



**Seventh Semester B.E./B.Tech. Degree Examination, Dec.2024/Jan.2025**  
**Food Processing and Nutraceuticals**

Max. Marks: 100

**Note: Answer any FIVE full questions, choosing ONE full question from each module.**

**Module-1**

- 1 a. Define Food and explain its broad connotation in terms of physiological , pschycological and social functions. (10 Marks)
- b. Discuss major and minor nutrients in food and state one function for each. (10 Marks)

**OR**

- 2 a. Why is proximate analysis important for determining food quality and how is it used in food labeling? Discuss. (10 Marks)
- b. Differentiate between fat – soluble and water soluble vitamins. Give two examples of each and their dietary sources. (10 Marks)

**Module-2**

- 3 a. Discuss pre – harvest and post – harvest losses, provide examples of each. (10 Marks)
- b. Differentiate between food borne infection and food borne intoxication with examples. (10 Marks)

**OR**

- 4 a. Evaluate the impact of molds like Aspergillus and Pencillium on food and quality , propose preventive measures. (10 Marks)
- b. Discuss factors affecting spoilage and its detection. (10 Marks)

**Module-3**

- 5 a. Explain the effect of Pasteurization and Sterilization on nutrient retention and microbial inactivation. (10 Marks)
- b. Discuss the principle and applications of Irradiation as a food preservation , Highlights its advantages and limitations. (10 Marks)

**OR**

- 6 a. Explain how FSSAI , HACCP and ISO standards ensure food safety in food businesses. (10 Marks)
- b. Compare the fermentation processes for bread and cheese production, highlighting key microbes and end products. (10 Marks)

**Module-4**

- 7 a. Discuss the methods and technologies for sorting and grading in food processing of fruits and cereals. (10 Marks)
- b. Discuss the principles and challenges to 3D printing technology in food processing , provide examples of its applications. (10 Marks)

**OR**

- 8 a. Explain Green technologies used in food processing with suitable example. (10 Marks)  
b. Evaluate the role of packaging and labeling in preserving nutrients and ensuring food safety. (10 Marks)

**Module-5**

- 9 a. Differentiate between functional food, dietary supplements and medicinal food, providing examples of each. (10 Marks)  
b. Discuss the role of probiotics in gut health. How do they act as nutraceuticals for disease management? (10 Marks)

**OR**

- 10 a. Analyse the regulatory framework for nutraceuticals in India. (10 Marks)  
b. Discuss the environmental and economic advantages of using phytonutrient based nutraceuticals over synthetic pharmaceuticals. (10 Marks)

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