

**November 2025**  
**M.Sc.**  
**First Semester**  
**CORE – 04**  
**ZOOLOGY**  
*Course Code: MZOC 1.41*  
(Developmental Biology)

Total Mark: 70

Pass Mark: 28

Time: 3 hours

Answer five questions, taking one from each unit.

**UNIT-I**

1. Give an account of the mechanism of developmental commitment and add a note on stem cell. 10+4=14
2. Write a note on each of the following: 7×2=14
  - (a) Organiser-induction
  - (b) Genomic equivalence

**UNIT-II**

3. Describe in detail the process of spermatogenesis with a schematic diagram. 12+2=14
4. Elaborate the process of gastrulation and formation of germ layer in chick. 8+6=14

**UNIT-III**

5. Explain in detail the formation of axis pattern in *Drosophila*. 14
6. Write a note on each of the following: 7×2=14
  - (a) Vulva formation in *C. elegans*
  - (b) Development of brain in vertebrate

**UNIT-IV**

7. Discuss the different stages of menstrual cycle that occur in human with a diagrammatic representation. 12+2=14

8. Write a note on each of the following: 7×2=14  
(a) Puberty and the role of hormones  
(b) Causes and treatment of male sterility

### UNIT-V

9. Elaborate the different types of contraceptive methods for male and female. 7+7=14
10. Write a note on each of the following: 7×2=14  
(a) Teratogenic agents  
(b) Vasectomy
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