

Roll No.

Total Pages : 3

BT-2/M-13

8203

INTRODUCTION TO BIOTECHNOLOGY

w.e.f. 2009-10

Paper-BT-101E

Time Allowed : 3 Hours]

[Maximum Marks : 100

Note : Attempt **five** questions in all, selecting at least **one** question from each Unit.

UNIT-I

1. (a) You have been given two cells that you could view under a microscope. Which one is an animal cell and which one is a plant cell? How will you differentiate? Which features are common to both and which ones are not? 10
- (b) There are different kinds of nucleic acids in our body. Describe their structure and functions. 10
2. (a) How is a Prokaryotic cell different from a Eukaryotic cell? Give a detailed account to support your answer. 10
- (b) Write notes on the following:
 - (i) Carbohydrates
 - (ii) Vitamins. 10

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UNIT-II

3. (a) What are Mitosis and Meiosis? Also discuss the genetics of diabetes. 10
- (b) How does the immune system fight against the Bacteria, Virus, Fungi? 10
4. (a) What is a Gene? Discuss the different types of blood groups and their genetics. 10
- (b) What is Pathogenicity of a Microbe? Are microbes always harmful to us? 10

UNIT-III

5. (a) Recombinant DNA technology has altered many aspects of research. What tools made the difference? 10
- (b) What are Genetically modified organisms? How will they affect? 10
6. (a) Discuss the different types of enzymes with respect to their specific function(s) used in recombinant DNA technology. 10
- (b) What are Transgenic plants? If you were to make one, how would you go about it? 10

UNIT-IV

7. (a) In the light of the current situation of crime across the globe, how do you think that Biotechnology can be of use? 10

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2

(b) What are Bio-MEMS? Discuss the applications using different types of these. Also, what ethical issues can affect Biotechnologically generated advances? 10

8. (a) How has Biotechnology contributed towards the Medicine and Environment in our country? 10

(b) The new era will belong to Bioinformatics, Bio-MEMS, etc. Justify the statement. 10