



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

Master's Degree Examination – May 2025 II Semester

Class : I P.G.
Major : Biochemistry

Time: 3 Hours
Max. Marks: 100

23MBTI01 Prospects of Biotechnology

Course Outcomes:

CO1: Perform basic tools/ techniques of biotechnology applied in healthcare.

CO2: Comprehend the role of biotechnology in textiles.

CO3: Understand the biotechnological aspects of nutrition.

CO4: Recognize the significance of biotechnology in plant and animal products.

CO5: Establish the role of biotechnology in achieving sustainable environment.

Part A

10 x 1 = 10

Choose the Correct Answer

- Name the technique that is mainly applied for amplification of gene sequence in genetic engineering. CO1K1
 - Electrophoresis
 - Hybridoma technology
 - Blotting techniques
 - PCR
- Recite the vaccines that is mainly produced through recombinant process considered as safe because of CO1K1
 - They have only the coat of Ag
 - They are attenuated form of pathogen
 - They have killed form of pathogen
 - They have all the genes of pathogen
- Identify the enzyme which is mainly used for meat tenderization process in food industry CO2K1
 - Protease
 - Amylase
 - Pepsin
 - Papain
- Examine the following process is mainly carried out by the help of amylase in textile Industry. CO2K1
 - Destaining
 - Desizing
 - Dyeing
 - Finishing
- Label the following are the common types of microbes used as probiotics. CO3K1
 - Zika virus
 - Lactic acid bacteria
 - Malarial virus
 - Streptomyces species
- Indicate the following term is used for beneficial bacteria CO3K2
 - Antipests
 - Probiotics
 - Antiviral
 - Antibody
- Identify the edible vaccine that is produced from vegetable for the treatment of diarrheal disease. CO4K2
 - Tomato and Brinjal
 - Corn and Rice
 - Potato, rice and bananas
 - Sugarcane
- Recall the primary role of adult stem cells in tissue where they found CO4K1
 - Maintaining tissue
 - Mutationing tissue
 - Repairing tissue
 - Both a & c
- Recite the bioremediation process facilitating the usage of plants to degrade the pollutants is known as CO5K1
 - Composting
 - Biopile
 - Phytoremediation
 - Land forming
- Label the biodegradable polymer from the following CO5K1
 - Polyvinyl chloride
 - Polypropylene
 - Polystyrene
 - Polylactic acid

Part B **5 x 6 = 30**
Answer ALL questions
Each answer should not exceed 400 words or two pages

- 11.a. Explain the role of genetic engineering in health care. CO1K1
(or)
- 11.b. Outline the mechanism of production of monoclonal antibodies. CO1K2
- 12.a. Summarize the production and commercial applications on transgenic cotton. CO2K2
(or)
- 12.b. Express the concept on protein polymer. CO2K2
- 13.a. Illustrate the notes on biofortification of food crops. CO3K1
(or)
- 13.b. Distinguish between probiotics and prebiotics. CO3K2
- 14.a. Discuss notes on secondary metabolites and aromatic chemicals synthesis. CO4K2
(or)
- 14.b. Explain the short notes on biopolymers. CO4K2
- 15.a. Summarize the sources of pollutants of air. CO5K2
(or)
- 15.b. Report the sources of pollutants of water. CO5K2

Part C **5 x 12 = 60**
Answer ALL questions
Each answer should not exceed 800 words or four pages

- 16.a. Describe the application of recombinant proteins in therapeutics. CO1K1
(or)
- 16.b. Discuss the different types of recombinant vaccines. CO1K1
- 17.a. Explain the role of novel fibres in textile industry. CO2K1
(or)
- 17.b. Summarize the detailed notes on role of enzymes in textile industry. CO2K1
- 18.a. Explain the notes on modification of food taste and healthier food production. CO3K1
(or)
- 18.b. Narrate on categories of functional foods through biotechnology aspects. CO3K1
- 19.a. Describe the edible vaccine and its advantages. CO4K1
(or)
- 19.b. Elaborate the applications of stem cell in medicine. CO4K1
- 20.a. Discuss the concept of phytoremediation with examples. CO4K1
(or)
- 20.b. Summarize the advantages and applications of bioplastics and biodegradable polymers. CO5K2
