

only one paper

3 (Sem-4) ZOO M 1

2013

ZOOLOGY

(Major)

Paper : 4.1

Full Marks : 60

Time : 2½ hours

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

1. Write True or False : 1×7=7

- (a) The primary sex cells contain diploid set of chromosomes.
- (b) The process of fusion of male and female pronuclei is called karyogamy.
- (c) The function of vas deferens in males is transport of sperm.
- (d) The blastomeres resulting from radial cleavage are all equal.
- (e) The external layer of gastrula is formed of presumptive ectoderm.
- (f) Acrosomal vesicle of sperm is derived from peroxisome.
- (g) The properties of the organiser is inherent in the gray crescent cortex of the egg.

2. Write short notes on : 2×4=8

- (a) Amphimixis
- (b) Deciduate placenta
- (c) Embryonic induction
- (d) Telolecithal egg

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

- (a) Artificial parthenogenesis
- (b) Spermiogenesis
- (c) Origin of polarity and symmetry
- (d) Cellular dynamics in development
- (e) Fate map construction in chick

4. Describe the process of fertilization with special reference to cortical events. 10

Or

Distinguish between spermatogenesis and oogenesis. Mention the significance of vitellogenesis in the process of development.

6+4=10

5. What is extraembryonic membrane? Describe the various functions of extraembryonic membranes. 3+7=10

Or

Describe the different developmental stages of a fertilized egg of a hen up to the formation of three germinal layers. 10

(3)

6. What do you mean by an organiser in a developing embryo? Describe the physical and chemical nature of organiser and their role in induction with suitable example. 2+8=10

Or

Describe the various stages of embryonic development of eye with suitable illustrations.

10
