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| **University of Kerala** | | |
| Discipline: Physics |  | Time: 1 Hour 30 Minutes (90 Mins.) |
| Course Code: UK1MDCPHY102 |  | Total Marks: 42 |
| Course Title: Green Energy |  |  |
| Type of Course: MDC |  |  |
| Semester: 1 |  |  |
| Academic Level: 100-199 |  |  |
| Total Credit: 3, Theory: 3 Credit  (Applicable for 4 Credit Course with 1 Credit Practical Also) |  |  |

Part A. 6 Marks. Time: 6 Minutes. (Cognitive Level: Remember/Understand) Objective Type. 1 Mark Each. Answer All Questions

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| **Qn.**  **No.** | **Question** | **Cognitive Level** | **Course Outcome (CO)** |
| 1. | Identify the reason behind Global Warming | Remember | 1 |
| 2. | Name an energy conservation government body and policy in India | Remember | 1 |
| 3. | Explain basic Principles of Wind Energy Conversion | Understand | 3 |
| 4. | Explain the formation of tides. | Understand | 4 |
| 5. | Explain the purpose of the pyrheliometer, | Understand | 2 |
| 6. | Identify the advantages of ocean energy over solar energy | Understand | 2 |

Part B. 8 Marks. Time: 24 Minutes. (Cognitive Level: Understand/Apply) Short Answer. 2 Marks Each. Answer All Questions

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| **Qn.**  **No.** | **Question** | **Cognitive**  **Level** | **Course Outcome (CO)** | |
| 7. | Describe the merits and demerits of tidal energy | Understand | | 4 | |
| 8. | Explain how global warming can be reduced. | Understand | | 1 | |
| 9. | Explain the application of solar energy | Understand | | 2 | |
| 10. | Compare the merits and de-merits of coal, oil and natural gas | Understand | | 1 | |

Part C. 28 Marks. Time: 60 Minutes. (Cognitive Level: Apply/Analyse/Evaluate/Create)

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

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| **Qn.**  **No.** | **Question** | **Cognitive**  **Level** | **Course Outcome (CO)** |
| 11. | (A) Explain different types of solar energy collectors. OR  (B) Explain the classification of solar energy storage systems | Understand | 2 |
| 12. | (A) Explain the basic components of a wind energy conversion system. OR  (B) Explain applications of Wind Energy &  various Policies Related to Wind Energy in India | Understand | 3 |
| 13. | (A) Summarize different forms of ocean energy. OR  (B) Describe the energy production from tides and waves. | Understand | 4 |
| 14. | (A) Distinguish between renewable and Nonrenewable energy systems. Explain in detail at least 3 from each category. OR  (B) Discuss about various approaches to Energy Conservation | Understand | 1 |