



**UNIVERSITY OF AGRICULTURE, ABEOKUTA**  
**DEPARTMENT OF WATER RESOURCES MANAGEMENT & AGROMETEOROLOGY**

**2009/2010 SECOND SEMESTER EXAMINATION**

**WMA 316: AGROMETEOROLOGY III**

Time: 2 Hours

**INSTRUCTIONS: Answer ALL Questions in Section A and any TWO in Section B**

**SECTION A: Answer ALL Questions**

- 1) List the total Environmental Factors on which food crop growth depend
- 2 Explain how climate appear as the dominant component of the plant environment
- 3 Suggest any two ways by which an agrometeorologist could successfully predict crop yield in advance
- 4 Classify the uncontrollable elements of the plant environment into 3 major groups
- 5 What are the factors affecting radiation distribution within the plant canopy?
- 6 What do you understand by photo periodic induction in plant growth?
- 7 What do you understand by cardinal temperatures? State the cardinal temperature for cool season and warm season crops
- 8 What are the climatic parameters for rating plant growth
- 9 Define thermal diffusivity
- 10 Distinguish between vernalization and thermo-periodicity

**SECTION B: Answer only TWO Questions**

- 11 Write short notes on the following
  - (i) Specific distribution on solar radiation
  - (ii) Physical properties controlling thermal behaviour of soils
- 12 (i) Distinguish between Net radiation and Energy balance
  - (ii) Explain the influence of moisture on
    - (a) Seed germination and vegetative growth
    - (b) Carbon dioxide diffusion and photosynthesis
- 13 (i) With reference to the concept of hydrological cycle, discuss the role of climate in Water Resources Management in Nigeria
  - (ii) Examine why radiation utilization by plants is regarded as wasteful