

M.Sc. ZOOLOGY
SECOND SEMESTER [SPECIAL REPEAT]
DEVELOPMENTAL BIOLOGY
MSZ-204

**SET
A**

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 1hr. 30 mins.

Full Marks: 35

(Objective)

Time: 15 mins.

Marks: 10

Choose the correct answer from the following:

1×10=10

- Regeneration of a limb or tail is an example of:
 - Epimorphosis
 - Epimorphogenesis
 - Autonomy
 - Morphallaxis
- Epimorphosis is regeneration through:
 - The repatterning of existing cells as seen in hydra
 - The re initiation of division in existing cells, followed by patterning, as occurs in amphibians such as newts
 - The repatterning of existing cells as seen in amphibians
 - The re-initiation of embryonic growth from remaining cells as seen in Hydra
- Removal of thyroid rudiment at the tail bud stage results in:
 - Giant tadpole
 - Excitement
 - Monster
 - Death
- Regeneration is similar to:
 - Autotomy
 - Differentiation
 - Cleavage
 - Division
- In *C. elegans* the self-fertilized eggs exit the body through:
 - Vulva
 - Valve
 - Blastula
 - Cell
- In which type of blastula, Blastomeres are structurally different?
 - Coeloblastula
 - Periblastula
 - Discoblastula
 - Amphiblastula
- Which one of the following activities is **not** found during gastrulation?
 - Oxygen consumption increases
 - Cell division increases
 - New types of protein is formed
 - Rearrangement of cells occur
- Which one of the following cleavage pattern is Meroblastic?
 - Rational
 - Spiral
 - Superficial
 - Bilateral
- Epidermal stem cells of adult is categorized under:
 - Totipotent
 - Pluripotent
 - Unipotent
 - Multipotent

10. Which part of the mammalian Blastocyst takes part in placenta formation?
- a. Syncytiotrophoblast
 - b. Cytotrophoblast
 - c. Inner cell mass
 - d. Blastocoel

(Descriptive)

Time : 1 hr. 15 mins.

Marks : 25

[Answer question no.1 & any two (2) from the rest]

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| 1. Discuss briefly about the formation of vulva in <i>C.elegans</i> with neat labelled sketches. | 5 |
| 2. Elucidate in detail about the phenomenon of metamorphosis in vertebrates citing suitable examples. | 10 |
| 3. Discuss briefly about regeneration in animals citing suitable examples. | 10 |
| 4. What are morphogenetic movements of embryonic cells? Describe the types of morphogenetic movements occur during gastrulation. | 2+8=10 |
| 5. Write about the types of placenta found in mammals. Mention its functions. | 8+2=10 |

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