



National Open University of Nigeria
Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja
Faculty of Science
2020_1 EXAMINATION

COURSE CODE: ESM 343

COURSE TITLE: Climate Change and Environment.

CREDIT: 2 Units

TIME ALLOWED: 2 Hours

Instruction: Attempt question number ONE (1) and any other THREE (3) questions. Question number one (1) carries 25 marks, while the other questions carry (15) marks each.

- 1a) Enumerate the effects of climate change on a global scale. **(16marks)**
- 1b) What accounts for air density being greatest at the ground and decreases at higher altitudes? **(1mark)**
- 1c) Discuss thermal usage of solar energy. **(4marks)**
- 1d) Differentiate between ozone in the upper atmosphere and ozone in the lower atmosphere **(4 marks)**
- 2a) Give a detailed description of the term succession. **(5 marks)**
- 2b) Identify five major sources of nitrogen oxides **(5 marks)**
- 2c) Identify five earth's surface reflectivities. **(5 marks)**
- 3a) Briefly discuss how to measure atmospheric pressure according to Evangelista Torricelli. **(4marks)**
- 3b) Define global warming. **(2marks)**
- 3c) List five effects of a decrease in the concentration of ozone in the ozone layer. **(6marks)**
- 3d) The heat-trapping gases in the atmosphere are generally referred to as greenhouse gases, why? **(3marks)**
- 4a) Mention two specific kinds of albedo and explain each one. **(6 marks)**
- 4b) Identify five major sources of nitrogen oxides. **(5 marks)**
- 4c) Identify three categories in which the possible uses of solar energy fall into **(3 marks)**
- 4d) Air pressure always decreases with increasing height above the ground, why? **(1mark)**

5a) Complete the table below

(10 marks)

Attribute	Early stages of succession	Late stages of succession
Plant Leaf Canopy Structure		
Role of Decomposers in Cycling Nutrients to Plants		
Biogeochemical Cycling		
Rate of Net Primary Productivity		
Community Site Characteristics		

5b) Describe the ozone layer.

(3 marks)

5c) What is responsible for climatic differences between cities and rural areas?

(2 marks)