



**Avinashilingam Institute for Home Science and Higher Education for Women**  
(Deemed to be University under Category 'A' by MHRD, Estd. u/s 3 of UGC Act 1956)  
Re-accredited with A<sup>++</sup> Grade by NAAC. Recognised by UGC Under Section 12B  
Coimbatore - 641 043, Tamil Nadu, India  
Continuous Internal Assessment I – February, 2025  
II Semester

Class : I PG  
Branch : Zoology

Time : 2 Hours  
Max. Marks : 60

**23MZOC09 Developmental Zoology**

**Course Learning Outcomes:**

- CO1. Compare and contrast the developmental stages amongst the variety of animal phyla.  
CO2. Understand the mechanism of fertilization, cleavage and gastrulation.  
CO3. Describe the cellular control in the development of the embryo  
CO4. Knowledge on the potential role of stem cells and its research applications  
CO5. Understand the human menstrual cycle, implantation, parturition, birth defects and test tube baby

**Part- A**

**6x1=6**

**Circle the correct answer**

- 1 The process of attachment of an embryo to the  
a) Primary Spermatocyte b) Secondary Spermatocyte c) Spermatozoa d) Spermatid CO1K1
- 2 Spermatozoa are nourished during their development by  
a) Interstitial Cells b) Connective Cells c) Sertoli Cells d) Ledic cells CO1K3
- 3 The hormone triggers ovulation and development of corpus luteum  
a) Follicle stimulating hormone b) Luteinizing Hormone c) Testosterone d) Estrogen CO1K4
- 4 The ability of the cell or tissue to respond to a specific induction signal is known  
a) Competence b) Equivalence group c) Receptor d) Potency CO2K2
- 5 Morphogenesis is concerned with  
a) Shape of tissue organ and entire organisms b) Cell growth c) Cell differentiation d) All of the above CO2K1
- 6 The reason for the loss or termination of pregnancy is due to the failure of secretion of  
a) LH b) FSH c) GnRH d) HCG CO3K5

**Part- B**

**Answer all the questions**

**Answer should not exceed 200 words or one page**

**3x6=18**

- 7 a Examine the structure of ovary and draw the diagram CO1K1  
OR
- 7 b Enumerate the significance of oogenesis in maintaining the chromosome number constant CO1K2
- 8 a Discover the planes and patterns of cleavage CO2K4  
OR
- 8 b Intervene the mechanism of fertilization CO2K5
- 9 a Trace the planes of cleavage in frog CO2K3  
OR
- 9 b Differentiate between monospermy and polyspermy CO3K1

**Part- C**

**Answer all the questions**

**Answer should not exceed 600 words or three pages**

**3x12=36**

- 10 a Organise the three stages of the formation of spermatids CO1K4  
OR
- 10 b Recite the changes that occur during the transformation of spermatid into a spermatozoa CO1K5
- 11 a Trace the reason for long and elaborate growth phase in oogenesis CO2K4  
OR
- 11 b Design the morphogenetic movement with suitable diagrams. CO2K6
- 12 a Categorize the cell adhesion molecules and add a note on its significance CO2K2  
OR
- 12 b Illustrate the Brigg's and King's nuclear experiment to demonstrate nuclear potency CO3K3