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**Reg. No. :** .....

**Code No. : 10698 E      Sub. Code : JMZO 21/  
SMZO 21**

B.Sc. (CBCS) DEGREE EXAMINATION,  
NOVEMBER 2020.

Second Semester

Zoology — Main

DEVELOPMENTAL ZOOLOGY

(For those who joined in July 2016 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. The primordial germ cells arise from germinal epithelium of gonads is stated by
  - (a) Waldayer
  - (b) Allen
  - (c) Wihelhm
  - (d) Sylt

2. The part of sperm which helps in the entry into egg is
- (a) Acrosome
  - (b) Mitochondrial cloud
  - (c) Tail
  - (d) All of these
3. The developmental stage of chick embryo resemble as question mark in
- (a) 24 hours                      (b) 48 hours
  - (c) 72 hours                      (d) 96 hours
4. Technique used to find out the sex of the developing embryo as early as the third month
- (a) Accupuncture technique
  - (b) Amniocentesis
  - (c) Antisense technique
  - (d) All of these
5. The brain of chick is derived from the layer of
- (a) Endoderm                      (b) Ectoderm
  - (c) Mesoderm                      (d) Both (a) and (b)
6. The muscle layer of developing heart is refused as
- (a) Endocardium                      (b) Epicardium
  - (c) Myocardium                      (d) Mesocardium

7. The Chief change occur during amphibian metamorphosis is
- (a) Ecological changes
  - (b) Morphological changes
  - (c) Physiological and biochemical changes
  - (d) All of these
8. The type of placenta present in elephant, cat and dog belongs
- (a) diffuse placenta
  - (b) cotylendonary placenta
  - (c) zonary placenta
  - (d) discoidal placenta
9. Regeneration of entire organism from small piece of tissue is referred as
- (a) Epimorphosis      (b) Morpholaxis
  - (c) Heteromorphosis   (d) Super regeneration
10. One of the following is physical barrier of birth control
- (a) Tube ectomy      (b) Copper-T
  - (c) Niroth usage      (d) Both (b) and (c)

PART B — ( $5 \times 5 = 25$  marks)

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

Each answer should not exceed 250 words.

11. (a) Analyse the scope of developmental zoology.

Or

- (b) Describe the structure of Chick-sperm.

12. (a) What is fate map? Explain how it is constructed and comment on its applications.

Or

- (b) Explain infertility with reference to sex causes and types.

13. (a) With example distinguish primary and secondary organizers.

Or

- (b) Evaluate the organizer concept.

14. (a) Write an account on types of extra-embryonic membranes.

Or

- (b) Describe the development of Chorion and yolk sac in chick.

15. (a) Explain the experimental procedure in nuclear transplantation in *Acetabularia* and its outcome.

Or

- (b) Define regeneration and explain its types with example.

PART C — ( $5 \times 8 = 40$  marks)

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

Each answer should not exceed 600 words.

16. (a) What is parthenogenesis? Explain the types and biological significances.

Or

- (b) Explain the phases of Oogenesis.

17. (a) Explain the steps involved in invitro fertilization and comment on its merits and demerits.

Or

- (b) With neat sketch explain the characteristic feature of 72 Hr chick embryo.

18. (a) Describe the development of brain in chick.

Or

- (b) With sketches explain the development of heart.

19. (a) Discuss the hormonal control of amphibian metamorphosis.

Or

- (b) Classify placenta on the basis of tissues involved with example.

20. (a) Narrate the sequential steps involved in regeneration of frog.

Or

- (b) Write essay on Birth control methods.
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