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(Pages : 2)

Name.....

Reg. No.....

THIRD SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY) EXAMINATION, NOVEMBER 2021

(CBCSS)

Zoology

ZOL 3C 08—DEVELOPMENTAL BIOLOGY AND ENDOCRINOLOGY

(2019 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

General Instructions

1. *In cases where choices are provided, students can attend* **all** *questions in each section.*
2. *The minimum number of questions to be attended from the Section / Part shall remain the same.*
3. *The instruction if any, to attend a minimum number of questions from each sub section / sub part / sub division may be ignored.*
4. *There will be an overall ceiling for each Section / Part that is equivalent to the maximum weightage of the Section / Part.*

Part A

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

1 What are segmentation genes in *Drosophila* development ?

2 What is meant by specification in developmental biology ?

3 Comment on heterochrony.

4 Explain the effect of retinoic acid as a teratogen.

5 Give a brief account on hormones involved in pregnancy and parturition.

6 What are G protein-linked receptors ?

7 What are Pheromones ?

(4 × 2 = 8 weightage)

Turn over

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

8 Distinguish between competence and induction. Add an account on differen inductive interactions.

9 What is Regeneration ? Give an account on different types of regeneration.

10 What are imaginal discs ? Explain the sequence of events involved in the devel an imaginal disc in *Drosophila*.

11 Write on environmental regulation of normal development.

12 Briefly describe the structure and functions of thyroid gland. Add a note pathophysiology of the gland.

13 Write on the mechanisms involved in the regulation of hormone secretion.

14 What are brain hormones ? Elucidate their role in behavior.

(4 × 3 = 12 we

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

15 Write on the synthesis, chemistry and functions of steroid hormones.

16 Explain the process of limb development in vertebrates with a suitable example

17 Write an essay on the biochemistry and physiology of fertilization.

18 Explain the control of gene expression at the level of translation.

(2 × 5 = 10 we