

CRASH COURSE

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10NT55

Fifth Semester B.E. Degree Examination, May 2017 Generic Engineering and Applications

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, selecting atleast TWO questions from each part.

PART – A

- 1 a. Define a vector. Discuss about a PUC vector in detail. (10 Marks)
b. Write short notes on : i) Bluescript ii) Cosmids. (10 Marks)
- 2 a. DNA modifying enzymes are used in DNA technology. Investigate the types, features and functions. (10 Marks)
b. Define restriction ends nucleases. Discuss about Type II restriction enzymes. (10 Marks)
- 3 a. What is mutagenesis? Discuss any two methods for creating direct mutagenesis under in vitro conditions. (10 Marks)
b. Define PCR. What is its principle? Explain in brief the steps in PCR. (10 Marks)
- 4 a. Write the methods involved in CDNA library screening. Explain any two methods. (10 Marks)
b. Explain principle and sequential steps involved in isolating plasmid DNA purification. (10 Marks)

PART – B

- 5 a. Describe the general features of agrobacterions Ti plasmid. Add a note on mechanism of T – DNA transfer to plant cells. (08 Marks)
b. What is the principle of electroporation? Highlight the merits and demerits of electroporation. (06 Marks)
c. Micro projectile method of gene transfer technique is preferred for cloning plant cells. How and why? (06 Marks)
- 6 a. Describe the use of engineered plants as bioreactors with suitable examples. Elaborate on atleast one (10 Marks)
b. Discuss about improvement of livestock by marker assisted selection with an example. (10 Marks)
- 7 a. What is hybridoma technology? How is it used for production of monoclonal antibodies? (10 Marks)
b. Escherichia coli is a candidate for commercial production of recombinant insulin. Explain basic methodology. (10 Marks)
- 8 a. Gene therapy is a boon to mankind". Write about Herceptin in prevention of breast cancer. (10 Marks)
b. Write about PAF. (05 Marks)
c. Bring out the differences between somatic cell line and Germline gene therapy. (05 Marks)

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