JHARKHAND Rai University
RANCHI

**End Semester/Reappear (Semester II) Examination May, 2025**

**Programme:BMLT**
**Course: Essential of Environmental Sciences** **Full Marks: 70**
**Course Code: 42ABMT208** **Time: 3 Hrs.**
**Enrolment no. _____**

| Q.No. | Questions | CO | Bloom Taxonomy Category | Marks |
|---|---|---|---|---|
| | **Section I** | | | |
| **1** | **Short Answer type questions.** | | | 4 x 5 = 20 |
| a | Describe biotic and abiotic factor in an ecosystem. | CO1 | Understand | |
| | or | | | |
| | How does the environment impact human health? | CO1 | Remember | |
| b | Describe the general trend of temperature change as altitude increases in the troposphere. | CO2 | Understand | |
| | or | | | |
| | Explain why the exosphere is considered the outermost layer of the atmosphere. | CO2 | Understand | |
| c | How does the process of sedimentation help in wastewater treatment? | CO3 | Understand | |
| | or | | | |
| | Explain how agricultural runoff can lead to water pollution | CO3 | Understand | |
| d | How does the use of public transportation help in preventing air pollution? | CO4 | Understand | |
| | or | | | |
| | Explain how burning fossil fuels contributes to air pollution. | CO4 | Understand | |
| | **Section II** | | | |
| **Long Answer type questions.** | | | | 3 x 10 = 30 |
| 2 | What are Ecological pyramids? Explain different types of ecological pyramids with neat sketch. | CO1 | Create | |
| | or | | | |
| | Discuss the models of Energy flow in an Ecosystem. What are biogeochemical cycles? Explain with the help of a diagram the nitrogen cycle | CO1 | Apply | |
| 3 | Discuss the sustainability of different wastewater treatment methods. Which approaches are more environmentally friendly and resource-efficient in the long run? | CO3 | Evaluate | |
| | or | | | |
| | Discuss the challenges and opportunities associated with implementing sustainable wastewater management practices in developing countries | CO3 | Evaluate | |
| 4 | If you are trying to study in a noisy environment, what personal protective equipment could you use to reduce the impact of the noise? | CO5 | Apply | |
| | or | | | |
| | Analyze the pathways through which soil pollutants can enter the food chain and affect human health in communities. | CO5 | Analyze | |
| | **Section III** | | | |
| | **Application based questions** | | | **1 x 20 = 20** |
| 5 | Explain the different technological approaches used to control particulate matter emissions from industrial sources. Discuss the principles behind their operation and their relative effectiveness. | CO4 | Analyze | |
| | or | | | |
| | Elucidate the underlying mechanisms through which particular air pollutants initiate and exacerbate the environmental problems of acid rain, smog, and climate change. | CO4 | Analyze | |

**COURSE OUTCOME:**

CO1 Importance of environmental science and concept of ecology, biogeochemical cycle and food Chain.
CO2 Composition and function of various segment of environment
CO3 Water pollution, sources and types of pollutants, their toxic effect and water treatment process.
CO4 Classification, toxic effects and control measures of air pollutants.
CO5Brief introduction to Noise Pollution, Soil Pollution, and radiation pollution