

**B.Sc. BIOTECHNOLOGY  
FOURTH SEMESTER  
DEVELOPMENTAL BIOLOGY  
BBT-942 [IDMn]**

**SET  
A**

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 1hr. 30 mins.

Full Marks: 35

( Objective )

Time: 15 mins.

Marks: 10

*Choose the correct answer from the following:*

*1 × 10 = 10*

1. First cell of the new individual:  
a. Zygote  
b. Blastula  
c. Embryo  
d. Morula
2. Double fertilization is due to the fusion of:  
a. Male gametes with egg and synergid  
b. Male gametes with egg and polar nuclei  
c. Male gametes with egg and secondary nucleus  
d. Male gametes with two eggs
3. In growth phase of spermatogenesis, which division occurs?  
a. Mitosis  
b. Meiosis  
c. No division  
d. Both meiosis and mitosis
4. The enlarged nucleus of the egg before completion of meiosis is known as:  
a. Oolema  
b. Ooplasm  
c. Nebernkern  
d. Germinal Vesicle
5. In Alecithal egg:  
a. Yolk is in small amount  
b. Yolk is in moderate amount  
c. Yolk is absent  
d. Yolk is in large amount
6. The three parts of Uterus are:  
a. Endometrium, Myometrium, Ectometrium  
b. Ampulla, Isthmus, Infundibulum  
c. Fundus, Body, Cervix  
d. Cortex, Medulla, Germinal Epithelium
7. What is the function of germ pore?  
a. Emergence of radicle  
b. Absorption of water for seed germination  
c. Initiation of pollen tube  
d. Release of male gametes
8. Oogenesis starts from:  
a. Before birth  
b. After birth  
c. From puberty  
d. 2<sup>nd</sup> day after fertilization
9. Jelly coat of frog's egg is the:  
a. Primary egg membrane  
b. Secondary egg membrane  
c. Tertiary egg membrane  
d. Quaternary egg membrane

10. Father of Animal Embryology.

- a. Karl Lagerfeld
- c. Karl Von Baer

- b. Karl Jacobs
- d. Karl Marx

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**( Descriptive )**

Time : 1 hr. 15 mins.

Marks : 25

[ Answer question no.1 & any two (2) from the rest ]

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| 1. Discuss about the different types of eggs.  | 5      |
| 2. Draw and label the structure of human sperm and the structure of mature human egg.            | 5+5=10 |
| 3. Explain the function of tapetum and describe the development of male gametophyte.             | 2+8=10 |
| 4. Explain oogenesis and spermatogenesis.  | 5+5=10 |
| 5. Draw the structure of a typical anatropous ovule and explain the process of megasporogenesis. | 4+6=10 |

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