feature of the vectors that provides flexibility in the choice of restriction enzymes.	3	1	3
b	From Blue-White selection, we infer	1	3	3
c	.....is a cloning vector	1	1	2
d	EcoRI is a	2	5	3
e	In order to insert foreign DNA in a cloning vector both must have	2	2	2
f	*E coli* DNA ligase requires ATP as a cofactor. (True or False)	4	5	3
g	Give two examples of Differential Media	3	4	3

SECTION B: Long type Questions (Attempt ANY ONE out of two) [15 Marks]

Q. No	Questions (Any One)	BTL	CLO	PLO
1	Enumerate steps in the purification of plasmid DNA. Why Genomic DNA does not get co-purified with Plasmid DNA.	2	1	2
2	Explain in detail the procedure and application of PCR.	3	5	3

SECTION C: Short-type Questions. (Attempt all questions, each question has an internal choice)

[5x3=15 Marks]

Q. No	Questions	BTL	CLO	PLO
1	Write a note on the preparation of bacterial culture media. **OR** Differentiate the Spread plate and streak plate methods.	2	2	3
2	Discuss the role of ATP in DNA ligation **OR** Calculate the amount of NaOH required to prepare a 10% NaOH solution in 150 ml water	4	4	3
3	Describe transformation in E. coli. **OR** Explain the significance of forward and reverse primers during PCR	3	4	2

****