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Total Pages : 2

8032

BT-I/D09

INTRODUCTION TO BIOTECHNOLOGY

Paper : BT-101(E) (2004-05)

Opt. (i)

Time : Three Hours]

[Maximum Marks : 100

Note : Attempt *five* questions, selecting at least *one* question from each unit.

UNIT-I

1. (a) Giving suitable example, explain the term Homeostasis. 5
- (b) Draw a well labelled diagram of a prokaryotic cell. 5
- (c) Write down the important functions of carbohydrates. 5
- (d) Describe the secondary structure of proteins. 5
2. (a) Differentiate between the following :
 - (i) Starch and Glycogen. 3
 - (ii) DNA and RNA. 3
 - (iii) Purines and Pyrimidines. 3
 - (iv) Ribose and Deoxyribose sugar. 3
- (b) Write down the classification of enzymes on the basis of chemical reactions they catalyse. 8

UNIT-II

3. (a) What is the importance of photosynthesis ? 5
- (b) Discuss the role of following on plant growth : 5
 - (i) Nitrogen fixation.
 - (ii) Auxins.

(iii) Abscisic acid.

(iv) Gibberellins.

(v) Cytokinins.

5×3=15

4. (a) Explain the digestive system of humans. 10
(b) Write down the functions of following systems : 10
(i) Circulatory system.
(ii) Excretory system.

UNIT-III

5. (a) Write short notes on the following :
(i) Mendel's Laws of Inheritance.
(ii) Central dogma.
(iii) Bioinformatics. 15
(b) Give evidence to prove that DNA is a genetic material. 5
6. (a) Describe different stages of mitosis. Also, write the importance of mitosis. 10
(b) Explain, rDNA Technology with the help of suitable diagram. 10

UNIT-IV

7. Write short notes on the following : 5×4=20
(a) Restriction enzymes.
(b) Plasmids as Vector.
(c) Transgenic organisms.
(d) Public Perception of Biotechnology,
8. Discuss the applications of Biotechnology in various fields. 20