

SIXTH SEMESTER (CUCBCSS—UG) DEGREE EXAMINATION  
MARCH 2021

## Zoology

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

Time : Three Hours

Maximum : 80 Marks

*Draw diagrams wherever required.*

**Section A**

*Answer all questions.*

*Each question carries 1 mark.*

1. The series of events bringing about the emptying of uterus and termination of pregnancy is called \_\_\_\_\_.
2. On the basis of histological intimacy, human placenta is classified as \_\_\_\_\_.
3. The rupture of the graafian follicle with consequent discharge of the ovum is called \_\_\_\_\_.
4. At the anterior end of the primitive streak in chick embryo, there is a knob like structure called \_\_\_\_\_ node.
5. The fusion of gametic nuclei in frog is called \_\_\_\_\_.
6. The ability of a single cell to divide and produce all of the differentiated cells in an organism is known as \_\_\_\_\_.
7. \_\_\_\_\_ mapping is a method used in developmental biology to study the embryonic origin of various body tissues.
8. Cartilage is formed from \_\_\_\_\_ primary germ layer.
9. Vitelline membrane found in the egg of majority of animals is \_\_\_\_\_ egg membrane.
10. \_\_\_\_\_ is the branch of science which deals with the study of developmental abnormalities.

(10 × 1 = 10 marks)

**Turn over**

**Section B**

*Answer at least five questions.*

*Each question carries 4 marks.*

*All questions can be attended.*

*Overall Ceiling 20.*

11. Write briefly on the effects of nicotine on animal development.
12. What are the events during the proliferative stage of menstrual cycle ?
13. Distinguish between GIFT and ZIFT.
14. What is corpus albicans ?
15. What do you mean by surrogacy ?
16. Distinguish between coeloblastula and stereoblastula.
17. Giving an example, write on meroblastic cleavage.
18. What is neural crest ?
19. Mention the functions of amnion in chick.
20. What is blastocyst ?
21. What are homeotic genes ?
22. Mention the salient features of chick embryo at 24 hours.

(5 × 4 = 20 marks)

**Section C**

*Answer at least four questions.*

*Each question carries 7 marks.*

*All questions can be attended.*

*Overall Ceiling 28.*

23. Explain embryo transfer technology.
24. Describe the mechanism of spermatogenesis in human.
25. Write on the various pre-natal diagnostic methods.
26. Elucidate Spemann's constriction experiments on amphibian embryo.
27. What are stem cells ? Explain their significance and applications.

28. Define parthenogenesis. Citing examples, explain different kinds of parthenogenesis.
29. Describe cell lineage studies in *Planocera*.
30. Giving examples, write on different kinds of eggs.

(4 × 7 = 28 marks)

**Section D (Essay Questions)**

*Answer any two question.*

*Each question carries 11 marks.*

31. Elaborate on the various fertility control methods.
32. Explain the organogeny of the brain in frog.
33. Describe the development of *Amphioxus* up to gastrulation.
34. Explain gastrulation and formation of germ layers in chick.

(2 × 11 = 22 marks)