

*This question paper contains 3 printed pages.*

5119A

Your Roll No. ....

**Subsidiary for B.Sc. Honours J**  
**I Examination**

**ZOOLOGY— Paper II**  
**(Developmental Biology and Histology)**  
**(O.C.— Admissions of 2003 and before)**

*Time :* 3 hours

*Maximum Marks :* 50

*(Write your Roll No. on the top immediately  
on receipt of this question paper.)*

*Attempt five questions in all, including  
Question No. 1 which is compulsory.*

*Attempt any two questions from Section  
A and any two from Section B.*

1. (a) Distinguish between the following:
- (i) Microlecithal and Mesolecithal egg
  - (ii) Blastula and Blastocyst
  - (iii)  $\alpha$ -cells and  $\beta$ -cells of Islets of Langerhans
  - (iv) Secondary and Graaffian follicle. 6
- (b) Name the important functions of the following:
- (i) Bile

P. T. O.

- (ii) Heparin
  - (iii) Küpfer cells
  - (iv) Chief cells. 2
- (c) Define the following:
- (i) Capacitation
  - (ii) Morphogenetic movements
  - (iii) Morpholaxis
  - (iv) Apocrine secretion. 4
- (d) Name the germinal layers from which the following are derived:
- (i) Brain
  - (ii) Liver
  - (iii) Pituitary
  - (iv) Skin. 2

#### SECTION A

2. (a) Describe the process of gastrulation in frog. 5
- (b) Draw the fate maps of a frog and a chick embryo. 4
3. Describe various types of placenta and add a note on its functions. 9
4. Write short notes on any *three* of the following:
- (i) Parthenogenesis

- (ii) Cleavage in Chick
- (iii) Role of hormones in the metamorphosis of Frog
- (iv) Types of eggs. 3,3,3

### SECTION B

5. Give a detailed account of the structure of the kidney. 9
6. Draw labelled, histological diagrams of the following:
- (i) Liver
  - (ii) Ovary
  - (iii) Small Intestine. 3,3,3
7. Write short notes on any *three* of the following:
- (i) Pancreas
  - (ii) Thymus
  - (iii) Oesophagus
  - (iv) Testis. 3,3,3