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BSCZOC 354

**Credit Based Sixth Semester B.Sc. Degree Examination, September 2022
(Semester Scheme) (2020 – 21 and Earlier Batches)
ZOOLOGY – VII
Reproductive Biology and Developmental Biology**

Time : 3 Hours

Max. Marks : 80

Instructions : a) Answer **any ten** questions from Part – **A** and **one full** question from **each** Unit of Part – **B**.
b) Draw diagrams **wherever** necessary.

PART – A

- I. Answer **any ten** of the following. **(10×2=20)**
- Name the phases of menstrual cycle.
 - What is a hermaphrodite ?
 - What is Thelytoky ? Give an example.
 - What is monospermy and polyspermy ?
 - Write the scope of embryology.
 - What is coeloblastula ?
 - List four derivatives of ectoderm.
 - Why dorsal lip of blastopore is called organizer ?
 - What are morphogenetic movements ? Mention any two of them.
 - Name any two histological types of Placenta.
 - What is ovulation ? Name the hormone responsible for it.
 - Write the functions of FSH.

PART – B

Unit – 1

- II. a) Enumerate the significance of parthenogenesis. **4**
- b) Draw a neat labeled diagram of female reproductive system. **4**
- c) With a diagrammatic representation, explain the various phases of spermatogenesis up to formation of spermatids. **7**

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- III. a) List any three differences between spermatogenesis and oogenesis. 3
b) Explain secondary sexual characters with reference to humans. 5
c) Give an account of IVF-ET. 7

Unit – 2

- IV. a) Explain various laws of cleavage. 4
b) Write notes on Fertilizin and Antifertilizin. 4
c) Explain any 2 theories of development giving experimental evidences. 7
- V. a) Write the significance of fertilization. 3
b) Write a short note on Holoblastic Cleavage and Meroblastic Cleavage. 5
c) With the help of neat labeled diagrams, explain Acrosome reaction and sperm penetration. 7

Unit – 3

- VI. a) Explain the cleavage in chick with suitable illustrations. 4
b) Explain 18 hour chick embryo with labeled diagram. 4
c) Give an account of gastrulation in frog with suitable diagram. 7
- VII. a) Draw a neat labeled diagram of blastula of frog. 3
b) Explain the theories of organizer phenomenon. 5
c) Explain the structure of hen's egg with a neat labeled diagram. 7

Unit – 4

- VIII. a) Explain the structure of human blastocyst with a labeled diagram. 4
b) Name the hormones of ovary and explain their role in reproduction. 4
c) With neat labeled diagrams, describe the morphological types of placenta with examples. 7
- IX. a) Write a note on Amnion. 3
b) Explain the structure, development and function of yolk sac. 5
c) Explain the structure of human sperm with a neat labeled diagram. 7
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