Reg. No. \_\_\_\_\_\_\_\_\_\_\_\_\_



**End Semester Examination – Nov / Dec – 2019**

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| **Code :** | **14FP2008** | **Duration :** | **3hrs** |
| **Sub. Name :** | **FRUIT AND VEGETABLE PROCESSING TECHNOLOGY** | **Max. Marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Classify the various methodologies used in the preservation and processing of fruits and vegetables. | CO1 | 10 |
| b. | Enumerate the various factors causing spoilage of vegetables and fruits. | CO1 | 10 |
| **(OR)** | | | | |
| 2. |  | Justify the need for pre-cooling of fruits and vegetables prior to processing. | CO3 | 20 |
|  |  |  |  |  |
| 3. | a. | IIlustrate the process of canning of mango slices with the help of a suitable flow chart. | CO3 | 10 |
| b. | Illustrate the manufacture of orange squash with emphasis on procedure, standard and technical aspects of production. | CO2 | 10 |
| **(OR)** | | | | |
| 4. |  | Describe the various types of blanching methods for vegetables. Mention the significance for each methods. | CO1 | 20 |
|  |  |  |  |  |
| 5. | a. | Discuss the concept of Hurdle Technology and how it has evolved as a safe method of microbial load control in contrast to the use of high temperatures of processing such as HTST. | CO3 | 10 |
| b. | Describe the various test methodologies that can be used by jam manufacturers to determine the level of pectin in jellies. | CO2 | 10 |
| **(OR)** | | | | |
| 6. | a. | Describe with neat sketches the principle, working and construction of various types of centrifuges used in fruit pulp processing. | CO1 | 10 |
| b. | Discuss the methodology of stripping aroma to recover volatiles from fruit juices.Summarise the function and working of any aroma recovery equipment. | CO3 | 10 |
|  |  |  |  |  |
| 7. | a. | Point out the advantages of concentrating fruit juices?Explain any two types of evaporators used for the concentration of fruit juices. | CO2 | 10 |
| b. | Summarise the unit operations used in the processing of tomato into various value added products. | CO2 | 10 |
| **(OR)** | | | | |
| 8. | a. | Illustrate the principle, construction and working of a freeze drying system used in fruit juice processing units. List its merits and demerits. | CO2 | 10 |
| b. | Illustrate the principle, construction and working of a Spray dryer used for the manufacture of fruit powders. | CO3 | 10 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Discuss on the Aseptic processing and how this process function for RTS beverages. Use necessary flow diagrams to illustrate the process and the inclusion of the “asceptic” concept. | CO3 | 10 |
| b. | Paraphrase the concept of minimal processing w.r.t to the processing of vegetables and fruits. | CO3 | 10 |