PG Even Semester (CBCS) Exam., May—2017

LIFE SCIENCE AND BIOINFORMATICS

(2nd Semester)

Course No. : LS–203 (C)

(Biotechnology)

Full Marks : 75
Pass Marks : 30

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. What are the different types of cloning vectors used in recombinant DNA technology? Explain the important features of cloning vectors with special reference to pBR322. 5+5+5=15

OR

2. Write short notes on the following : 7½+7½=15

(a) Applications of recombinant technology

(b) Methods of gene transfer

3. Write short notes on the following : 7½+7½=15

(a) Animal cell lines and their maintenance

(b) Application of animal cell culture techniques

OR

4. Write short notes on the following : 7½+7½=15

(a) Transgenic animals and its application

(b) Production and uses of monoclonal antibodies

5. Write about *Agrobacterium* mediated gene transfer in plants. Write a few major applications of transgenic plants. 8+7=15

OR

6. Write about the different plant tissue culture media and add a note on initiation and maintenance of callus and suspension culture. 15

7. Write notes on the following : 7½+7½=15

(a) Growth kinetics of bacteria and calculation of specific growth rate

(b) Fed batch and continuous fermentation processes and control of the bioprocess parameters

OR

8. What is single cell protein? Explain the methods of production of SCPs and their application. 15

9. Write a note on the biotechnological methods for measurements and managements of pollution. 15

OR

10. Write short notes on the following : 7½+7½=15

(a) Waste-water treatment

(b) Biosensor

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