



NATIONAL OPEN UNIVERSITY OF NIGERIA
Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi, Abuja
FACULTY OF SCIENCES
DEPARTMENT OF ENVIRONMENTAL SCIENCE AND RESOURCE MANAGEMENT
2025_1 EXAMINATION

COURSE CODE: ESM 345

COURSE TITLE: Applied Climatology.

CREDIT: 2 Units

TIME ALLOWED: 2 Hours

Instruction: Attempt question number ONE (1) and any other TWO (2) questions. *Question number one (1) is compulsory and carries 30 marks, while the other questions carry equal marks (20) each.*

1a. What is climate conditioning? **(5marks)**

1b. With relevant examples discuss the potential impacts of climate change on human settlements **(10marks)**

1c. Briefly highlight the 4 weather variables (or combination of variables) that are considered important during the construction phase of a building. **(4marks)**

1d. Identify any 5 programs or strategies that can be adopted to minimize the emission of carbon from human settlements. **(5marks)**

1e. List 6 weather control/modification activities employed by man. **(6marks)**

2a. Identify 2 positive effects of wind in the growth and yield of crops. **(4marks)**

2b. Briefly enumerate 4 major ways by which wind may constitute a hazard to agriculture. **(8marks)**

2c. Discuss any 4 ways in which the knowledge of climate can be useful in agricultural planning and development. **(8marks)**

3a. Briefly describe the causes of acid rain. **(5marks)**

3b. Briefly explain the concept of weather modification **(6marks)**

3c. Enumerate the 3 major reasons why humans attempt to modify weather **(9marks)**

4a. Briefly describe the terms climatic vulnerability and climatic resilience. **(4marks)**

4b):

i: Highlight the 5 factors that determines a society's vulnerability to climatic impacts. **(5marks)**

ii: Highlight the 3 factors that determines a society's resilience to the impacts of climate **(6marks)**

4c. Briefly describe the 5 major types of floods. **(5marks)**

5a. Briefly describe the environmental problems associated with the drought phenomenon **(4marks)**

5b. Discuss the impacts of any four weather conditions on flight operations and safety in the aviation industry. **(16marks)**