

FEDERAL UNIVERSITY OF TECHNOLOGY OWERRI,  
SCHOOL OF AGRICULTURE AND AGRICULTURAL TECHNOLOGY,  
DEPARTMENT OF SOIL SCIENCE AND TECHNOLOGY,  
2018/ 2019 SESSION: Rain Semester Examination.

COURSE TITLE : FERTILIZER TECHNOLOGY: COURSE CODE:SST510  
TIME ALLOWED

2 ½ hrs

Instructions to Candidates: Attempt any five questions

Atomic weight: K=39,Na=23,N=14,and O=16g, P=31, H=1 and S=32

**Question one**

(a) Explain the term fertilizers and factors that affects its efficiency

The yield response of maize grown with N 250 kgN ha<sup>-1</sup> is 60 kg ha<sup>-1</sup>, If the N uptake of maize is 85kg ha<sup>-1</sup>, Calculate (i) fertilizer use efficiency (FUE) (ii) Uptake efficiency (iii) Utilization efficiency.

**Question two**

What is fertilizer formulations and enumerate the merits

(b) Determine the quantities of K<sub>2</sub>PO<sub>4</sub> and (NH<sub>4</sub>)<sub>2</sub> SO<sub>4</sub> fertilizer that will be blended to obtain 550 kg N, K<sub>2</sub>O and P<sub>2</sub>O<sub>5</sub>.

**Question three**

Using requisite diagramme, explain the productivity of three fertilizer starting from ammonium production

**Question four**

(a) Explain the term fertilization and enumerate any two of the merits and demerits

What is the fertilizer condition and outline any two of its examples and uses.

**Question five**

(a) What is foliar fertilizer and discuss the conditions for its usage

(b) Explain the following concepts of fertilizer interpretation.

(i) Basic cation saturation ratio (BCSR)

(ii) Sufficiency levels of available nutrients (SLAN)

**Question six**

(a) What do you understand by the term soil listing and explain any four factors constraining its application in Nigeria