QP Code: RM22MSC133 Reg. No | | | | | | | | | | | AY 22

GIET UNIVERSITY, GUNUPUR – 765022

M. Sc. (Fourth Semester) Examinations, May – 2024

20LSPE402 - Biotechnology & Genetic Engineering

(Life Science)

Time: 3 hrs Maximum: 70 Marks

(The figures in the right hand margin indicate marks.)

PART – A **(2 x 10 =20 Marks)**

Q.1. Answer ALL Questions

a.	Mention the role of genetic engineering in crop improvement.	CO1	K2
b.	Mention the milestones of genetic engineering.	CO1	K2
c.	What are the required criteria for DNA to be used as avector?	CO2	K3
d.	What is the difference between linkers and adaptors?	CO2	K2
e.	What are the use molecular probes?	CO2	K2
f.	What are the characteristic properties of cosmid vector?	CO2	K2
g.	What is reverse transcription?	CO3	K3
h.	What is stable transfection?	CO3	K2
i.	Why HAT medium is called selective medium?	CO4	K2
j.	What do you mean by transgenics?	CO4	K3

PART – B **(10 x 5=50 Marks)**

	Answer ***ANY FIVE*** the questions	Marks	CO#	Blooms Level
2.	What is restriction enzyme? Describe the types, nomenclature and restriction sites of enzymes with suitable example.	2+8	CO1	K3
3.a	Give a note on various enzymes used in r-DNA technology.	5	CO1	K2
b.	Describe the characteristic properties of ideal expression vector.	5	CO2	K2
4.	What is cloning? Explain gene cloning in prokaryotes.	2+8	CO2	K2
5.	What is transfection? Describe different approaches and physical methods of gene transfer.	2+8	CO3	K3
6.	Define gene sequencing. Explain the Sanger's method of gene sequencing.	2+8	CO3	K3
7.	What is protoplast fusion? Explain the process of somatic hybridization with its significances.	2+8	CO4	K3
8.	What is DNA finger printing? Explain the RAPD method of DNA finger printing.	2+8	CO4	K3

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