



Avinashilingam Institute for Home Science and Higher Education for Women

Deemed to be University Estd. u/s 3 of UGC Act 1956, Category 'A' by MHRD (now MoE)

Re-accredited with an 'A++' Grade by NAAC CGPA 3.65/4, Category I by UGC

Coimbatore - 641 043, Tamil Nadu, India

Continuous Internal Assessment - I (August 2025)

Semester V

Class : III B.Sc

Branch : Food Science and Nutrition

Time : 2 Hrs

Maximum Marks: 60

23BFNDE4 Food Biotechnology

Course Outcomes:

CO1: Expand the knowledge of food biotechnology in relation to genetic engineering and plant tissue culture

CO2: Understanding the role of enzymes and microbes in food industry

CO3: Helps to keep abreast on development and applications of biotechnology in food and nutrition

CO4: Develop newer enzymes for improving the overall nutrition and process ability of a product

Part A

6 X 1 = 6

Choose the Correct Answer

1. The restriction endonuclease enzyme obtained from Ecoli
a. HindIII b. HaeIII c. BamHI d. EcoRI CO1K1
2. Which enzyme should you choose to avoid recirculation in cut plasmid for genetic modification?
a. Ligases b. Nucleases c. Phosphatases d. Polymerases CO1K2
3. Which of the following vector will you choose for expression in two different hosts?
a. Plasmids b. Bacteriophages c. M13vector d. Shuttle vectors CO2K2
4. mRNA to DNA synthesis is taken place in
a. Transcription b. Reverse transcription
c. Translation d. Reverse translation CO2K2
5. The combination of genes are introduced in to golden rice is
a. Psy& Crt1 b. Phy&Crt1 c. Car&phy d. Psy&Crt CO2K3
6. The synthesis of protein in taken place in
a. Nucleus b. Cytoplasm c. Ribosomes d. Plasmid CO2K3

Part B

3 x 6 = 18

Answer ALL questions

Each answer should not exceed 400 words or two pages

- 7a. Discuss on the procedures in genetic engineering. CO1K2
(Or)
- 7b. Explain the steps involved in plant tissue culture. CO1K2
- 8a. List out applications of genetic engineering CO1K3
(Or)
- 8b. Brief on genetic modification in Btbrinjal CO2K2
- 9a. Give the ideal characteristics of vector with illustration. CO2K3
(Or)
- 9b. Discuss on reverse transcription with illustration. CO2K3

Part C

Answer ALL questions

Each Answer should not exceed 800 words or four pages

- 10a. Discuss on enzymatic tools in genetic engineering CO1K2
(Or)
- 10b. Explain on types of vectors. CO1K3
- 11a. Discuss in detail transcription in prokaryotes CO2K2
(Or)
- 11b. Explain the translation in prokaryotes CO2K2
- 12a. Outline the genetic modification in golden rice and flavrsavr tomatoes CO2K3
(Or)
- 12b. Discuss on the concepts (a). molecular cloning (b) micropropagation CO2K2
with examples