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

M.Sc. (Second Semester - Regular) Examinations, May – 2026
24MLSPC12003 – Ecology and Environmental Toxicology
(Life Science)

Time: 3 hrs

Maximum: 60 Marks

(The figures in the right hand margin indicate marks)

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

- | | CO # | Blooms
Level |
|--|------|-----------------|
| a. What is Eutrophication? | CO1 | K1 |
| b. What is the carrying capacity? | CO2 | K2 |
| c. Differentiate between global warming and climate change. | CO3 | K3 |
| d. Define toxic agents. Classify toxic agents based on their target organ. | CO4 | K1 |
| e. Write the difference between toxicokinetics and toxicodynamics. | CO5 | K2 |

PART – B**(10 x 5 = 50 Marks)**Answer **ALL** the questions

- | | Marks | CO # | Blooms
Level |
|--|-------|------|-----------------|
| 2. a. Describe ecological energetics and explain energy flow in an ecosystem. | 5 | CO1 | K2 |
| b. Describe the structure and function of an ecosystem. | 5 | CO1 | K2 |
| (OR) | | | |
| c. Explain any ecosystem with examples. | 5 | CO1 | K4 |
| d. Net Primary Productivity between tropical rainforests and deserts is different. Explain | 5 | CO1 | K2 |
| 3.a. Describe exponential and logistic growth with graphs and equations. | 5 | CO2 | K2 |
| b. Write the stratification of a forest community. | 5 | CO2 | K1 |
| (OR) | | | |
| c. Describe population attributes and how they affect population size. | 5 | CO2 | K4 |
| d. What are biological indicators? Write the types indicators with an example of it. | 5 | CO2 | K1 |
| 4.a. How do you manage domestic and industrial waste? | 5 | CO3 | K3 |
| b. Define bioremediation and explain in situ and ex-situ bioremediation techniques. | 5 | CO3 | K2 |
| (OR) | | | |
| c. Discuss ozone depletion and its consequences. | 5 | CO3 | K4 |
| d. Describe source & control measures of radioactive pollution. | 5 | CO3 | K2 |
| 5.a. Explain the role of Cytochrome P450 enzymes in the biotransformation of xenobiotics. | 5 | CO4 | K4 |
| b. Discuss different types of pesticides. | 5 | CO4 | K2 |
| (OR) | | | |
| c. How are the xenobiotic compounds metabolised in our body? | 5 | CO4 | K4 |
| d. Define and classify toxic agents. | 5 | CO4 | K1 |
| 6.a. Difference between acute toxicity, sub-acute toxicity, subchronic and chronic effects | 5 | CO5 | K4 |
| b. Discuss toxicokinetics (Tk) parameters. | 5 | CO5 | K2 |
| (OR) | | | |
| c. Define antagonism and synergism in toxicology. | 5 | CO5 | K1 |
| d. List and describe the major portals of entry for toxicants. Explain how the route of exposure affects toxicity. | 5 | CO5 | K4 |

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