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Total No. of Pages: 01

Total No. of Questions: 08

**M.Tech. (Bio Technology) (Sem. – 1)**

**MICROBIAL BIOTECHNOLOGY**

**Subject Code: MTBT-101-18**

**M Code: 75762**

**Date of Examination : 12-01-2023**

**Time: 3 Hrs.**

**Max. Marks: 60**

**INSTRUCTIONS TO CANDIDATES:**

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWELVE marks.

1. Which organism is used for the production of Riboflavin? Discuss the production process of Riboflavin alongwith a neat process flow chart.
2. How has biotechnology helped in development of vaccines?
3. Discuss the various steps in fermentative production of Citric acid. What are the major industrial uses of citric acid?
4. Give the diagrammatic representation of a fermenter. Explain the functions of different parts of a fermenter.
5. Give an account on applications and large-scale production of polyhydroxybutyrate (PHB).
6. What is the commercial method of fermentative production of Acetic acid? Please elaborate.
7. Write an account on the commercial production of biofertilizers comprising free living nitrogen fixing microbes.
8. Give an account on the role of microorganisms in waste water treatment.

**NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.**