

**SIXTH SEMESTER B.A./B.Sc. DEGREE EXAMINATION, MARCH 2020**

(CUCBCSS—UG)

Zoology

**ZOL 6B 13—REPRODUCTIVE BIOLOGY, DEVELOPMENTAL BIOLOGY AND TERATOLOGY**

Time : Three Hours

Maximum : 80 Marks

**Part A****I. One Word Questions. Answer *all* questions :**

- 1 A species is considered \_\_\_\_\_ if it is characterized by a single reproductive episode before death.
- 2 The development of foetus within the uterus of the mother is known as \_\_\_\_\_ period.
- 3 If a woman legally agrees to become pregnant and give birth to a child for another person, it is called \_\_\_\_\_.
- 4 The branch of science that deals with developmental disorders is called \_\_\_\_\_.
- 5 The growth and development of an individual from an egg involves a gradual differentiation and an increase in diversity. This is the theory of \_\_\_\_\_.
- 6 Zona pellucida in mammalian egg is a \_\_\_\_\_ egg membrane.
- 7 In the development of amphibian embryo \_\_\_\_\_ is said to be the primary organizer.
- 8 The type of parthenogenesis in which egg develops into male is called \_\_\_\_\_.
- 9 A cell which has no fixed developmental potential is known as \_\_\_\_\_.
- 10 The floating egg mass of frog is called \_\_\_\_\_.

(10 × 1 = 10 marks)

**Part B****II. Short Answer Questions. Answer any *ten* :**

- 11 What are the effects of alcohol on animal development ?
- 12 What is chorionic villus sampling ?
- 13 Write on two methods of artificial insemination.
- 14 What is sex reversal ?

**Turn over**

- 15 Write on the composition of human semen.
- 16 What is a centrolecithal egg ?
- 17 What is embryonic induction ?
- 18 Comment on primitive streak in chick embryo.
- 19 What are hox genes ?
- 20 What do you mean by artificial parthenogenesis ?
- 21 Citing examples distinguish between holoblastic and meroblastic cleavage.
- 22 Mention the salient features of the chick embryo at 33 hours.

(10 × 2 = 20 marks)

### Part C

#### III. Paragraph Questions. Answer any *five* :

- 23 Explain the structure and functions of graafian follicle.
- 24 Write a concise account on Assisted Reproductive Technologies.
- 25 Give a brief description on artificial fertility control methods.
- 26 Describe the gradient experiments in sea urchin.
- 27 Elaborate on gene action during development.
- 28 Elucidate different types of blastula.
- 29 Explain the cleavage, development of blastocyst and implantation in man.
- 30 Describe the process of fertilization in frog.

(5 × 6 = 30 marks)

### Part D

#### IV. Essay Questions. Answer any *two* :

- 31 Explain menstrual cycle and its hormonal control.
- 32 Describe the development and functions of the extra-embryonic membranes in chick.
- 33 Elucidate the gastrulation and the formation of germ layers in frog.
- 34 Elaborate on the cleavage, blastulation and gastrulation in *Amphioxus*.

(2 × 10 = 20 marks)