Chapter 4 Principles and Processes of Biotechnology

Which one of the following is not correct statement.

a) Ti plasmid causes the bunchy top disease

b) Multiple cloning site is known as Polylinker

c) Non viral method transfection of Nucleic acid in cell

d) Polylactic acid is a kind of biodegradable and bioactive thermoplastic.

An analysis of chromosomal DNA using the southern hybridisation technique does not use

a) Electrophoresis

b) Blotting

c) Autoradiography

d) Polymerase Chain Reaction

An antibiotic gene in a vector usually helps in the selection of

a) Competent cells   b) Transformed cells

c) Recombinant cells   d) None of the above

Some of the characteristics of Bt cotton are

a) Long fibre and resistant to aphids

b) Medium yield, long fibre and resistant to beetle pests

c) high yield and production of toxic protein crystals which kill dipteran pests.

d) High yield and resistant to ball worms

EcoRI cleaves DNA at

a. AGGGTT   b. GTATATC

c. GAATTC   d. TATAGC

Genetic engineering is

a. making artificial genes.

b. hybridization of DNA of one organism to that of the others.

c. production of alcohol by using micro organisms.

d. making artificial limbs, diagnostic instruments such as ECG, EEG etc.,

Consider the following statements:

I. Recombinant DNA technology is popularly known as genetic engineering is a stream of biotechnology which deals with the manipulation of genetic materials by man invitro

II. pBR322 is the first artificial cloning vector developed in 1977 by Boliver and Rodriguez from E.coli plasmid

III. Restriction enzymes belongs to a class of enzymes called nucleases.

Choose the correct option regarding above statements

a. I & II   b. I & III

c. II & III   d. I,II & III

The process of recombinant DNA technology has the following steps

I. amplication of the gene

II. Insertion of recombinant DNA into the host cells

III. Cutting of DNA at specific location using restriction enzyme .

IV. Isolation of genetic material (DNA) Pick out the correct sequence of step for recombinant DNA technology.

a. II, III, IV, I   b. IV, II, III, I

c. I, II, III, IV   d. IV, III, I, II

10. Match the following :

Column A	Column B
1 Exonuclease	a. add or remove phosphate
2 Endonuclease	b. binding the DNA fragments
3 Alkaline Phosphatase	c. cut the DNA at terminus
4 Ligase	d. cut the DNA at middle

	1	2	3	4
A)	a	b	c	d
B)	c	d	b	a
C)	a	c	b	d
D)	c	d	a	b

Restriction enzymes are
a. Not always required in genetic engineering
b. Essential tools in genetic engineering
c. Nucleases that cleave DNA at specific sites
d. both b and c

Plasmids are
a. circular protein molecules
b. required by bacteria
c. tiny bacteria
d. confer resistance to antibiotics

Which one of the following palindromic base sequence in DNA can be easily cut at about the middle by some particular restriction enzymes?
a. 5`CGTTCG 3`   3`ATCGTA 5`

b. 5`GATATG 3`   3`CTACTA 5`
c. 5`GAATTC 3`   3`CTTAAG 5`
d. 5`CACGTA 3`   3`CTCAGT 5`

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pBR 322, BR stands for
a. Plasmid Bacterial Recombination
b. Plasmid Bacterial Replication
c. Plasmid Boliver and Rodriguez
d. Plasmid Baltimore and Rodriguez

Which of the following one is used as a Biosensors?
a. Electrophoresis   b. Bioreactors
c. Vectors   d. Electroporation

In which techniques Ethidium Bromide is used?

a. Southern Blotting techniques
b. Western Blotting techniques
c. Polymerase Chain Reaction
d. Agrose Gel Electroporosis

Assertion : Agrobacterium tumifaciens is popular in genetic engineering because this bacteriumis associated with the root nodules of all cereals and pulse crops

Reason: A gene incorporated in the bacterial chromosomal genome gets atomatically transferred to the cross with which bacterium is associated.

a) Both assertion and reason are true. But reason is correct explanation of assertion.
b) Both assertion and reason are true. But

reason is not correct explanation of assertion.
c) Assertion is true, but reason is false.
d) Assertion is false, but reason is true.
e) Both assertion and reason are false.