

2022
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 on totipotency and pluripotency. Add a note on cytoplasmic determinants. 8+6=14
2. Write notes on the following: 7×2=14
 - (a) Nuclear transplantation
 - (b) Cell hybridization

UNIT-II

3. Elaborate the fertilization in sea urchin. Add a short note on vitellogenesis. 9+5=14
4. Describe the process of gastrulation in amphibia and mention its significance. 10+4=14

UNIT-III

5. Elaborate neurulation process in zebra fish. Add a note on axis pattern formation in *Drosophila*. 8+6=14
6. Write notes on the following: 7×2=14
 - (a) Epimorphic regeneration of salamander limbs
 - (b) Compensatory regeneration in mammalian liver

UNIT-IV

7. Discuss in detail about the effect of photoperiod in the breeding cycle of vertebrate. 14
8. Explain the origin, cause, and the treatment of male sterility. 14

UNIT-V

9. Write notes on the following: 7×2=14
(a) Types of implantation
(b) Types of stem cell
10. Describe in detail about the assisted reproductive technology of IVF.
Add a note on embryo transfer. 9+5=14
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