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 'A++' Grade by NAAC. CGPA 3.65/4, Category I by UGC
Coimbatore - 641 043, Tamil Nadu, India

Continuous Internal Assessment Test I – February 2025
Semester-II

Class: I M. Sc. **Time: 2Hours**
Branch: Food Science and Nutrition **Max. Marks: 60**

23MFNC08 Food Biotechnology

Course Outcomes:

1. Gain knowledge on the techniques and tools of genetic engineering and food biotechnology
2. Recognize the importance of fermentation, xenobiotics, nanotechnology, nutrigenomics and applicationsof enzyme technology in food industries
3. Identify key genetically modified foods and animal tissue culture in the production and safety of transgenic plants and animals
4. Explore microbial pathways and appreciate the role of microorganisms in industrial processes
5. Elucidate the nutritional and safety aspects of implications of biotechnology in foods

Part A **6 x 1 =6**

Choose the Correct Answer

1	DNA Ligase III complexes with protein a) albumin b) XRCC4 c) XRCCI d) eukaryotic protein	CO1K4
2	An Examples of restriction endonuclease II is a. EcoPI b. EcoRI c. λ exonuclease d. Alkaline Phosphatase	CO1K3
3.	Anaerobic fluidized bed reactor is used for a)Water purification b)Increased dissolved O2 concentration c)Upward flow of substrate d) Waste water treatment	CO2K6
4	T4 DNA ligase ligates a) Blunt ends b) any DNA strands C) Single stranded DNA d) Cohesive ends	CO2K2
5.	100-300Kb DNA insert may be used by the cloning vector a)Phage λ b) Cosmid λ c) Yeast chromosome d) Bacterial artificial chromosome	CO3K4
6	The presence of "collector Substances" facilitates formation of a) foam b) microbial cells c) gases d) floccules	CO4K6

Part B

Answer ALL questions

Each answer should not exceed 400 words or two pages 3X6=18

7.a.	Write on the characteristics of restriction endonuclease	CO2K4
	OR	
7.b.	Are plasmids efficient cloning vectors? Justify	CO2K6
8.a.	How are Biosensors used in Biotechnology	CO4K5
	OR	
8.b.	Differentiate Batch, Fed batch and continuous process of fermentation	CO2K4
9.a.	Describe the synthesis of enzymes	CO2K5
	OR	
9.b.	Write on microbial cell growth using appropriate illustrations	CO4K6

Part C

Answer ALL questions 3X12=36

Each answer should not exceed 800 words or four pages

10.a.	Is immobilization of enzymes necessary? Explain	CO2K4
	OR	
10.b.	Elaborate on the applications of enzymes in food industry	CO4K4
11.a.	Illustrate the general structure of bioreactors and factors influencing fermentation	CO2K4
	OR	
11.b.	Downstream processing is essential-Justify	CO2K4
12.a.	Explain the importance of biotechnology	CO2K4
	OR	
12.b.	Bring out the steps in genetic engineering and gene cloning	CO2K4

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