



NATIONAL OPEN UNIVERSITY OF NIGERIA
FACULTY OF AGRICULTURAL SCIENCES
DEPARTMENT OF CROP AND SOIL SCIENCES

EXAMINATION: SEPTEMBER 2020_1 POP EXAMINATION

COURSE TITLE: PRINCIPLES OF IRRIGATION AND DRAINAGE

COURSE CODE: CRP 306

TOTAL SCORE: 70 MARKS

TIME ALLOWED: 2hours 30minutes

INSTRUCTION: Answer FOUR Questions in All. Question 1 is compulsory (25marks) and any three questions (15 marks each)

- 1
- a. Define Irrigation? And outline 5 of its purposes in Agriculture. **(8marks)**
 - b. Describe irrigation scheduling and state three benefits derived from it. **(9marks)**
 - c. What are the methods used in determining when to irrigate? Differentiate between them. **(8marks)**
- 2
- a. Briefly explain the relationship between soil, plant and atmosphere. **(12marks)**
 - b. State two sources of irrigation resources. **(3marks)**
- 3
- a. List and Explain the types of irrigation requirement. **(9marks)**
 - b. State 3 factors that determine water requirement of crops. **(6marks)**
- 4
- a. List and explain functional roles of water in crop growth. **(10marks)**
 - b. State any five problems associated with irrigation. **(5marks)**
- 5
- a. Briefly explain the stages affected by irrigation practices. **(9marks)**
 - b. List the three (3) phases of water. **(6marks)**
- 6
- a. Define water requirement of crop **(6MARKS)**
 - b. Calculate the water use efficiency given the following crop water requirement and their yield. **(9MARKS)**

| Crop | Water requirement (mm) | Yield |
|-------|------------------------|-------|
| Rice | 1200 | 4500 |
| Maize | 625 | 5000 |