PG Odd Semester (CBCS) Exam., December—2017

BIOTECHNOLOGY

(3rd Semester)

Course No. : BTYCC–301

(Tissue Culture—Plant and Animal)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **all** questions

1. Write the process of animal cell culture. What is the measure taken to avoid contamination of mycoplasma and viral contaminants? 10+4=14

OR

2. Write about different types of cell culture media, their properties and utility. 14

3. What is tissue culture medium? Write the composition and optional constituent of any tissue culture medium. 2+12=14

OR

4. Write the mode and mechanism of action of plant growth regulators used in plant tissue culture medium. 14

5. *(a)* Discuss about the characteristic features of transformed cells. 7

(b) Write down the procedure for sub-culturing of cell lines. 7

OR

6. *(a)* Write about the principle and techniques of freeze storing of cell lines. 2+7=9

(b) Discuss about the histotypic culture. 5

7. Discuss the applications of tissue culture in developing biotic and abiotic stress resistant plants. Add a note on somaclonal variation. 10+4=14

OR

8. What is protoplast culture? Discuss the technique of protoplast culture. Write a note on the application of protoplast culture. 2+9+3=14

9. How will you design a commercial tissue culture laboratory for multiplication of specific genotypes? 14

OR

10. Write short notes on the following : 7+7=14

(a) Cell culture-based vaccine

(b) Tissue engineering

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