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| **University of Kerala** | | |
| Discipline: Environmental Sciences |  | Time: 1 Hour 30 Minutes (90 Mins.) |
| Course Code: UK1DSCENS102 |  | Total Marks: 42 |
| Course Title: Fundamentals of Environmental Chemistry |  |  |
| Type of Course: DSC |  |  |
| Semester: 1 |  |  |
| Academic Level: 100-199 |  |  |
| Total Credit: 4, Theory: 4 Credit; Practical: 1 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. | What is photochemical smog? | Remember | CO3 |
| 2. | Define the term 'pollutant' | Remember | CO1 |
| 3. | List the major processes involved in the hydrological cycle | Understand | CO3 |
| 4. | How does the atmosphere help to regulate the earth’s climate | Understand | CO4 |
| 5. | Why is phosphorus considered an essential nutrient for plants? | Understand | CO1 |
| 6. | What is the significance of free radicals in atmospheric chemistry | Understand | CO5 |

Part B. 8 Marks. Time: 24 Minutes

Short Answer. 2 Marks Each. Answer All Questions

(Cognitive Level: Understand/Apply)

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| **Qn.**  **No.** | **Question** | **Cognitive**  **Level** | **Course**  **Outcome (CO)** |
| 7. | Illustrate the process of ozone formation in the atmosphere | Understand | CO3 |
| 8. | What are the major causes of eutrophication? | Understand | CO1 |
| 9. | Classify pesticides according to their composition | Apply | CO1 |
| 10. | How does agriculture influence the nitrogen cycle? | Apply | CO4 |

Part C. 28 Marks. Time: 60 Minutes

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

(Cognitive Level: Apply/Analyse/Evaluate/Create)

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| **Qn.**  **No.** | **Question** | **Cognitive**  **Level** | **Course**  **Outcome (CO)** |
| 11. | Illustrate the water cycle and explain how it influences the water balance of the earth | Apply | CO3 |
| 12. | Discuss how the impact of human activities alters the nitrogen cycle. Propose measures that can be taken to mitigate these impacts and restore balance in the cycle | Analyze | CO4 |
| 13. | Explain how weathering processes affect soil formation and composition. Propose sustainable practices for land management that can help to maintain soil health | Evaluate | CO5 |
| 14. | Describe the major causes and impacts of global warming. Develop an mitigation program for global warming | Create | CO4 |