

C 40440

(Pages : 2)

Name.....

Reg. No.....

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH 2013

(CCSS)

Zoology (Core)

**ZO 6B 15—REPRODUCTIVE BIOLOGY, DEVELOPMENTAL BIOLOGY AND
TERATOLOGY**

Time : Three Hours

Maximum : 30 Weightage

I. Answer all twelve questions :

A. 1 Yolk plug in frog gastrula is formed from :

- | | |
|---------------|-----------------|
| (a) Ectoderm. | (b) Mesoderm. |
| (c) Endoderm. | (d) blastopore. |

2 In frog gastrula presumptive endoderm is in :

- | | |
|--------------------|-------------------------|
| (a) Animal pole. | (b) Vegetal hemisphere. |
| (c) Grey crescent. | (d) Below mesoderm. |

3 In chick embryo, the first somite appears in the :

- | | |
|----------------|----------------|
| (a) 18th hour. | (b) 20th hour. |
| (c) 22nd hour. | (d) 24th hour. |

4 In Amphioxus, gastrulation begins by :

- | | |
|-------------------|-----------------------|
| (a) Invagination. | (b) Epiboly. |
| (c) Delamination. | (d) Primitive streak. |

B. 5 Name a hormone which initiates parturition.

6 What is the technique of preserving semen at low temperature known as ?

7 What is the fluid filled cavity inside Graffian follicle called ?

8 Who proposed Gradient Theory ?

C. 9 In telolecithal eggs cleavage is ———.

10 Development of neural tube is induced by ———.

11 Morphogenetic movements occur during ———.

12 Optic vesicles develop from ———.

(12 × ¼ = 3 weightage)

II. Answer all nine questions :

13 Distinguish between torsion and flexion.

14 What are tertiary membranes ? Give two examples.

15 Give four functions of amnion.

Turn over

- 16 What is neurenteric canal ?
- 17 What ethical issues are involved in pre, natal diagnosis ?
- 18 What is meroblastic cleavage ?
- 19 What is inner cell mass ?
- 20 What is a vegetalised embryo ?
- 21 What is a fate map ?

(9 × 1 = 9 weightage)

III. Answer any five questions :

- 22 Explain the hormonal control of menstrual cycle
- 23 Describe Spemann's constriction experiments.
- 24 Trace the lineage of the mesentoblast cell in *Planocera*.
- 25 Sketch and label the different stages in the gastrulation of *Amphioxus*.
- 26 Explain spiral cleavage.
- 27 Explain the theory of epigenesis.
- 28 Explain neurulation in frog gastrula.

(5 × 2 = 10 weightage)

IV. Answer any two questions :

- 29 Explain the development of extra-embryonic membranes in chick. Mention two functions of each.
- 30 Give an account of natural parthenogenesis. What is the significance of parthenogenesis ?
- 31 Describe the different types of placenta based on distribution of villi and nature of histological intimacy.

(2 × 4 = 8 weightage)