

**6 SEM TDC ZOOH (CBCS) C 13**

**2 0 2 3**

( May/June )

**ZOOLOGY**

( Core )

Paper : C-13

( **Developmental Biology** )

Full Marks : 53

Pass Marks : 21

Time : 3 hours

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

1. Fill in the blanks : 1×5=5

(a) The \_\_\_\_\_ membrane is a structure surrounding the outer surface of plasma membrane of an ovum.

(b) \_\_\_\_\_ pattern arises from the spatial and temporal regulation and coordination of the events.

(c) In vertebrate, protein yolk is synthesized in \_\_\_\_\_.

( Turn Over )

( 2 )

- (d) The placental barrier between the maternal and foetal blood is minimum in \_\_\_\_\_.
- (e) \_\_\_\_\_ is the temporary connection between the maternal and foetal tissues.
2. Distinguish between the following (any two) :  
 $2 \times 2 = 4$
- (a) Capacitation and Acrosome reaction
- (b) Intra- and Inter-cellular differentiation
- (c) Genetic teratogenesis and Environmental teratogenesis
3. Write short notes on the following (any two) :  
 $5 \times 2 = 10$
- (a) IVF
- (b) Cytoplasmic determinants
- (c) Amniocentesis
4. What is gametogenesis? Discuss the various events that take place during spermatogenesis.  
 $2 + 8 = 10$
- Or
- Discuss about fertilizin-antifertilizin reaction. How can polyspermy be prevented?  
 $7 + 3 = 10$

P23/786

(Continued)

( 3 )

5. Discuss the fate of germ layers. Write a note on implantation of an embryo in human.  
 $6 + 6 = 12$

Or

What are organisers? Mention its role in the process of development. Add a note on fate map.  
 $2 + 6 + 4 = 12$

6. What is regeneration? Discuss its different modes.  
 $2 + 10 = 12$

Or

What is metamorphosis? Discuss in detail about the insect metamorphosis.  
 $2 + 10 = 12$

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P23—3000/786

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