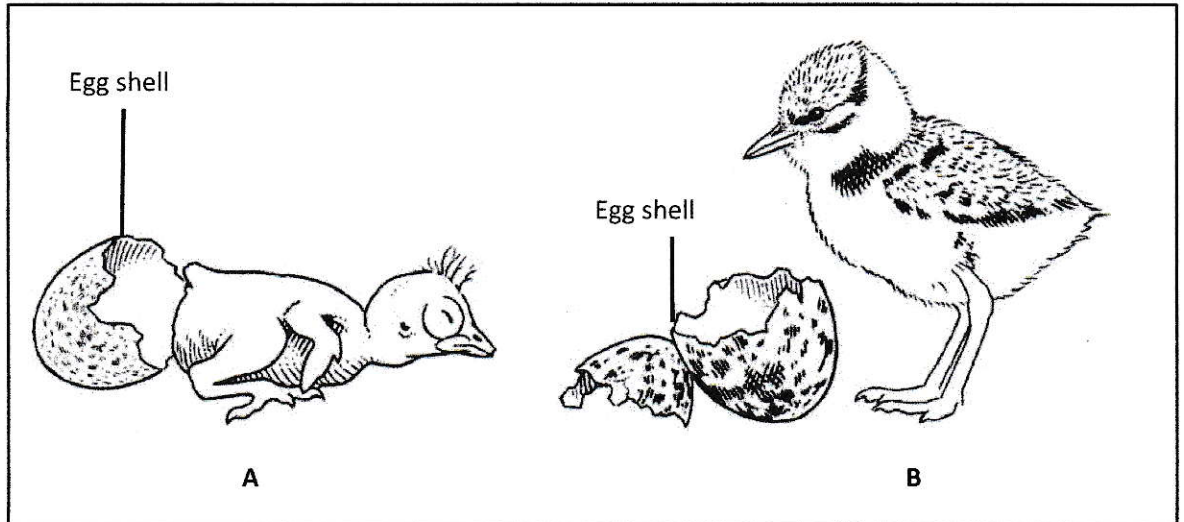


**DIAGRAMS (SHORT QUESTIONS)****REPRODUCTIVE STRATEGIES**

1.1 Study the diagram of one-day-old hatchlings **A** and **B** below. The diagram is not drawn to scale.



1.1.1 State TWO visible features in hatchling **A** which indicate altricial development. (2)

1.1.2 The diagram represents ovipary.

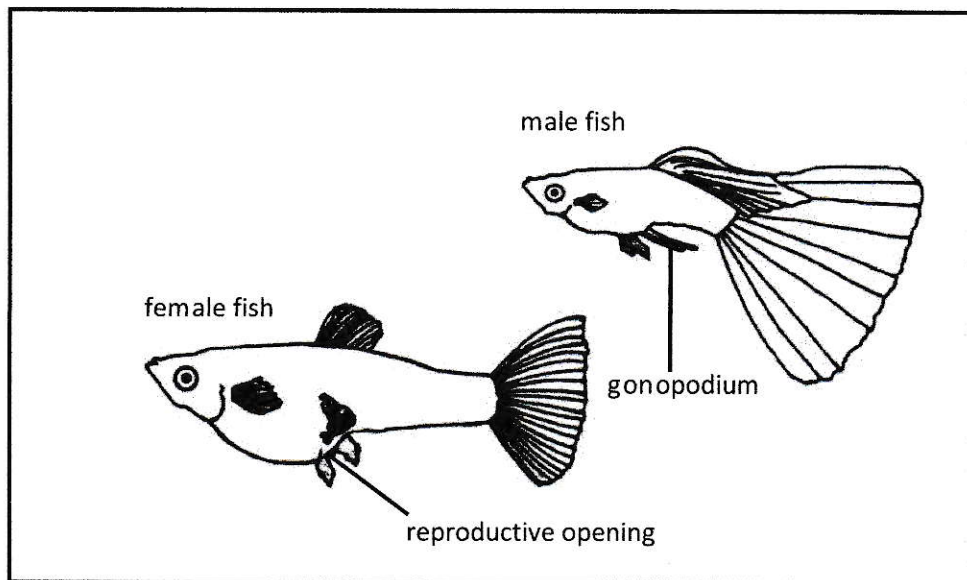
Explain ONE possible advantage of vivipary when compared to ovipary. (2)

1.1.3 Explain why you would expect that the yolk content of the egg of hatchling **B** was more than that of hatchling **A**. (2)

1.2

Guppy fish have a very interesting method of breeding. During mating the male deposits packets of sperm inside the female's reproductive opening using an organ called the 'gonopodium'. This process takes place several times and the female stores some of the extra sperm.

