



National Open University of Nigeria
Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja
Faculty of Science
2021_2 EXAMINATIONS

COURSE CODE: ESM 345

COURSE TITLE: Applied Climatology

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) Describe the relationship between weather and crop pest and diseases (5 marks)
- 1b) 'Climate has been identified as one of the major important factors in manufacturing industry.' Elucidate. (5 marks)
- 1c) Discuss the effects of weather on aviation (5 marks)
- 1d) Itemize four major crop pests militating against agriculture in the humid tropics (4 marks)
- 1e) Balance the chemical reaction of calcium compound with acid rain as follows:
$$\text{CaCO}_3 (\text{s}) + \text{H}_2\text{SO}_4 (\text{aq}) \rightleftharpoons$$
 (2 marks)
- 1f) Succinctly describe the hazards associated with convective weather on aviation over time (4 marks)

- 2a) Enumerate five vulnerabilities of the society in the face of climate and climatic conditions as reported Ayoade, (2004) (5 marks)
- 2b) Discuss impact the of climatic variations on human activities (5 marks)
- 2c) Briefly describe four bottlenecks to be tackled in developing econo-climatic model (5 marks)

- 3a) Discuss motivation behind man's attempts to modify weather (5 marks)
- 3b) Enumerate the mitigating strategies of IPCC to reduce CO₂ emissions (5 marks)
- 3c) Define drought and enumerate types of drought (5 marks)

- 4a) State reasons on which the idea of economic analysis of weather are premised (5 marks)
- 4b) Explain the application of regression analysis to econo-climatic model (5 marks)
- 4c) Write short note on (1) Input-output analysis and (2) Benefit-cost analysis (5 marks)

- 5a) Enumerate five principal types of flood (5 marks)
- 5b) Outline any five (5) measures to mitigate floods (10 marks)