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Name.....

Reg. No.....58.....

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH/APRIL 2015

(UG-CCSS)

Core Course

Zoology

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

Time : Three Hours

Maximum : 30 Weightage

I. Answer all *twelve* questions :

A. Multiple choice questions :

1 Which of the following is a maternal effect gene ?

- (a) Elunchback. (b) Bicoid.
(c) Kruppel. (d) Antennapedia.

2 The egg of frog is :

- (a) Alecithal. (b) Isolecithal.
(c) Telolecithal. (d) Centre lecithal.

3 The ruptured Graafian follicle functioning as endocrine gland :

- (a) Corpus haemorrhagicum. (b) Corpus luteum.
(c) Corpus albicans. (d) Corona radiata.

4 Mammalian embryonic stem cells are :

- (a) Totipotent. (b) Pluripotent.
(c) Unipotent. (d) Non-viable.

B. Name the following :—

5 The hormone responsible for amphibian metamorphosis.

6 The broad plate-like white yolk seen under the germ disc in hen's egg.

7 The endometrial layer that is shed during menstruation.

8 A non-invasive prenatal diagnostic technique.

C. Fill in the blanks :

9 The fusion of male and female pronuclei is called _____.

10 The reversal of differentiated cells into the embryonic totipotent condition is called _____.

Turn over

11 _____ is the reproductive cycle in non-primate females.

12 _____ is the syndrome caused by the administration of thalidomide.

(12 x 1/4 = 3 weightage)

II. Answer all *nine* questions :

13 What is atresia ?

14 What is fate map ?

15 What is blastocyst ?

16 What is embryonic induction ?

17 Name the four extra-embryonic membranes in chick.

18 What is meroblastic discoidal cleavage ?

19 What is theory of epigenesis ?

20 What is GIFT ?

21 Mention the four important functions of allantois.

(9 x 1 = 9 weightage)

III. Answer any *five* questions :

22 With the help of a neatly labeled diagram explain the structure of Graafian follicle.

23 Describe primitive streak in chick. Give a note on its significance.

24 Give an account of Spemann's constriction experiments.

25 Differentiate between arrhenotoky and thelytoky.

26 Illustrate the different morphogenetic movements in the gastrulation in frog.

27 Explain amniocentesis.

28 What are homoeotic genes ? Explain their significance.

(5 x 2 = 10 weightage)

IV. Answer any *two* questions :

29 Write an essay on the different phases of menstrual cycle and their hormonal control.

30 Describe the different types of regeneration. Explain the histological and cytological events in regeneration and the factors affecting them.

31 What is cleavage ? Write an essay on the different types of cleavage with suitable examples.

(2 x 4 = 8 weightage)