A-1072

Total Pages : 03 **Roll No. ----------**

MSCZO-602

Developmental Biology

M.Sc. Zoology (MSCZO)

Examination 2026(Feb.)

Time: 2:00 hrs Max. Marks: 70

Note: This paper is of Seventy (70) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein. Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.

Section-A

(Long-Answer-Type Questions)

Note: Section 'A' contains Five (05) long-answer-type questions of Nineteen (19) marks each. Learners are required to answer any two (02) questions only.

[2x19=38]

P.T.O.

Q.1. Describe morphogenetic movements during gastrulation.

Q.2. Classify, with examples, the various types of eggs found in the vertebrates.

Q.3. Define teratogenesis and discuss the genetic and environmental mechanisms that cause developmental abnormalities.

Q.4. Discuss the physiological and biochemical changes during amphibian metamorphosis and explain the hormonal control involved.

Q.5. Discuss the concept of embryonic induction and the primary organizer. Describe Spemann's organizer experiment and the nature of inductive signals.

Section-B

(Short-Answer-Type Questions)

Note: Section 'B' contains Eight (08) short-answer-type questions of Eight (08) marks each. Learners are required to answer any Four (04) questions only.

[4x8=32]

Q.1. Describe the process of gastrulation and the formation of the three primary germ layers.

Q.2. Explain the mechanism of regeneration of amphibian limb.

Q.3. Describe the epidermal/cortical granules in an egg cell. How do they contribute to block of polyspermy?

Q.4. Compare morulation and blastulation in frog and rabbit.

Q.5. What are somites and what roles do they play in embryogenesis?

Q.6. What is the roles of acrosome in fertilization? How does it facilitate sperm penetration?

Q.7. Give an account of metaplasia and give biological examples.

Q.8. Describe the concept of Phenocopying in the context of developmental biology.

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