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Name.....

Reg. No.....

**THIRD SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY)  
EXAMINATION, NOVEMBER 2022**

(CBCSS)

Zoology

**ZOL 3C 08—DEVELOPMENTAL BIOLOGY AND ENDOCRINOLOGY**

(2019 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

**Part A**

I. Answer any *four* of the following. Each question carries 2 weightage :

- 1 What is grey crescent ?
- 2 What are cytoplasmic determinants ?
- 3 What are embryonic fields ?
- 4 Explain the relation between aging and insulin signaling cascade.
- 5 Elucidate the role of kidney as an endocrine organ.
- 6 Write on the hormones involved in lactation.
- 7 Give an account on endorphins and their physiological roles.

(4 × 2 = 8 weightage)

**Part B**

II. Answer any *four* of the following. Each question carries 3 weightage :

- 8 Write on the anterior posterior axis formation in *Drosophila*.
- 9 What is meant by determination, commitment and specification in developmental biology ?
- 10 Explain the process of eye lens induction.
- 11 Describe the strategies involved in the prevention of polyspermy.
- 12 Explain the impact of teratogens on normal development.
- 13 Give an account on the structure, functions and disorders of hypothalamus.
- 14 Write an account on the second messengers of hormone action.

(4 × 3 = 12 weightage)

**Turn over**



**Part C**

I. Answer any *two* of the following. Each question carries 5 weightage :

- 15 Describe the synthesis, chemistry, metabolism and functions of androgens.
- 16 Write an essay on metamorphosis and its hormonal control in insects.
- 17 Explain the process of gametogenesis. Give a brief summary of events leading to fusion of sperm cell membranes in sea urchin and mammals.
- 18 Write on the mechanisms involved in differential gene transcription.

(2 × 5 = 10 We