

ISLAMIC UNIVERSITY OF TECHNOLOGY (IUT)
ORGANISATION OF ISLAMIC COOPERATION (OIC)
DEPARTMENT OF TECHNICAL AND VOCATIONAL EDUCATION (TVE)

Exam: Final Semester Examination

Academic Year: 2022 - 2023

Course Number: HUM 4417

Full Marks: 150

Course Title: Sustainability in Technology, Environment, and Society

Duration: 3 Hours

There are 6 (six) questions. Answer all of them. The symbols have their usual meaning.

1. a) What are the Green House Gases? How are they responsible for trapping heat in the atmosphere of the Earth? Explain with the necessary diagrams. (10) CO2 PO7
- b) What are the benefits of Carbon Sequestration? How does acid rain form and impact the environment? (15)
2. a) Explain the flow of energy in an ecosystem. Write a short note on the Earth System and Global Atmospheric Change. (15) CO1 PO7
- b) Define the term sustainable development. How does the idea of sustainable resource use contribute to the ecological balance? (10)
3. a) What is an ozone hole? Explain the process of ozone layer depletion with chemical reactions. Mention the impacts of ozone layer depletion on Human Health and Ecology. (15) CO2 PO7
- b) Explain the Hydrological cycle with a necessary illustration. Mention the major air pollutants with examples. (10)
4. a) Write short notes on the following: i) Waste Hierarchy ii) Polluters Pay Principles iii) 3R(s) in Waste Management. (15) CO3 PO7
- b) Explain the main sources of renewable energy. Write the Pros and Cons of renewable energy. (10)
5. a) Write down the major environmental concerns of today's world. What are the impacts of cyclones on coastal communities? (15) CO2 PO7
- b) What are the goals of Green Technology? Could Nuclear Energy be classified as renewable? (10) CO3
6. a) Uncontrolled population growth is an environmental concern. What is your opinion? Explain with logical reasoning. (10) CO1 PO7
- b) Explain the following the concept of circular economy and its principles (15) CO3