



**GIET UNIVERSITY, GUNUPUR - 765022**  
**B. Tech (Sixth Semester Regular) Examinations, May - 2024**  
**21BBTPE36001 - Environmental Biotechnology**  
**(Biotech)**

Time: 3 hrs

Maximum: 70 Marks

(The figures in the right hand margin indicate marks)

**PART – A****(2 x 5 = 10 Marks)**Q.1. Answer **ALL** questions

| CO # | Blooms<br>Level |
|------|-----------------|
|------|-----------------|

- |   |     |    |
|---|-----|----|
| a. Name two examples of biomarker.                            | CO1 | K1 |
| b. Write the equation of Monod kinetics.                      | CO3 | K2 |
| c. Write the two genetically engineered organisms.            | CO2 | K2 |
| d. Name two examples of biodegradable plastics.               | CO4 | K1 |
| e. Name two organic acids used in solvent extraction process. | CO4 | K1 |

**PART – B****(15 x 4 = 60 Marks)**Answer **ALL** questions

| Marks | CO # | Blooms<br>Level |
|-------|------|-----------------|
|-------|------|-----------------|

- |   |   |     |    |
|---|---|-----|----|
| 2. a. Describe the bioleaching of uranium from low grade ore.                                       | 7 | CO1 | K2 |
| b. Describe the methods of tertiary waste water treatment in domestic and industrial waste water.   | 8 | CO2 | K2 |
| (OR)  |   |     |    |
| c. What is Ozone layer depletion? Describe the mechanism behind the O <sub>3</sub> layer depletion? | 7 | CO1 | K1 |
| d. Write the applications include treatment of municipal and industrial waste water.                | 8 | CO2 | K2 |
| 3.a. Write the advantages and disadvantages of biocatalyst.   | 7 | CO3 | K2 |
| b. What is Biogas technology? Write the process of Biogas production.                               | 8 | CO4 | K2 |
| (OR)  |   |     |    |
| c. Define catalytic antibody? Write the structure and application of catalytic antibody.            | 7 | CO3 | K1 |
| d. What are the types of Bioplastics? What are the techniques involved in Bioplastic technology?    | 8 | CO4 | K2 |
| 4.a. Write any two effects of air pollution.  | 8 | CO1 | K2 |
| b. Write the types of Biopesticides and Biofertilizers.   | 7 | CO4 | K2 |
| (OR)  |   |     |    |
| c. Describe the microbial treatment of oil pollution.   | 8 | CO3 | K1 |
| d. What are oil spills? How the oil spills effect the marine life?                                  | 7 | CO1 | K2 |
| 5.a. What is Biomining? Write the advantages and applications of Biomining.                         | 8 | CO4 | K2 |
| b. Write the types of biomarkers based on their characteristic and application.                     | 7 | CO1 | K2 |
| (OR)  |   |     |    |
| c. Describe the steps involved in production of Bioethanol.   | 7 | CO4 | K2 |
| d. Define desulfurization of coal. How microbial desulfurization of coal typically works?           | 8 | CO4 | K1 |

--- End of Paper ---