



NATIONAL OPEN UNIVERSITY OF NIGERIA
FACULTY OF AGRICULTURAL SCIENCES
KM 4 Kaduna - Zaria Expressway Riga Chikun Kaduna
DEPARTMENT OF CROP AND SOIL SCIENCES
SEPTEMBER, 2020_1

COURSE CODE: CRP 502

COURSE TITLE: PLANT GROWTH AND DEVELOPMENT

TOTAL CREDIT UNIT: 2 CU

INSTRUCTIONS: Answer four questions in all. Question one is compulsory and it carries 25 marks. Any three is 15 marks each.

TIME ALLOWED: 2.30 hours

- 1) (a) Describe the process of seed germination (10 marks)
- (b) Explain the effects of cloud on solar radiation (5 marks)
- (c) In the table below, categorize these plant nutrients as macro-nutrient, primary macro-nutrient, secondary and tertiary macro-nutrient and micro-nutrients (10 marks)

Name of nutrient	Category
Carbon Hydrogen Oxygen	
Nitrogen Phosphorus Potassium	
Sulphur Calcium Magnesium	
Iron Molybdenum Boron Copper Manganese Sodium Zinc Nickel Chlorine Cobalt Aluminum Silicon Vanadium selenium	

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- 2) (a) List ten factors influencing the rate of respiration in plants (10 marks)
(b) Briefly explain the influence of type and age of plant tissues in respiration (5 marks)
- 3) (a) State the functions of Boron (B) in plants (10 marks)
(b) Mention two deficiency symptoms of Boron (5 marks)
- 4) (a) List ten growth and yield components of rice (10 marks)
(b) List five growth components of maize (5 marks)
- 5) (a) Classify plant growth hormones based on their action (5 marks)
(b) What are the effects of Auxins on plants (10 marks)
- 6) (a) Match the plant growth regulator and the scientist associated with. (5 marks)

Plant Growth Regulator

Scientist

1. Gibberellins
2. Auxins
3. Abscisic acid
4. Cytokinins

(b) Outline the importance/application of Ethylene in fruits and vegetables (10 marks)