

Reg. No. :

Code No. : 30571 E Sub. Code : CMZO 51

B.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2023.

Fifth Semester

Zoology — Core

DEVELOPMENTAL ZOOLOGY

(For those who joined in July 2021 – 2022)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Tell the name of an egg without yolk
 - (a) Alecithal
 - (b) Microlecithal
 - (c) Megalecithal
 - (d) Macrolecithal

2. Select the process of formation of gametes
 - (a) Oogenesis
 - (b) Spermatogenesis
 - (c) Gametogenesis
 - (d) Vitallogenesis

3. Select the movement of cell on the surface of an embryo
 - (a) Epiboly
 - (b) Emboly
 - (c) Involution
 - (d) Evagination
4. Choose the cavity inside the gastrula
 - (a) archenteron
 - (b) blastocoel
 - (c) haemocoel
 - (d) lysocoel
5. Identify the derivatives of skin epidermis and sense organs
 - (a) ectoderm
 - (b) endoderm
 - (c) mesoderm
 - (d) chordomesoderm
6. Cotyledonary placenta is seen in _____
 - (a) Rodent
 - (b) Horse
 - (c) Cow
 - (d) Shark
7. Choose the following which provides nutrition to the developing embryo
 - (a) Yolk sac
 - (b) Albumin
 - (c) Globulin
 - (d) Vitelline membrane
8. Match the competence concept with the following
 - (a) Waddington
 - (b) Robertson
 - (c) De vries
 - (d) Lamark

9. Select the oldest method of producing test tube baby
 - (a) Fruity method
 - (b) Gift method
 - (c) Electrophoration
 - (d) Laproscopic method
10. When the twin developed from two independent zygote is called _____
 - (a) Fraternal twin
 - (b) Maternal twin
 - (c) Siamese twin
 - (d) Clone

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b). Not exceeding one page.

11. (a) Associate the fertilizin and antifertilizin reaction.

Or

 (b) Explain parthenogenesis.
12. (a) Illustrate the salient features of cleavage.

Or

 (b) Write short note on fate map.
13. (a) Write a note on the development of brain in frog.

Or

 (b) Explain the amnion and its uses.
14. (a) Elaborate the gradient hypothesis of induction.

Or

 (b) Explain briefly about the competence.

15. (a) Explain the causes of infertility and its types.

Or

(b) Explain briefly about erythroblastosis foetalis.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

16. (a) Elaborate the various phases of Oogenesis.

Or

(b) Discuss the types of eggs based on the Yolk distribution.

17. (a) Discuss the Patterns of cleavage.

Or

(b) Describe the gastrulation in frog.

18. (a) Describe the development of Heart in frog.

Or

(b) Classify the placenta based on the foetal membrane.

19. (a) Explain the embryonic stem cells and its significance.

Or

(b) Explain the Blastema formation and its significance.

20. (a) Discuss the various steps involved in Embryo transfer.

Or

(b) Discuss the steps involved in *In Vitro* fertilization.