

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

Term-End Examination

June, 2025

**MVP-007 : EMERGING TRENDS IN FOOD
TECHNOLOGY AND SAFETY**

Time : 3 Hours

Maximum Marks : 100

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

(ii) All questions carry equal marks.

1. Explain the following (any *ten*) : 10×2=20

- (i) Pulsed Electric Field (PEF)
- (ii) Acoustic cavitation
- (iii) Prebiotics

- (iv) Dietary supplements
- (v) Risk assessment
- (vi) Active packaging
- (vii) Bioactive packaging
- (viii) Nanosensor
- (ix) Adulteration
- (x) Gas Chromatography-Mass Spectrometry (GC-MS)
- (xi) Food authenticity
- (xii) Food defense

2. Write notes on the following (any *four*) :

4×5=20

- (i) Supercritical fluid technology
- (ii) Advantages of functional food
- (iii) Nanomaterial application in food processing
- (iv) Raman spectroscopy
- (v) Blockchain technology.

3. (i) Describe high pressure processing and ohmic heating along with their applications in food processing. 10
- (ii) Define nutraceuticals. Classify them according to food sources, mechanism of action and their chemical nature. 10
4. (i) Give some examples of emerging toxins in food. Explain the causes of emerging toxins and the risks associated with them. 10
- (ii) Explain the applications of predictive microbiology in food industry. 10
5. (i) Discuss the bioactive agents used in bioactive packaging, their application in food and methods of their incorporation in food packaging. 10
- (ii) Give the definition and benefits of microencapsulation. Explain its applications in food industry. 10

6. (i) Discuss the types of biosensors used in food industry. 10
- (ii) Enlist the molecular tools used for detection of food pathogens and explain any *two* of them. 10
7. (i) What are the different types of food fraud ? How can food fraud be mitigated ? 10
- (ii) Describe the basics of management of an enterprise. 10

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