

B.Sc. 6th Semester (Honours) Examination, 2021

Subject: ZOOLOGY

Course ID: 62611

Course Code: SH/ZOO/601/C-13

Course Title: Developmental Biology

Full Marks: 25

Time: 1 Hr 15 Min

*The figures in the right hand margin indicate full marks.
Candidates are required to give their answers in their own words.*

UNIT-I

1. Answer *any five* of the following questions:

1X5=5

- a) Fertilized ovum gives rise to hundreds of different cell types in an embryo. Generation of this cellular diversity is called differentiation. Each cell in an embryo contains same set of genes called genome. How it is possible to produce different cell types?
- b) Distinguish between A-type and B-type spermatogonia.
- c) What do you mean by Manchette ?
- d) What is epiboly ?
- e) What is discoidal placenta .
- f) What is Golgi Rest ?
- g) How and why fast block and slow block to polyspermy occur and are essential?
- h) What are the physical symptoms of Foetal Alcohol Syndrome?

UNIT II

2. Answer *any two* of the following questions:

5X2=10

- a) Briefly discuss hormonally induced release of eggs from first Meiotic block . What do you mean by fertilization cone? 4+1
- b) Discuss the formation of Amnion and Chorion in chick with suitable diagram. 3+2
- c) What do you mean by teratogens? Write down the names of teratogens on the bases of drug, infectious , physical and chemical agents and types of defects caused during parturition. (1+4)

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- d) Define regeneration. Capacity of regeneration is differentially able among animal groups. State the group of animals with high capacity and restricted capacity for regeneration. Differentiate between morphallaxis and epimorphosis mechanism of regeneration. 1+2+2=5

UNIT III

3. Answer *any one* of the following questions: 10 X 1=10

a) What do you mean by Primary organiser? Discuss briefly the formation of neural tube during development of brain in chick with suitable diagram . 2+6+2

b) Frog embryo develops in water and chick embryo on land. How do specific required temperatures obtained for incubation of the fertilized egg? Is it possible for embryonic development of both in any season? Explain.

Elucidate the chick embryo development from blastula stage to gastrulation process with diagrammatic representation. (2+1+2+5)

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Signature of Moderators _____

Date _____