

Bs/ZOO/C13T

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(FYUGP)

(6th Semester)

ZOOLOGY

(MAJOR)

Paper : ZOO/C13T

(Developmental Biology)

Full Marks : 75

Pass Marks : 40%

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

1. Explain the different phases of development from fertilization to organogenesis highlighting their biological significance. 15

Or

Explain the role of cytoplasmic determinants in early embryonic development. How do they bring about asymmetrical cell division?

(2)

2. Illustrate with the help of a well-labelled diagram, the process of oogenesis. 15

Or

Write short notes on any *two* of the following : $7\frac{1}{2} \times 2 = 15$

- (a) Types of eggs
 - (b) Patterns of cleavage
 - (c) Planes of cleavage
3. Describe the extraembryonic membranes in birds and their roles in embryonic development. 15

Or

What is a placenta? Explain the functions of placenta. Classify placenta with suitable examples. $2+5+8=15$

4. Discuss the concept of ageing. Explain in detail the major theories of ageing with significance and limitations. $2+13=15$

Or

Explain metamorphosis in insects. Elaborate in detail the hormonal regulation of insect metamorphosis. $7\frac{1}{2}+7\frac{1}{2}=15$

(3)

5. Explain embryonic stem cells (ESCs) in detail. Add a note on the ethical issues associated with their use. 10+5=15

Or

What is amniocentesis? Outline the procedure, clinical applications and limitations of amniocentesis. 2+13=15

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