QP Code: S253A031 | Reg. No | | | | | | | | | | | AY 23

# Gandhi Institute of Engineering and Technology University, Odisha, Gunupur
## (GIET University)

B. Tech (Third Semester – Regular & Supplementary) Examinations, November 2025

## 23BBTPC23003 – Microbiology

(Biotechnology)

Time: 3 hrs | Maximum: 60 Marks

**(The figures in the right hand margin indicate marks)**

**PART – A** **(2 x 5 = 10 Marks)**

| | | CO # | Blooms Level |
|---|---|---|---|
| Q.1. | Answer ***ALL*** questions | | |
| a. | Apply Koch's postulates to identify a new disease-causing microbe. | CO1 | K3 |
| b. | Differentiate between sterilization and disinfection. | CO2 | K2 |
| c. | Name two stains used in acid fast staining. | CO2 | K2 |
| d. | Distinguish between food infection and food intoxication with examples. | CO3 | K3 |
| e. | State about the importance of MPN test. | CO5 | K3 |

**PART – B** **(10 x 5 = 50 Marks)**

| | Answer ***ALL*** the questions | Marks | CO # | Blooms Level |
|---|---|---|---|---|
| 2. a. | Describe the life cycle, pathogenesis, laboratory diagnosis and treatment of filarial. | 10 | CO4 | K3 |
| | (OR) | | | |
| b. | Discuss about various food preservation methods for microbial safety. | 5 | CO3 | K3 |
| c. | Explain the key factors that influence microbial growth. | 5 | CO2 | K3 |
| 3.a. | Explain the detail structure of virus, its replication with the aid of a neatly labelled diagram. | 10 | CO1 | K3 |
| | (OR) | | | |
| b. | Explain host-parasite relationship with examples of disease mechanisms. | 5 | CO2 | K3 |
| c. | Describe in brief about the induced mutation. | 5 | CO3 | K3 |
| 4.a. | Discuss in detail about the different types of bacterial staining. | 10 | CO2 | K3 |
| | (OR) | | | |
| b. | Demonstrate the steps of streak plate technique to obtain pure culture. | 5 | CO2 | K3 |
| c. | Write about generalized transduction process. | 5 | CO3 | K2 |
| 5.a. | Discuss about the complete mechanism of bacterial conjugation with suitable diagram. | 10 | CO3 | K3 |
| | (OR) | | | |
| b. | Write notes on microbial classification. | 5 | CO1 | K2 |
| c. | State about microbiology of soil. | 5 | CO5 | K3 |
| 6.a. | Illustrate about the different types of diseases caused by microbes? | 10 | CO4 | K3 |
| | (OR) | | | |
| b. | Briefly explain about Ame's test for mutagenesis. | 5 | CO3 | K3 |
| c. | State about pattern of bacterial growth curve. | 5 | CO2 | K3 |

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