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SUBJECT CODE NO: - F-6046
FACULTY OF SCIENCE AND TECHNOLOGY
M.Sc. (Sem-IV) (Zoology)
Examination December/January-2022-23
Developmental Biology-511

[Time: 3:00 Hours]

[Max. Marks:80]

Please check whether you have got the right question paper.

N. B

- 1) Part A is compulsory.
- 2) Attempt any five questions from Part B
- 3) Draw neat labelled diagram wherever necessary.

Part A

Q1 Multiple choice questions.

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1. Alveolar cells of the lung arise from -----
 - a) Endoderm
 - b) Ectoderm
 - c) Mesoderm
 - d) Epiderm
2. Cell specialization process is called -----
 - a) Crypto preservation
 - b) Differentiation
 - c) Proliferation
 - d) Gastrulation
3. The ability of the neuron to respond to a stimulus is known as -----
 - a) Flexibility
 - b) Conductivity
 - c) Excitability
 - d) Capability
4. Zygote is formed in the ----- part of fallopian tube.
 - a) Filarial
 - b) Hepatic
 - c) Ampullary
 - d) Deferentia
5. The polar body is -----
 - a) Another name of an egg cell
 - b) The cell produced when fertilization occurs.
 - c) A precursor cell that becomes an egg cell
 - d) Non-functional cell made at the same time as an egg cell
6. Lyon hypothesis is related to which of the following?
 - a) Genetic incompatibility
 - b) Number of Barr bodies
 - c) Genetic compatibility
 - d) Centromeres position

7. Solid ball structure of cell produced by repeated cleavage is called -----
 - a) Blastula
 - b) Coasterula
 - c) Morula
 - d) neurula

8. Mesoderm gives rise to all the structures except -----
 - a) Circulatory system
 - b) Muscular system
 - c) Gonads
 - d) Nervous system

9. Which of the following is not an RHG family protein?
 - a) Rad 51
 - b) Hid
 - c) Grim
 - d) Sickle

10. In chick development, the cell movement during gastrulation is called -----
 - a) Invagination
 - b) Involution
 - c) Epiboly
 - d) Ingression

Part B

- | | |
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| Q2 Describe the process of spermatogenesis in mammals. | 12 |
| Q3 Write an account on the nuclear transplantation experiments of Briggs and King. | 12 |
| Q4 Explain the process of fertilization in sea urchin. | 12 |
| Q5 Describe the post embryonic larval development and metamorphic. | 12 |
| Q6 Describe the patterns of embryonic cleavage. | 12 |
| Q7 Describe the process of gastrulation in chick. | 12 |
| Q8 Describe in detail vulva formation in caenorhabditis elegans. | 12 |