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20UZY507

FOR THE CANDIDATES ADMITTED
DURING THE ACADEMIC YEAR 2020 ONLY)

REG.NO

NGM COLLEGE (AUTONOMOUS) POLLACHI

END-OF-SEMESTER EXAMINATIONS: DECEMBER-2022

B. Sc-ZOOLOGY **MAXIMUM MARKS: 70**

V SEMESTER **TIME: 3 HOURS**

PART III

DEVELOPMENTAL BIOLOGY

SECTION – A (10 X1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS

MULTIPLE CHOICE QUESTIONS (K1)

1. The theory of preformation was proposed by _____
   a) Hippocrates b) Ernst Haeckel c) Darwin d) Aristotle
2. The first cleavage in frog is _____
   a) Meridional b) Vertical c) Equatorial d) Latitudinal
3. During organogenesis heart of frog originates from _____
   a) endoderm b) ectoderm c) mesoderm d) dermis
4. Find the hormone involved in insect metamorphosis _____
   a) Ecdysone b) PTTH c) juvenile d) All the above.
5. Name any two defining features of stem cells_____
   a) Meiosis b) Self-renewal c) Mitosis d) Proliferation

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES (K2)

6. Define the term developmental Biology.
7. What is fate map?
8. Tell about organogenesis.
9. List out any two animals that exhibit metamorphosis.
10. Explain MOET.

SECTION – B (5 X 4 = 20 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K3)

11. a) Write a neat sketch Spemann's experiment on organizer.

(OR)

b) Differentiate between natural and artificial parthenogenesis.

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12. a) Write a suitable diagram, illustrate the pattern of cleavage in frog.

(OR)

b) Briefly explain the process of morphogenetic movements of a cell.

13. a) Narrate the significance of fetal membrane in chick.

(OR)

b) Give a diagrammatic illustration on development of chick 48 hours of incubation.

14. a) Discuss in detail about the neoteny & its evolutionary significance.

(OR)

b) Explain briefly about the metamorphis of a frog.

15. a) Discuss on the cloning of animals by nuclear transfer .

(OR)

b) Illustrate the methods adopted for screening of genetic disorder.

SECTION – C (4 X 10 = 40 MARKS)

ANSWER ANY FOUR OUT OF SIX QUESTIONS.
(16TH QUESTION IS COMPULSORY AND ANSWER ANY THREE QUESTIONS FROM Q.NO: 17 TO 21) (K4) OR (K5)

16. Enlist the significance of fertilization.

17. Give a detailed account of oogenesis.

18. Explain the process of gastrulation.

19. Give a detailed account in the development of heart in frog.

20. Discuss the placentation in mammals.

21. Elaborate the embryonic stem cell culture and its applications.

A-11 **********

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