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MVP-006

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

Term-End Examination

June, 2025

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 the following (any *four*) :

4×5=20

- (i) Importance of biotechnology in food safety

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- (ii) Vectors for Recombinant DNA technology
 - (iii) Baker's yeast
 - (iv) Bioflavours
 - (v) Bioremediation of food wastes
2. (i) What is recombinant DNA and how is it introduced into host cell ? 10
- (ii) Describe the primary types of industrial fermentation processes based on modes of operation. 10
3. (i) How is single cell protein produced ? What are their advantages and disadvantages ? 10

- (ii) Enlist the fermented dairy and vegetable-based products. Give the processing steps of any fermented product. 10
4. (i) Describe some biotechnologically developed sweeteners. 10
- (ii) Name some commonly used biocolours and describe the process of biocolour production. 10
5. (i) Explain the lock and key hypothesis of enzyme action. Write the applications of any *two* enzymes in food industry. 10
- (ii) How is nisin produced by using protein engineering ? 10

6. Describe the methods of making transgenic animals. Discuss the application of transgenic animals for enhanced food production. 10+10
7. Define GM crops and give some examples. What are the advantages of GM crops ? How are GM crops produced ? 4+6+10

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