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(20517) Roll No. ....

B.Sc. (Bio-Tech.)-III Yr.

NS-3481

B.Sc. Bio-Technology Examination, May 2017

Recent Trends in Bio-Technology

(B-309)

(New)

Time : Three Hours] *[Maximum Marks : 75*

Note : Attempt **any 5** questions.

1. (i) What are microarrays? What are they used for? 5×3=15

   (ii) What are the main technologies used in microarrays?

   (iii) What are the advantages and disadvantages of each such technology?

P.T.O.

2. (i) What is chloroplast engineering? Describe the method of engineering chloroplasts in detail. 10

   (ii) How drought resistant and herbiside resistant crops can be produced by chloroplast engineering. 5

3. (i) Define antisense RNA. What is significance of this method in gene therapy? 5

   (ii) What is the difference between antisense technology and RNAi technology for the knock down the expression of a gene? 10

4. Write a note on the following : 5×3=15

   (i) Terminator technology

   (ii) Edible vaccines

   (iii) Shuttle vectors

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5. (i) What is a terminator seed? What was the name of company that made the terminator? Do GMO plants have seeds? 10

   (ii) What are the advantages and disadvantages of terminator seed technology? 5

6. (i) What is cryogenics and vitrification? 5

   (ii) What are cryoprotectants? How do they work? Give few exmples? 10

7. What is bilogical nitrogen fixation? How does nitrogen fixation happen? Discuss in detail.

15

8. (i) Differentiate between ploymer and Biopolymers. 5

   (ii) Name various types Biopolymers 5

   (iii) What are different uses of biopolymers? 5

9. What is human genome project? When was it started and when it was completed? What are the salient features of this project? 15

10. What is synthetic biology? How synthetic cells are created? What are applications of artificial cells? 15