

Yashwantrao Chavan College of Science, Karad
B.Sc. (Part-II) (Semester -IV)
BIOTECHNOLOGY (Opt/Voc)
rDNA Technology(Paper VIII)

Question Bank

MCQ

- i) Recombinant DNA technology was discovered by _____.
a) James D Watson b) Walter Sutton and Avery
c) Stanley, Cohen and Herbert Boyer d) Har Govind Khurana
- ii) Replica plate technique can be used for _____.
a) identifying transformed cells b) separation of DNA fragments
c) isolation of gene product d) detection of gene product
- iii) Plasmid is a _____.
a) Fungus b) part of plasma membrane
c) Yeast d) Extra chromosomal DNA in bacterial cell
- iv) The mechanism of intake of DNA fragments from the surrounding medium by a cell is called _____.
a) Transformation b) Transduction
c) Both a and b d) Conjugation
- v) The DNA molecule to which the gene of insert is integrated for cloning is called _____.
a) Carrier b) Transformer
c) Vector d) None of these
- vi) _____ enzyme is used to join together different types of DNA molecules.
a) Ligase b) Endonuclease
c) Exonuclease d) Protease
- vii) Restriction enzymes are called as _____.
a) biological scissors b) molecular knives
c) molecular scalpels d) all of these
- viii) The DNA segment to be cloned is called _____.
a) gene segment b) DNA fragments
c) DNA insert d) all of these

- ix) PCR technique was invented by _____
a) Karry Mullis
b) Boyer
c) Sanger
d) Cohn
- x) _____ is a genetically modified crop.
a) Bt-cotton
b) golden rice
c) Bt-brinjal
d) All
- xi) The first recombinant DNA molecule was synthesized in the year _____
a) 1962
b) **1972**
c) 1982
d) 1992
- xii) Recombinant plasmids are added to a bacterial culture that has been pretreated with _____ ions
a) iodine
b) magnesium
c) **calcium**
d) ferric
- xiii) The nucleic acid in most of the organism is _____
a) DNA
b) RNA
c) proteins
d) lipids
- xiv) The bacterial cells can be lysed by using _____ enzyme.
a) protease
b) lysozyme
c) lipase
d) cellulose
- xv) The plant cells can be lysed by using _____ enzyme.
a) Lipase
b) Chitinase
c) ligase
d) cellulose
- xvi) The fungal cells can be lysed by using _____ enzyme.
a) lysozyme
b) cellulose
c) chitinase
d) lipase
- xvii) The DNA fragments have sticky ends due to _____
a) Endonuclease
b) unpaired bases
c) calcium ions
d) free methylation
- xviii) Excision and insertion of a gene is called _____
a) Biotechnology
b) Genetic Engineering
c) Cytogenetics
d) Gene therapy
- xix) RNA interference helps in _____

a) Cell proliferation

b) micropropagation

c) cell defense

d) cell differentiation

xx) The enzyme which cleaves DNA is _____

a) Ligase

b) lipase

c) DNase

d) RNase

Long Questions

- i) Explain in detail Southern and Northern blotting techniques
- ii) Explain methods of purification of DNA by agarose gel electrophoresis
- iii) Explain in detail types of PCR and applications.
- iv) i) Explain in detail Plasmid and cosmid vector.
- v) Explain isolation and purification of DNA
- vi) Explain in detail types of PCR and applications.

Short Notes

- i) Applications of r-DNA technology
- ii) Replica plate technique
- iii) Genomic Library
- iv) Animal vectors
- v) Maxam and Gilbert's method
- vi) Colony hybridization
- vii) Isolation of DNA
- viii) Gel Electrophoresis
- ix) Cloning vectors
- x) Application of Probes

xi) Restriction enzymes and their types

xii) PAGE

xiii) r Insulin

xiv) r Vaccine

xv) Southern Blotting

xvi) Northern Blotting