

**M. SC. IN FOOD SAFETY AND
QUALITY MANAGEMENT (MSCFSQM)**

Term-End Examination

December, 2024

MVP-006 : FOOD BIOTECHNOLOGY

Time : 3 Hours

Maximum Marks : 100

Note : (i) Answer any **five** questions.

(ii) All questions carry equal marks.

1. Write notes on any **four** of the following :

4×5=20

- (i) Green Biotechnology
- (ii) Fed-batch fermentation
- (iii) Fermented dairy products
- (iv) Biogums
- (v) Genetically modified plants

2. (i) Give the definition, components and steps of polymerase chain reaction. 10

(ii) How is Single Cell Protein (SCP) produced ? What are the advantages and disadvantages of SCP ? 10

3. (i) How is the biotechnology used for development of fat-based products ? 10
- (ii) Explain the mechanism of action of enzymes. What are the general properties of enzymes ? 10
4. (i) Write a note on the applications of transgenic animals for enhanced food production. 10
- (ii) Write about the bioremediation of food wastes. 10
5. Discuss how the concept of protein engineering is used for production of various enzymes and antibiotics. 20
6. List some major existing problems in food security and safety. How does biotechnology play a vital role in fighting food security ? 4+16
7. (i) Discuss the regulatory issues and approval protocol for GM food production in India. 10
- (ii) Describe the bioflavours production by microorganisms. 10

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