2019

PG Even Semester (CBCS) Exam., May—2019

BIOTECHNOLOGY

(4th Semester)

Course No. : BTYCC–402

(Plant Biotechnology, Animal Biotechnology and Applications of Genetic Engineering)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. *(a)* Describe the factors responsible for somaclonal variation in plants.

(b) Discuss the method of developing a disease resistant plant using somaclonal variation. 8+6=14

OR

2. *(a)* Discuss the applications of embryo-culture and anther culture in plants.

(b) Illustrate the method of developing a drought tolerant plant using plant tissue culture. 8+6=14

3. What is plasmid? Describe a Ti plasmid. Write the process of development of a cointegrate vector from Ti plasmid. 2+5+7=14

OR

4. Write the process of development of pest and herbicide tolerant transgenic plants. 7+7=14

5. *(a)* Discuss the characteristics of a polygenic trait.

(b) Explain the procedure of QTL mapping. 6+8=14

OR

6. Discuss the methods of molecular identification of a species with suitable diagrams. 14

7. What are therapeutics? Describe the mechanism of action of therapeutics in humans with special reference to vaccines. 2+12=14

OR

8. Define organic farming. Describe the characteristics and benefits of an organic farming system. 4+10=14

9. *(a)* What are SNPs?

(b) Differentiate between synonymous and non-synonymous SNPs.

(c) Write a note on applications of SNPs for genetic improvement. 2+4+8=14

OR

10. *(a)* Define IPR.

(b) Discuss the advantages and disadvantages of copyright and patents.

(c) Write a note on the patent filing process in India. 2+8+4=14

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