

[A-91]

No. of Printed Pages: 02

SARDAR PATEL UNIVERSITY
M. Sc. Integrated Biotechnology Examination, 5th Semester
Friday, 24-04-2015
2:30 pm to 5:30 pm

PS05CIGB03: BIOTECHNOLOGY PRINCIPLES AND PRACTICES

Total Marks: 70

Note: i) Attempt all questions.
ii) Marks are indicated on the right hand side.

Q-1 Answer the following Multiple Choice Questions. All are compulsory [08]

1. What can be used to remove phenolic compound released from plant cell during homogenization?
a) EDTA b) DDT c) Glucose d) Acetate
2. Monoclonal antibodies are now a day's used in
a) disease diagnosis b) detection of specific type of pathogen c) very early and accurate detection of cancer d) all of these
3. Microarray analysis has allowed scientists to view which phenomenon-
a) The expression of specific genes in a cell b) The number of genes in a cell c) The genome sequence in a cell d) The RFLPs of a cell
4. Which one of the following statements about genetic engineering is NOT correct
a) this is the process of producing transgenic organisms b) through this technology, one can produce recombinant insulin c) this process involves transfer of genes from one organism to another d) through this process chromosomes can be added or deleted from the cell
5. Which one of the following organism is used for the large scale production of recombinant insulin?
a) *Plasmodium* b) *Agrobacterium* c) *Rhizobium* d) *E.coli*
6. Gene therapy, a technique that helps in
a) saving endangered species b) curing genetic disorders c) clonal propagation d) producing monoclonal antibodies
7. Bt cotton is a
a) a cotton variety obtained by crossing two different cotton plants b) a cotton variety brought from South America c) an insecticide sprayed on cotton plant d) a transgenic cotton variety
8. In biotechnology, mass culturing of cells / microbes can be achieved by using
a) Test tube culture b) Bioreactor c) Autoclave d) electrophoresis

P.T.O

Q-2 Answer the following questions. (ANY SEVEN OUT OF NINE)

[14]

1. List the scopes of Biotechnology.
2. Give the difference between Maxam - Gilbert and Sanger DNA sequencing
3. Enlist application of industrial biotechnology.
4. Define types of transplantation.
5. Explain what are oncomouse and prostate mouse
6. What is recombinant vaccines?
7. Write a note on Biodiesel.
8. Elaborate –plants as bioreactor.
9. List the essential requirements of animal cell culture lab.

Q-3 (A) Explain the steps involved in the isolation of bacterial DNA [06]

Q-3 (B) Describe cell fractionation techniques. [06]

OR

Q-3 (B) Explain various mean by which nucleic acid quantification and purity check can be done. [06]

Q-4 (A) With the help of layout explain the design of PTC lab and list the essential requirements of lab. [06]

Q-4 (B) Write a note of DNA Microarray. [06]

OR

Q-4 (B) Explain importance of bioinformatics in biotechnology. [06]

Q-5 (A) With the help of diagram explain production of monoclonal antibodies [06]

Q-5 (B) Explain xenotransplantation and its applications. [06]

OR

Q-5 (B) Explain enzyme immobilization by entrapment method. List the applications of enzyme immobilization [06]

Q-6 (A) Give an over view of Human Genome Project. [06]

Q-6 (B) Explain with diagram microinjection mediated gene transfer in mice. [06]

OR

Q-6 (B) Explain *In situ* and *Ex situ* bioremediation. [06]
