



NATIONAL OPEN UNIVERSITY OF NIGERIA
FACULTY OF SCIENCES
DEPARTMENT OF ENVIRONMENTAL SCIENCE AND RESOURCE MANAGEMENT
Plot 91, Cadastral Zone, Nnamdi Azikwe Expressway, Jabi, Abuja
2024_2 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) carries 30 marks, while the other questions carry (20) marks each.

Question 1 (Compulsory)

- 1(a) How does the concept of climate relate to the mining industry? (2 marks)
- (b) Explain how government policies on production are affected by climatic changes (3 marks)
- (c) Enumerate the effects of weather on aviation (2 marks)
- (d) i. List the problems faced by the aviation industry as a result of thunderstorms (3 marks)
- ii What are the effects of in-flight icing? (3 marks)
- iii Enumerate the problems caused by turbulence (3 marks)
- (e) i Explain what volcanic ash is (4 marks)
- ii What are the factors to consider when locating an airport? (3 marks)
- (f) List the processes involved in erecting a building (7 marks)

Total Mark Question 1=30 marks

Question 2

- (a) Name the physical factors that affect settlement location (3 marks)
- (b) State the criteria for choice of Abuja as the Federal Capital Territory (4 marks)

- (c) Enumerate the structural stress experienced in buildings (5 marks)
- (d) Itemize the aims of climate conditioning (3 marks)
- (e) List the weather elements needed during building construction phase (5 marks)

Total Mark Question 2= 20 marks

Question 3

- (a) State how carbon emissions from human settlements can be reduced (3 marks)
- (b) What are the factors that make a society vulnerable? (4 marks)
- (c) Enumerate the essence of water in manufacturing industries (5 marks)
- (d) Explain briefly how high winds cause hazards to agricultural production (3 marks)
- (e) Explain Hailstones (5 marks)

Total Mark Question 3= 20 marks

Question 4

- (a) How do strong winds constitute hazards to agriculture? (3 marks)
- (b) How is human settlement affected by climate? (4 marks)
- (c) What is the relationship between climate and animal husbandry? (5 marks)
- (d) Itemize the climatic elements that affect crop production (3 marks)
- (e) Describe the importance of climate in agricultural operations (5 marks)

Total Mark Question 4= 20 marks

Question 5

- (a) Enumerate the influence of weather on the economy of a country (3 marks)
- (b) List the challenges in agricultural production (4marks)
- (c) How does water affect industrial production? (5 marks)
- (d) What are the effects of climate on livestock production? (3 marks)
- (e) What is the relationship between climate and animal husbandry? (5 marks)

Total Mark Question 5=20 marks