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



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

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| **Code :** | **17FP2005** | **Duration :** | **3hrs** |
| **Sub. Name :** | **FOOD MICROBIOLOGY** | **Max. Marks :** | **100** |

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | State the intrinsic factors that affect the growth of microorganisms in foods. | CO1 | 10 |
| b. | Define generation time. Infer the phases of bacterial growth with a graphical representation. | CO1 | 10 |
| **(OR)** | | | | |
| 2. | a. | Enumerate the bacteria found in spoiled tomato with a best suitable method. | CO1 | 10 |
| b. | Report the staining technique used to differentiate Gram positive and Gram negative bacteria. | CO1 | 10 |
|  | | | | |
| 3. | a. | Classify the methods of pasteurization. Add a note on processing and effect on foods. | CO2 | 12 |
| b. | Identify the types of spoilage in canned foods. | CO2 | 8 |
| **(OR)** | | | | |
| 4. | a. | Outline the High pressure processing of foods with a neat diagrammatic representation. | CO2 | 12 |
| b. | List out any four chemical preservatives and their mode of action. | CO2 | 8 |
|  | | | | |
| 5. | a. | Define Fermentation. With a neat flow chart, explain the sauerkraut fermentation. | CO2 | 10 |
| b. | Sketch a neat flow diagram of lactic acid production. Mention its uses. | CO2 | 10 |
| **(OR)** | | | | |
| 6. |  | Describe the role of microorganisms and production process of oriental fermented foods. | CO2 | 20 |
|  | | | | |
| 7. | a. | Give a short note on membrane filtration technique. | CO2 | 10 |
| b. | Distinguish Homofermentative from Heterofermentative Lactic acid bacteria. | CO2 | 10 |
| **(OR)** | | | | |
| 8. | a. | Discuss the importance of aflatoxin in canned foods. | CO2 | 8 |
| b. | Examine the microbiological characteristics of milk with a special mention about Phosphatase test. | CO2 | 12 |
|  | | **Compulsory** |  |  |
| *9.* |  | Describe the source, mode of action, pathogenesis and controlmeasures of *Clostridium botulinum.* | CO2 | 20 |