

SUBJECT CODE: 15ZL/MC/DB34

B.Sc. DEGREE EXAMINATION - NOVEMBER 2019  
BRANCH VI A – ADVANCED ZOOLOGY & BIOTECHNOLOGY  
THIRD SEMESTER

COURSE : MAJOR CORE  
PAPER : DEVELOPMENTAL BIOLOGY  
TIME : 3 HOURS

MAX. MARKS: 100

SECTION - A

ANSWER ALL THE QUESTIONS.

(10 x 3 = 30)

1. State the following theories: a) Epigenetic b) Recapitulation
2. Fill in the blanks:
  - a) The process by which the zygote is transformed into a multicellular and well organized being is called\_\_\_\_\_.
  - b) Sertoli cells provide \_\_\_\_\_ to the developing sperms.
  - c) Zonapellucida is a \_\_\_\_\_ egg membrane.
3. What are the following: a) Polyspermy b) Implantation c) Viviparity
4. Differentiate between Coeloblastula and Amphiblastula.
5. Define the following: a) Oogenesis b) Parthenogenesis c) Retrogressive Metamorphosis
6. Mention the function of the following hormones: a) Ecdysone b) Fertilizin c) Progesterone
7. Differentiate between Arrhenotoky and Thelytoky.
8. Comment on the following in one or two lines: a) Surrogacy b) Cryopreservation c) Cloned babies.
9. Differentiate between the following grafts: a) Autograft b) Allograft c) Xenograft.
10. List any three causes of infertility in man.

SECTION - B

ANSWER ANY FIVE QUESTIONS.

(5 x 6 = 30)

11. Draw and describe the structure of mature spermatozoa.
12. Give an account on the types of Eggs. Add a note on the functions of Yolk.
13. Write a short note on the construction of Fate Maps with suitable examples.

14. Briefly describe the types of metamorphosis recognized in Insects.
15. Describe the different types of morphogenetic movements occurring during gastrulation.
16. Write short notes on mesodermal derivatives.
17. Regeneration is a means of reproduction in some animals. Illustrate with three examples

**SECTION - C**

**ANSWER ANY TWO QUESTIONS.**

**(2 x 20 = 40)**

18. Describe the process of Fertilization. What is its significance?
19. Give an account of the cleavage patterns and the various factors influencing the same.
20. Give a detailed account of the development and differentiation of the brain of frog.
21. Write in detail the various processes involved in Artificial Reproduction Technology. Add a note on the ethical issues.

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