Total No. of Printed Pages—7

4 SEM TDC ZOO M 3 (N/O)

2018

(May)

ZOOLOGY

(Major)

Course : 403

(Developmental Biology)

(New Course)

Full Marks : 48
Pass Marks : 14

Time : 2 hours

The figures in the margin indicate full marks for the questions

Answer Question No. **1** and *any* **three** from the rest

1. *(a)* Choose the correct answer : 1×4=4

(i) The nutritive cells found in seminiferous tubules are

(1) leydig cells

(2) sertoli cells

(3) chromaffin cells

(4) spermatogonial cells

(ii) Lampbrush chromosomes are best visualized in salamander's oocyte, because they have a

(1) high lipid content

(2) high RNA content

(3) high DNA content

(4) high protein content

(iii) The placenta in man is

(1) haemochorial

(2) epithochorial

(3) syndesmochorial

(4) haemoendochorial

(iv) An example of non-flagellate sperm is

(1) man

(2) ascaris

(3) frog

(4) rat

(b) Distinguish between the following pairs : 2×4=8

(i) Epiboly and Emboly

(ii) Holoblastic cleavage and meroblastic cleavage

(iii) Fertilizin and antifertilizin

(iv) Deciduate placenta and non-deciduate placenta

2. What do you mean by monospermic and polyspermic fertilization? Discuss how natural polyspermy is prevented by fast and slow techniques. 4+4+4=12

3. What is fate map? Describe the fate map of any vertebrate with suitable diagrams. 2+6+4=12

4. What is organogenesis? Describe the process of development of ear in any vertebrate studied by you. 2+10=12

(Continued

(Turn Over)

5. Write short notes on : $4 \times 3 = 12$

(a) Spermatogenesis

(b) Vitellogenesis

(c) Extraembryonic membranes

(Continued