

**W1-2-60-1-6**

## JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

**UNIVERSITY EXAMINATIONS 2018/2019**

**YEAR 1 SEMESTER 2 EXAMINATION FOR THE DEGREE OF MASTER OF SCIENCE IN HORTICULTURE**

**AHS 3108: ADVANCED OLERICULTURE**

**DATE: APRIL 2019 TIME: 3 HOURS**

**INSTRUCTIONS: ANSWER ALL QUESTIONS IN SECTION A AND ANY OTHER TWO QUESTIONS IN SECTION B**

**SECTION A**

**QUESTION ONE (10 MARKS)**

Describe vegetable classification systems under the following:

a) Classification by edible parts (5 marks)

b) Thermo-classification (5 marks)

**QUESTION TWO (10 MARKS)**

Discuss the factors affecting production of cauliflower (*Brassica oleracea* var. *botrytis* L.)

**QUESTION THREE (10 MARKS)**

Discuss any four vegetable production systems.

**QUESTION FOUR (10 MARKS)**

A soil media sample for growing tomato crop has a weight of 0.7 kg and the volume was found to be 3.5 x 10-4 m3. After drying out the weight was reduced to 0.6 kg. The particle specific gravity test was 2.6. Determine the following:

i) Moisture content (2 marks)

ii) Void ratio (2 marks)

iii) Porosity (2 marks)

iv) Bulk density (2 marks)

v) Degree of saturation (2 marks)

**SECTION B**

**QUESTION FIVE (15 MARKS)**

Discuss the physiological and environmental factors affecting vegetable production (15 marks)

**QUESTION SIX (15 MARKS)**

You have a 1:150 injector pump and you want to use potassium nitrate (13% N-0% P2O5 -44% K2O) and calcium nitrate (15.5% N-0% P2O5 K2O) to supply 180 ppm of N and K with each watering to your tomato crop. How many Grams of each fertilizer would you have to weigh out to make 4 Litres of concentrate (15 marks)

**QUESTION SEVEN (15 MARKS)**

Discuss problems experienced in vegetable production in Kenya (15 marks)