

# B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

## September / October 2023 Supplementary Examinations

**Programme: B.E.**

**Branch: Institutional Elective**

**Course Code: 19EI7OE2IA**

**Course: Instrumentation for Food Processing and Agriculture**

**Semester: VII**

**Duration: 3 hrs.**

**Max Marks: 100**

**Instructions:** 1. Answer any FIVE full questions, choosing one full question from each unit.  
2. Missing data, if any, may suitably assumed.

### UNIT - I

- 1 a) With a neat block diagram, discuss, Process control with a flow regulator, in a processing industry. **10**
- b) In many cases, when foods are oxidized, they become less desirable or are even rejected. The odour, taste, and colour may change and some nutrients may be destroyed. Enumerate the different factors that lead to food spoilage and food borne disease. **10**

### UNIT - II

- 2 a) A product is considered new, if it is new in any way, for the company and / or the consuming public and potential customers. Analyse when is a New Product Really New? **08**
- b) Discuss the roles of the marketer, food technologist, flavourist and flavour chemist in Isolation, Identification, and Synthesis of Flavor Compounds. **12**

### UNIT - III

- 3 a) Discuss the Preservation principle of canning of food items thus preventing spoilage of canned foods. **10**
- b) With an Example, Differentiate Batch and Continuous processing in food industries: **10**

### OR

- 4 a) Discuss in detail the different types of containers for thermally treated preservatives. **08**
- b) Explain Food & Beverage Processing Instrumentation with few examples **12**

**Important Note:** Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

**UNIT- IV**

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|---|----|---|-----------|
| 5 | a) | Discuss in detail different types of Heat exchangers in food processing industry. | <b>10</b> |
|   | b) | Sketch and enumerate, single stage and double stage Homogenisation.               | <b>10</b> |

**UNIT- V**

- |   |    |  |           |
|---|----|--|-----------|
| 6 | a) | With a neat sketch, Explain Precision farming as a cyber-physical system.                    | <b>08</b> |
|   | b) | Elucidate an integrated view on precision smart farming from a multidisciplinary perspective | <b>12</b> |

**OR**

- |   |    |  |           |
|---|----|--|-----------|
| 7 | a) | Sketch and explain State of the art of cognitive techniques.                         | <b>12</b> |
|   | b) | Design a sketch of basic hardware architecture of smart object and brief its working | <b>08</b> |

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