CBCS SCHEME

USN | | | | | | | | | | |

18BT56

Fifth Semester B.E. Degree Examination, June/July 2024
Genetic Engineering and Application

Time: 3 hrs. Max. Marks: 100

Note: ***Answer any FIVE full questions, choosing ONE full question from each module.***

Module-1

1 a. Outline the steps involved in the construction of P^{BR322} vector. **(10 Marks)**

b. Give an account on the salient features that differentiates Cosmids from phagemids. **(10 Marks)**

OR

2 a. Write a explanatory note on Restriction endonucleases. **(10 Marks)**

b. Write a critical note on Ligases and Methyleses emphasizing their role in genetic engineering. **(10 Marks)**

Module-2

3 a. Write a explanatory note on Varients of PCR. Add a note on real time PCR and its importance in disease diagnosis. **(10 Marks)**

b. Explain the steps involved in Southern hybridization with neat labeled diagram. **(10 Marks)**

OR

4 a. Define DNA library. Explain the process of construction of cDNA library. **(10 Marks)**

b. Explain the steps involved in plant DNA isolation by cTAB method. **(10 Marks)**

Module-3

5 Write a neat note on :

a. Electroporation.

b. Microinjection.

c. Liposome mediated gene transfer.

d. Structure of Ri plasmid. **(20 Marks)**

OR

6 a. Illustrate the principle and working of gene gun in stable transformation. **(10 Marks)**

b. Explain the steps involved in chloroplast transformation. Add a note on its application. **(10 Marks)**

Module-4

7 a. 'Cry' proteins are involved in bringing about resistance against insect in plants. Justify the statement with respect to its mode of action. **(10 Marks)**

b. Explain the concept of 'biopharming' in animals for the production of recombinant proteins. **(10 Marks)**

OR

8 a. Write various methods involved in production of salinity tolerant transgenic plants. **(10 Marks)**

b. Explain in detail RFLP as a technique for Marker – assisted selection in plants. **(10 Marks)**

Module-5

9	a.	Outline the steps involved in the production of recombinant insulin production.	(10 Marks)
	b.	Give a detailed account on Exvivo and Invivo gene therapy.	(10 Marks)

OR

10	a.	Write short notes on : i) SCID ii) Cystic fibrosis.	(10 Marks)
	b.	Describe the production of Monoclonal Abs using hybridoma technology.	(10 Marks)

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