

**School of Biological and Life sciences****Bachelor of Science in General Zoology Botany Chemistry  
Semester End Examination - Jun 2024****Duration : 180 Minutes  
Max Marks : 100****Sem IV - P1UA202T - Environmental Pollution and Human Health**General Instructions*Answer to the specific question asked**Draw neat, labelled diagrams wherever necessary**Approved data hand books are allowed subject to verification by the Invigilator*

- 1) Why is monitoring ambient air quality important? K1(2)
- 2) Explain the difference between alpha, beta, and gamma radiation. K2(4)
- 3) How do air quality standards contribute to environmental protection? K2(6)
- 4) Discuss the potential sources of indoor air pollution and their impact on ambient air quality. K3(9)
- 5) Provide a comprehensive explanation of the operating principles behind fluidized bed reactors, including the concept of fluidization and how it enhances mass transfer. Discuss the advantages of using fluidized bed reactors in various industrial applications, such as chemical processing or catalytic reactions. Analyze the key parameters influencing the performance of fluidized bed reactors. K3(9)
- 6) Develop a comprehensive policy framework for regulating the handling and transportation of radioactive substances. K5(10)
- 7) Provide a detailed examination of the Upflow Anaerobic Sludge Blanket (UASB) reactor. Discuss its design principles, operational parameters, and the biological processes involved. Evaluate the advantages and limitations of UASB reactors in comparison to other anaerobic treatment technologies. Explore the applications of UASB reactors in various industries and wastewater treatment scenarios. Assess the environmental and economic implications of implementing UASB reactors in different contexts. K4(12)
- 8) Examine the direct and indirect impacts of soil pollution on vegetation, emphasizing changes in plant physiology, growth patterns, and reproductive capabilities. Include case studies or examples to illustrate the severity of these effects. K5(15)
- 9) Examine the challenges and complexities associated with Effluent Treatment Plant (ETP) sludge management in industrial processes. K5(15)

Discuss the composition and characteristics of ETP sludge, considering variations across different industries. Evaluate current strategies employed for ETP sludge handling, disposal, or reuse, emphasizing their environmental and economic implications.

10)

Explore the various causes of soil pollution, including industrial activities, agricultural practices, improper waste disposal, and urbanization. Provide detailed examples and analyze how each factor contributes to soil degradation. Evaluate the impact of soil pollution on ecosystems, agriculture, and human health. Discuss the interconnectedness of soil pollution with other environmental issues and propose sustainable practices to prevent further degradation and promote soil health.

K6(18)