



**Avinashilingam Institute for Home Science and Higher Education for Women**  
Deemed to be University Estd. u/s 3 of UGC Act 1956 Category 'A' by MHRD [now MoE]  
Re-accredited with 'A++' Grade by NAAC CGPA 3.65/4, Category I by UGC  
Coimbatore - 641 043, Tamil Nadu, India

**Continuous Internal Assessment II April 2025**  
**II Semester**

**Class : I M.Sc**  
**Branch : Botany**

**Time : 2 Hours**  
**Max. Marks : 60**

**23MBOC09 - Embryology of Angiosperms**

**Course Outcomes:**

- CO1:** Students gain knowledge on the reproductive phases of plant system.  
**CO2:** Gain knowledge on origin and development of embryological structures.  
**CO3:** Understand the fertilization process  
**CO4:** Gain knowledge on the process of embryo development  
**CO5:** Understand the development and role of endosperms.

**Part A**

**Choose the correct answer**

**6x1=6**

1. Who is the Father of Embryology?  
a. Bhojwani                      b. Maheshwari                      c. Pandey                      d. Bhatnagar                      **CO3K1**
2. Secondary endosperm nucleus is  
a. Haploid                      b. Diploid                      c. Triploid                      d. Tetraploid                      **CO3K1**
3. The term used to describe the part of embryonal axis below the level of cotyledon is\_\_\_\_  
a. Hypocotyl                      b. Haustorium                      c. Hypophysis                      d. Epicotyl                      **CO4K2**
4. Crucifer type of embryogeny is seen in  
a. *Nicotiana*                      b. *Capsella*                      c. *Chenopodium*                      d. *Lactuca*                      **CO4K2**
5. *Nicotiana tabacum* exhibits  
a. Crucifer                      b. Asterad                      c. Solanad                      d. Chenopodial                      **CO5K1**
6. The white meat of the coconut is  
a. Endosperms                      b. Embryo                      c. Nucellus                      d. Perisperm                      **CO5 K1**

**Part B**

**Answer ALL the Questions**

**Answer should not exceed 400 words or two pages**

**3x6=18**

- 7.a. Explain ruminant endosperm with diagram  
(Or)                      **CO4K2**
- 7.b. Illustrate Asterad type of embryogeny                      **CO4K2**
- 8.a. With illustrations trace the development of cellular endosperm haustoria  
(Or)                      **CO5K3**
- 8.b. Write a brief note on functions of endosperm                      **CO5K1**
- 9.a. Explain the development of solanad embryogeny with suitable illustrations  
(Or)                      **CO5K2**
- 9.b. Compare helobial and nuclear endosperm type                      **CO5K2**

**Part C**

**Answer ALL the Questions**

**Answer should not exceed 800 words or three pages**

**3x12=36**

- 10.a. Discuss the crucifer type of embryogeny development  
(Or)                      **CO4K2**
- 10.b. Describe the structures and development of Caryophyllad type of embryogeny                      **CO4K3**
- 11.a. Evaluate the various steps involved in the development of nuclear endosperm  
(Or)                      **CO5K2**
- 11.b. Enumerate the development of Chenopodial type of embryogeny                      **CO4K2**
- 12.a. Illustrate the development of monocot embryo in *Najas lacerata*  
(Or)                      **CO4K2**
- 12.b. Review in detail the endosperm haustorial structures                      **CO5K3**

**Number of copies: 12**

**Staff in-charge: Dr. A. Vijayalakshmi**