5. Discuss different types of somaclonal variation in plant tissue culture and the factor(s) associated with it. Write a note on the applications of somaclonal variations in horticultural crop improvement. [10+4=14]

OR

6. Write notes on the following: [2x7=14]

(a) Methods of gene delivery in to plant cells

(b) Production of cybrids

7. What is environmental biotechnology? Discuss its role for sustainable future supported by suitable diagrams and tables wherever necessary. [4+10=14]

OR

8. Differentiate between the following: [2x7=14]

(a) Bioaugmentation and biostimulation

(b) Biomarker and biosensor

9. What is *in silico* ADMETox? What is its significance in drug discovery? [14]

OR

10. Write short notes on the following: [2x7=14]

(a) RASMOL

(b) IBDC

★★★

PG EVEN SEMESTER EXAMINATION, 2023

LIFE SCIENCE & BIOINFORMATICS

2nd Semester (NEP)

Course No. : LS - 551

(Biotechnology)

Full Marks : 70

Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

(Answer all questions)

1. What is restriction enzyme? Discuss the ideal properties of cloning vectors. Differentiate between pBR332 and pUC19. [2+6+6=14]

OR

2. Write short notes on the following: [2x7=14]

(a) Production of recombinant insulin

(b) cDNA

3. What is MAB? How MABs are generated by hybridoma technology? [2+12=14]

OR

4. Write notes on the following: [2x7=14]

(a) Primary and continuous cell culture

(b) Animal cell culture media