2018

ZOOLOGY

(Major)

Paper : 4·1

(Developmental Biology)

Full Marks : 60

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. Answer the following as directed : 1×7=7

(a) What is Graafian follicle?

(b) The process by which the zygote develops into multicellular and well-organized being is called embryogenesis.

(State True or False)

(c) A male gamete fertilizes female gamete at uterus/oviduct/fallopian tube/vas deferens.

(Choose the correct answer)

(d) In oogenesis, _____ polar bodies are formed at the end of the meiotic division.

(Fill in the blank)

(e) In the testis, _____ are produced by interstitial cells.

(Fill in the blank)

(f) The cells which are destined to develop into gametes are called _____.

(Fill in the blank)

(g) The cleavage that bisects the egg at right angles to the main animal vegetal axis is equatorial.

(State True or False)

2. Write briefly notes on any *four* of the following : 2×4=8

(a) Fate map of frog

(b) Organizer and Induction

(c) Vitellogenesis

(d) Holoblastic and Meroblastic cleavages

(e) Corpus luteum and Corpus albicans

3. Write on any *three* of the following : 5×3=15

(a) Primary organizer

(b) Significance of placenta

(c) Parthenogenesis

(d) Neural induction

(e) Fate map construction in chick

4. Describe the process of spermatogenesis with the help of suitable diagrams. What factors control spermatogenesis? 8+2=10

Or

Describe how the ovum is activated during the process of fertilization. 10

5. What is placenta? What are the different types of placenta found in mammals? 2+8=10

Or

What is fertilization? Describe the process of fertilization in Mammalia. 2+8=10

6. Describe the various stages of embryonic development of heart in vertebrates with suitable diagrams. 10

Or

What do you understand by foetal membrane or extraembryonic membrane? Describe the functions of amnion and allantois with reference to chick embryo. 3+7=10

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