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| **University of Kerala** | | |
| Discipline: Polymer Chemistry |  | Time: 1 Hour 30 Minutes (90 Mins.) |
| Course Code: UK1MDCPOC102 |  | Total Marks: 42 |
| Course Title: Introduction to Environmental Chemistry |  |  |
| Type of Course: MDC |  |  |
| Semester: 1 |  |  |
| Academic Level: 100-199 |  |  |
| Total Credit: 3, Theory: 3 Credit |  |  |

**Part A. 6 Marks. Time: 6 Minutes**

Objective Type. 1 Mark Each. Answer All Questions

(Cognitive Level: Remember/Understand)

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| --- | --- | --- | --- |
| **Qn.**  **No.** | **Question** | **Cognitive**  **Level** | **Course**  **Outcome (CO)** |
| 1. | The term “Ecosystem” was coined by……….. | Remember | CO-1 |
| 2. | Acid rain is caused by ………….pollution. | Remember | CO-2 |
| 3. | What does pH measures in water? | Understand | CO-3 |
| 4. | What is recycling in the context of solid waste management? | Understand | CO-4 |
| 5. | Which parameter indicates the haziness of water? | Understand | CO-3 |
| 6. | Which of the following pollutants is commonly associated with respiratory diseases?   1. Sulphur dioxide 2. Carbon dioxide 3. Particular matters 4. Ozone | Understand | CO-2 |

**Part B. 8 Marks. Time: 24 Minutes**

Short Answer. 2 Marks Each. Answer All Questions

(Cognitive Level: Understand)

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| **Qn.**  **No.** | **Question** | **Cognitive**  **Level** | **Course**  **Outcome (CO)** |
| 7. | Explain the term biotic and abiotic components of ecosystem. | Understand | CO-1 |
| 8. | Explain acid rain | Understand | CO-2 |
| 9. | Discuss the impact of high turbidity on aquatic ecosystems. | Understand | CO-3 |
| 10. | What is the role of organic matter in soil? | Understand | CO-4 |

**Part C. 28 Marks. Time: 60 Minutes**

Long Answer. 7 marks each. Answer all 4 Questions, choosing among options within each question.

(Cognitive Level: Understand)

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| **Qn.**  **No.** | **Question** | **Cognitive**  **Level** | **Course**  **Outcome (CO)** |
| 11. | (a) Explain the structure and function of ecosystem  OR  (b) Illustrate the main environmental segments? | Understand | CO-1 |
| 12. | (a) Discuss the main environmental effects of air pollution?  OR  (b) Explain ozone layer depletion and its consequences | Understand | CO-2 |
| 13. | (a) Describe the effects of eutrophication on dissolved oxygen levels in water bodies. What is the significance of BOD on aquatic life?  OR  (b) Explain the methods used to estimate dissolved oxygen (DO), biochemical oxygen demand (BOD), and chemical oxygen demand (COD) in water quality assessment. Discuss the significance of each parameter in evaluating water quality. | Understand | CO-3 |
| 14 | (a) Explain the different components in soil  OR  (b) Explain the sources and effects of industrial, agricultural and domestic soil pollutants | Understand | CO-4 |

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| **Cognitive Level** | **Marks** | **Percentage** |  | **Course Outcomes** | **Marks** | **Percentage** |
| Remember | 2 | 4.8 |  | CO-1 | 10 | 23.8 |
| Understand | 40 | 95.2 |  | CO-2 | 11 | 26.2 |
| Apply |  |  |  | CO-3 | 11 | 26.2 |
| Analyze |  |  |  | CO-4 | 10 | 23.8 |
| **TOTAL** | **42** | **100** |  | **TOTAL** | **42** | **100** |