

SRM UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
DEPARTMENT OF BIOINFORMATICS

BI0352- BIOCONFINEMENT OF GENETICALLY MODIFIED ORGANISMS

LESSON PLAN

Semester: VI

Course: Bioconfinement Of Genetically Modified Organisms

Sub Code: BI0352

Staff Handling: .Mr.A. Muralidharan

Code	Course	L	T	P	C
BI0352	BIOCONFINEMENT OF GENETICALLY MODIFIED ORGANISMS	3	0	0	3

Lecture	Topic
	UNIT I: INTRODUCTION TO BIOCONFINEMENT
1	Introduction
2	Genetically modified and transgenics
3	History of Bioconfinement
4	Methods of Bioconfinement
5	National and International aspects
6	Social acceptability
7	Case studies
8	Studying the model of Bioconfinement
9	Committees and Organizations involved in Bioconfinement
	UNIT II: NEED FOR BIOCONFINEMENT
10	Risk factors
11	Necessity for Bioconfinement
12	Target and non target subjects
13	Evolutionary factors and disturbance in evolution
14	Resistance development by gene modification
15	Genetically modified and transgenic foods
16	Food safety

17	Biomagnification due to genetically engineering foods
18	Bioconfinement of GE foods
	UNIT III: BIOCONFINEMENT OF PLANTS AND ANIMALS
19	Genetic Engineering of trees
20	Transgenic grasses
21	Optimization of genetically engineered organisms
22	Transgenic algae
23	Spatial and temporal scales
24	Monitoring and managing confinement failures
25	Failures of Bioconfinement and its risks
26	Transgenic fishes
27	Transgenic insects
	UNIT IV: BIOCONFINEMENT OF VIRUSES, BACTERIA AND OTHER MICROBES
28	Genetic engineering of microorganisms
29	Genetically modified virus
30	Genetically modified bacteria
31	Genetically modified fungi and other organisms
32	Potential effects of concerns
33	Need for modifications
34	Applications in human welfare and research
35	Drawbacks and biomagnification
36	Bioconfinement
	UNIT V: BIOLOGICAL AND OPERATIONAL CONSIDERATIONS FOR BIOCONFINEMENT
37	Considerations – Biological
38	Considerations – Operational
39	International aspects of confinement
40	Execution of confinement
41	Research involved in bioconfinement

42	Socio-economical issues of Bioconfinement
43	Effective methods of confinement operations
44	Revision
45	Surprise test

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