

Model Test Paper-II
B.Sc. Biotechnology Part -II
Recombinant DNA Technology
Paper BT-602

Time Allowed: 3Hours

Max. Marks: 50

Attempt five questions in all, including question no. 1, which is compulsory taking one question from each section.

Q.1 Answer the following:

- a) IPTG stands for.....
- b) Meaning of genetic engineering
- c) A bacterial clone containing a recombinant DNA is called....
- d) A DNA segment to be cloned is called.....
- e) Define restriction endonuclease
- f) A good vector has how many marker genes
1. One 2. Two 3. Three 4. Four
- g) Which is not an example of Insertion vector?
1. λ gt 10 2. λ EMBL 4 3. λ gt 11 4. λ ZAP II
- h) One of the first genetically modified product of the animal production was
- i) Which is example of Type I restriction endonuclease
1. ECOR1 2. Hind III 3. Hinf III 4. Bgl II
- j) Which restriction enzyme produces blunt ends?
1. Bam HI 2. Alu I 3. Pst I 4. Hind III

Section-A

Q.2 Tools of Recombinant DNA technology . (10)

Q.3 Gene transfer strategies in plants.

Section-B

Q.4 Major applications of cDNA and genomic library (10)

Q.5 Experimental model systems- E.Coli & Yeast of gene cloning

Section-C

Q.6 Strategies of production of transgenic plants with suitable example. (10)

Q.7 Importance of recombinant molecules in the field of agriculture & industry

Section-D

Q.8 Define Inducible expression system. (10)

Q.9 Determination of purity and activity of over expressed protein.

Model Test Paper-I
B.Sc. Biotechnology Part -II
Recombinant DNA Technology
Paper BT-602

Time Allowed: 3Hours

Max. Marks: 50

Attempt five questions in all, including question no. 1, which is compulsory taking one question from each section.

Q.1 Answer the following:

- a. DNA ligase is used for
 1. Joining of 2 or more DNA fragments
 2. Synthesis of DNA
 3. Replication of DNA
 4. Cleavage of DNA
- b. The SI nuclease is isolated from..
 1. *A. oryzae*
 2. *E. Coli*
 3. *N. lactamica*
 4. *P. vulgaris*
- c. Define transgenic plants.
- d. Which of the following is not commonly used as vector
 1. Fungi
 2. Artificial chromosome
 3. Plasmid
 4. Cosmid
- e. Define cDNA library.
- f. Define DNA polymerase.
- g. Genomic library can be prepared by
 1. Colony hybridization
 2. Shot gun
 3. PCR
 4. All of these
- h. Define Phagemid.
- i. Golden Rice
- j. Insulin and gene cloning

Section-A

- Q.2 Historical perspective of Recombinant DNA technology. (10)
- Q.3 Agrobacterium mediated gene transfer.

Section-B

- Q.4 Baculovirus and its applications in gene cloning. (10)
- Q.5 c DNA and genomic library synthesis on the basis of differential methodology.

Section-C

- Q.6 Importance of transgenic animals. (10)
Q.7 Importance of recombinant molecules in health sector.

Section-D

- Q.8 Rationale for the design of vector for over expression of recombinant protein. (10)
Q.9 Importance of Fusion protein tags.