

**National University of Lesotho**

**Faculty of Agriculture**

**Crop Science Department**

**CPS 636: Advanced Vegetable Production**

Date: June 2023

Total Marks: 100

Time: 3 hours

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**INSTRUCTIONS:** Answer only four (4) questions

**Question 1**

a) Write short notes on the following:

(i) Stratification (7)

(ii) Scarification (7)

(b) Briefly describe the importance of dormancy in vegetable production give examples where appropriate (11)

**Question 2**

(a) Describe in details the importance of parthenocarpy in vegetable production (15)

(b) Discuss the physiological importance of gibberellins, give appropriate examples (10)

**Question 3**

(a) Why are vegetables regarded as an important contributor in world trade? Elaborate. (7)

(b) Give a detailed explanation of the continued challenges affecting vegetable production in Lesotho and Internationally (18)

**Question 4**

Describe production technology of tomato with special reference to

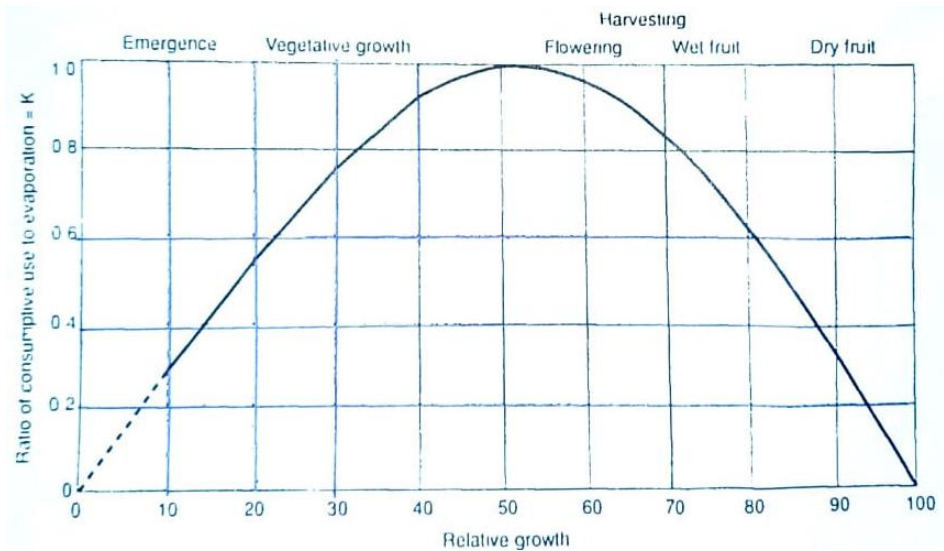
(a) Soil and climatic requirements (8)

(b) Irrigation and fertilisation (8)

(c) Elaborate on physiological changes that occurs in tomato during ripening (9)

### Question 5

Below is the figure of generalized curve showing the relationship between the ratio of consumptive use to evaporation (K) and relative growth of a crop.



(a) Determine irrigation water requirement of the crop at 40% of the growing season, with pan evaporation rate of 7 mm/ day and application efficiencies of 80% (8)

(b) Drip irrigation is the type of irrigation mostly used in vegetable production under protected agriculture, outline the merits and demerits of using this type of irrigation (17)

### Question 6

Discuss crop growth analysis with reference to vegetables. Clarify your discussion by giving examples of any five growth analysis indices. (25)

### Question 7

Discuss in detail practical applications of remote sensing in precision agriculture (25)