

**National University of Lesotho**  
**Faculty of Agriculture**  
**BSc Crop Science**  
**CPS 2503: Introduction to Botany**

**Date: June 2023**

**Final Examination**

**Total time 3hrs**

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**Total Marks: 100**

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- Instructions:**
- (a) Question One is compulsory**
  - (b) Answer any other 3 questions**
  - (c) All questions carry equal marks**

**Good Luck**

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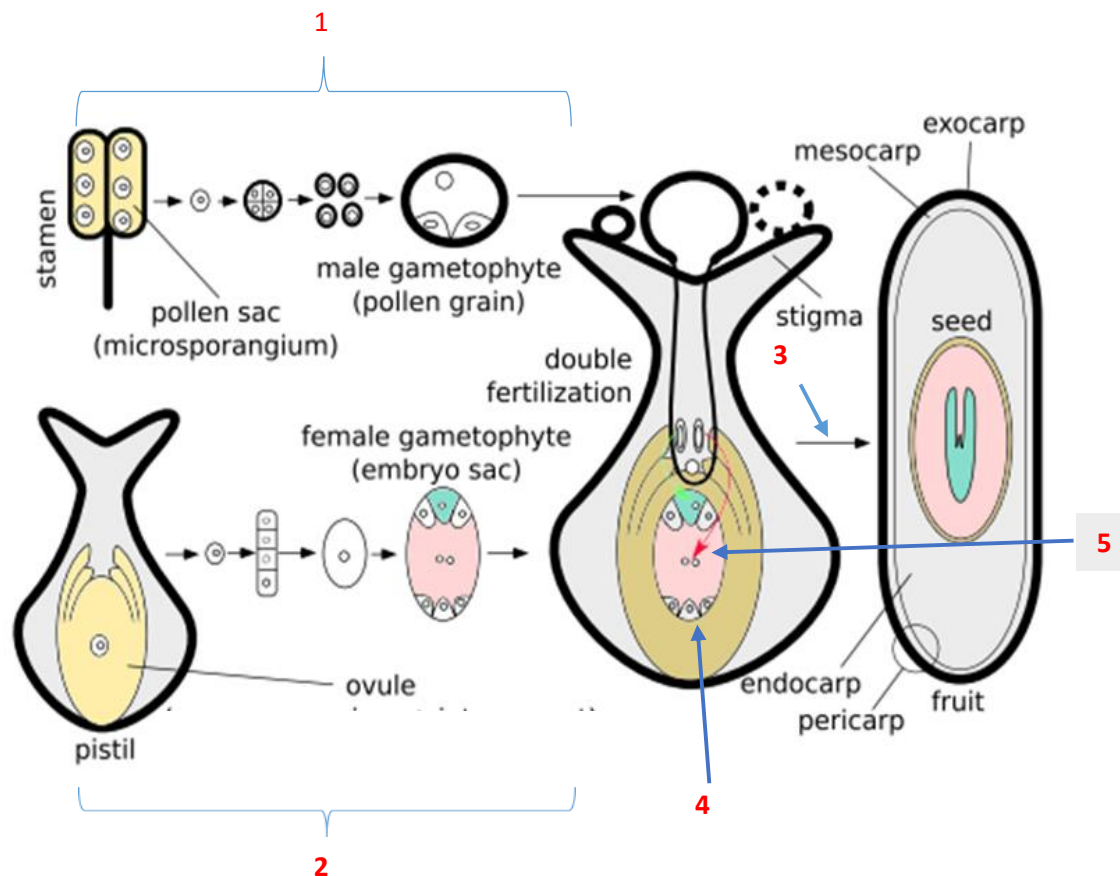
**Good Luck**

**QUESTION 1 (25 Marks)**

1.1. Pick any Crop grown in Lesotho, using its **Botanical/taxonomical classification**, show its **family name**, **systematic position**, and **Botanical description**. [25]

**QUESTION 2 ((25 Marks)**

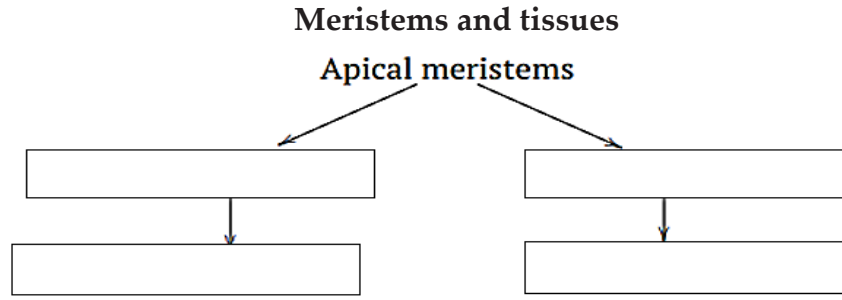
2.1 **Note the correspondences** between the different parts in the fruit development and **discuss the processes** happening in 1,2,3 and 4 in details. [20]



2.2 **Explain** the importance of the process that happens at number 5 in the diagram above. [5]

**QUESTION 3 (25 Marks)**

3.1 The diagram below shows the **apical meristems** and **Tissues Evolution**. Fill in the diagram the correct lineage of meristematic cells and tissues. [8]



3.2 Explain how cotyledon development replaces endosperm in eudicots seeds [5]

3.3. Write botanical name and part used of these three crops below:

(i) Tomato [4]

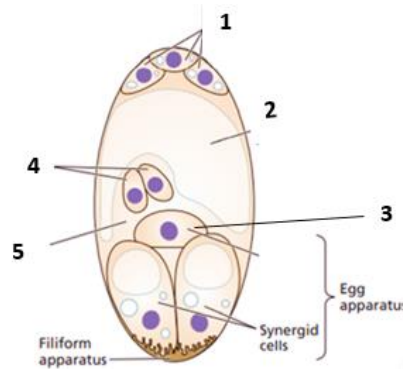
(ii) Garlic [4]

(iii) Peach [4]

**QUESTION 4 (25 Marks)**

4.1. The following diagram below, depicts the female gametophyte of an angiosperm plant.

(a) Name the parts labelled 1, 2, 3, 4, 5 and explain in detail their importance during fertilization process in angiosperm plant. [10]



(b) Explain fertilization in angiosperms [5]

4.2. Roots are important on our diet, list any roots that you have used during the month of May. What qualities of the roots made them useful? [10]

**QUESTION 5 (25 Marks)**

**(a) Fill in the blanks:**

- (i) Germination is the resumption of metabolic activities by the seed tissues, and it involves ..... [4]
- (ii) .....is a **symbiotic nitrogen fixing bacterium** [2]
- (iii)...is one of the most important **algal substances produced by the red algae** [2]
- (iv) O<sub>2</sub> release during plant photosynthesis comes from..... [2]

**(b) Match the terms given in column A with those in column B:**

<b>Column A</b>	<b>Column B</b>	
(i) Tuber	Algae	[2]
(ii) Dianoflagelates	Potato	[2]
(iii) Modified stem	cabbage	[2]
(iv) Legume	Kanamycin	[2]
(v) Antibiotics	pea	[2]

**(c) Which of the following statements are True or False?**

- (i) Vascular bundles in monocot stem are arranged in a ring..... [2]
- (ii) **Coleoptile** protects the apical meristems during seed germination.....[2]
- (iii) Cabbage is not an example a modified stem .....[1]