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3 (Sem 4) ZOO M1

2015

ZOOLOGY

( Major )

Theory Paper : M-4.1

Full Marks – 60

Time – 2½ hours

The figures in the margin indicate full marks  
for the questions.

Answer in English.

1. Write True or False : 1×7=7

- (a) Graffian follicle enlarges and matures under the influence of gonadotrophins.
- (b) Fluid medium is one of the fundamental requirement for the encounter of spermatozoa and egg during fertilization.
- (c) The function of fertilization membrane is to prevent the entry of subsequent spermatozoa.

[Turn over

- (d) The blastocoel permits the migration and rearrangement of presumptive organ forming areas during gastrulation.
- (e) Presence of excessive amount of yolk leads to meroblastic cleavage.
- (f) In mammals the blastomeres are of different sizes and the number of blastomeres increases by arithmetic progression.
- (g) Infiltration is the process in which individual cells detach from the surface of blastoderm and falls into the blastocoel.

2. Write short notes on : 2×4=8

- (a) Meroblastic cleavage
- (b) Corpus luteum
- (c) Embryonic induction
- (d) Fertilization cone.

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

- (a) Chemical changes during Gastrulation

- (b) Cyclic Parthenogenesis
- (c) Fate map construction in frog
- (d) Chemical changes during cleavage
- (e) Neural induction.

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

Or

Define fertilization ? Describe the process of fertilization with special reference to cortical events. 2+8=10

5. Describe the various stages of Embryonic development of either eye or heart with suitable illustrations. 10

Or

What do you mean by embryonic induction ? Describe in details the process of embryonic induction in chordates. 2+8=10

6. What is an organizer ? Describe the role of gray crescent in the process of development.

2+8=10

Or

What is placenta ? What are the different types of placenta found according to the arrangement of villi on the blastocyst of mammals. 2+8=10