

FINAL YEAR B.Sc. DEGREE EXAMINATION MARCH/APRIL 2005**Part III—Group V—Zoology****Paper III—DEVELOPMENT BIOLOGY**

Time : Three Hours

Maximum : 55 Marks

I. Answer any *ten* of the following :—

- 1 What is Ontogeny ?
- 2 Distinguish between fertilizin and antifertilizin.
- 3 What is polyspermy ?
- 4 What is polarity ?
- 5 Distinguish between holoblastic and meroblastic cleavage.
- 6 What is thelytoky ?
- 7 Explain the role of grey crescent.
- 8 What is heteromorphosis ?
- 9 Distinguish between telolecithal and centrolecithal eggs.
- 10 Explain the process of amphimixis in brief.
- 11 What is cell lineage ?
- 12 Distinguish between coeloblastula and discoblastula.
- 13 Define the term senescence.
- 14 What are Cortical granules ?
- 15 What is tranegenesis ?

(10 × 1 = 10 marks)

II. Answer any *five* of the following :—

- 16 Describe the fate-map of frog.
- 17 Give the significance of nuclear transplantation experiments.
- 18 What are the various factors that determining the cleavage ?
- 19 Brief the role of genes in development.
- 20 Analyse the ligative experiments of Spemann.
- 21 Highlight the significance of test-tube baby.
- 22 Explain the mechanism of morphogenetic movements in frog.
- 23 Write about the differentiation of brain in frog.

(5 × 5 = 25 marks)

III. Answer any *two* of the following :—

- 24 Describe the biochemistry and mechanism of action of hormones in insect metamorphosis.
- 25 Compare the larval forms of annelids and echinoderms.
- 26 Write a detailed account on parthenogenesis.

(2 × 10 = 20 marks)