

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

Name: \_\_\_\_\_

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**  
**THIRD SEMESTER B.TECH DEGREE EXAMINATION(S), MAY 2019**

**Course Code: FT201**

**Course Name: FOOD MICROBIOLOGY**

Max. Marks: 100

Duration: 3 Hours

**PART A**

*Answer any three full questions, each question carries 10 marks.*

Marks

- |   |   |      |
|---|---|------|
| 1 | a) Write about Koch's postulates  | ( 3) |
|   | b) Write about Germ theory of disease   | (2)  |
|   | c) Explain Roll tube technique with neat and labelled diagram                                   | (5)  |
| 2 | a) Explain Lyophilization technique for preservation of cultures with neat and labelled diagram | (5)  |
|   | b) Differentiate between Gram Positive and Gram Negative Bacteria.                              | (5)  |
| 3 | Write an essay on spoilage of heated canned foods   | (10) |
| 4 | a) What are the intrinsic factors affecting spoilage of foods                                   | (5)  |
|   | b) How do you classify microorganisms based on temperature requirements                         | (5)  |

**PART B**

*Answer any three full questions, each question carries 10 marks.*

- |   |  |      |
|---|--|------|
| 5 | a) Write a short note on non-bacterial agents of food borne diseases | (5)  |
|   | b) Write about different types of toxins in <i>C.botulinum</i>       | (5)  |
| 6 | Write an essay on food borne diseases                                | (10) |
| 7 | a) What are the preliminary steps of HACCP and explain it in detail  | (5)  |
|   | b) Differentiate between verification and validation in HACCP        | (5)  |
| 8 | Write an essay on codes of Good Manufacturing Practices (GMP)        | (10) |

**PART C**

*Answer any four full questions, each question carries 10 marks.*

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|----|---|------|
| 9  | a) What are the possible modes of action of probiotics            | (5)  |
|    | b) Write about different methods of immobilization of enzymes     | (5)  |
| 10 | Write an essay on fermented fish products                         | (10) |
| 11 | Write an essay on bread fermentation                              | (10) |
| 12 | a) What is PCR and explain the steps involved in it               | (5)  |
|    | b) Write about rapid methods used for detection of microorganisms | (5)  |

- 13 a) Explain the test used for detecting bacterial toxins in foods (5)
- b) Write in detail about dye reduction method with a special emphasis on Methylene Blue (5)
- 14 Write an essay on immunoassay methods in detail (10)

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