The fertilised eggs remain in the female's body until they hatch and the young are born live. The gestation period is usually between 22 and 28 days.

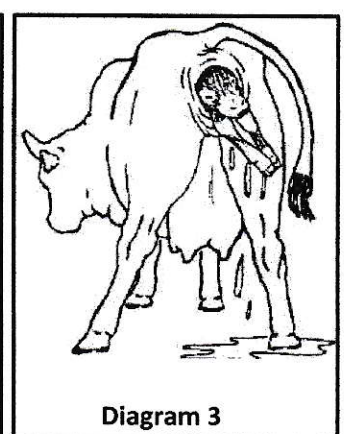
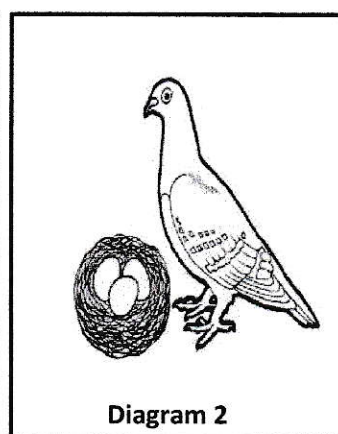
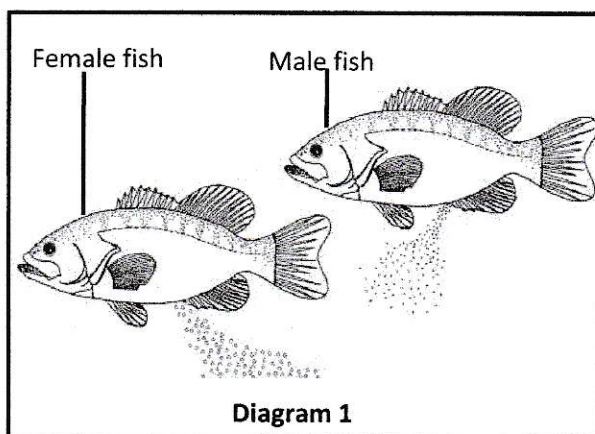


1.2.1 Name the type of fertilisation in guppies. (1)

1.2.2 Explain TWO ways in which the type of fertilisation named in QUESTION 1.2.1 increases reproductive success. (4)

1.2.3 Why are guppies regarded as being ovoviviparous? (2)

1.3 The diagrams below represent organisms with different reproductive strategies.



1.3.1 Which diagram(s) (1, 2 or 3) represent(s) organism(s):

(a) Where external fertilisation takes place (1)

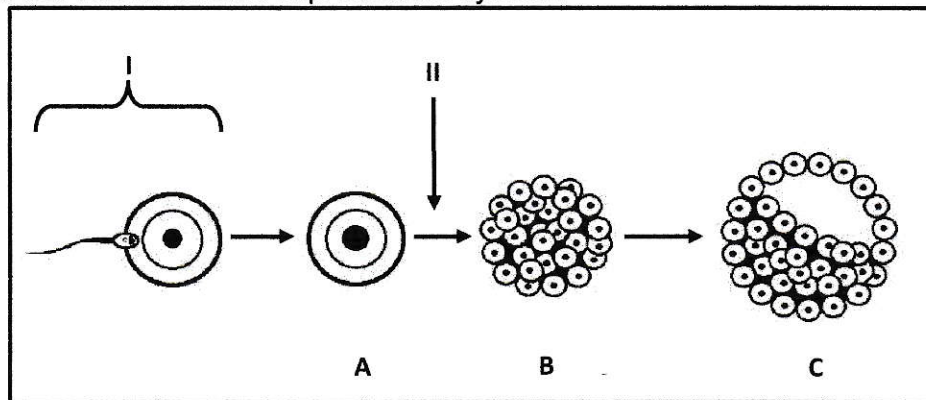
(b) Where extra-embryonic membranes develop to assist with the protection and nutrition of the embryo (2)

(c) Which is/are oviparous (2)

1.3.2 Name the type of egg produced by the organism represented in Diagram 2. (1)

### HUMAN REPRODUCTION

1.4 The diagram below represents a sequence of events that may take place inside the human female reproductive system.



1.4.1 Identify the process taking place at I in the diagram above. (1)

1.4.2 State the type of cell division that takes place at II in the diagram above. (1)

1.4.3 Name TWO functional extra-embryonic membranes that are produced by structure C. (2)

1.4.4 Identify the stage of development indicated by:  
(a) A (1)

(b) B (1)

(c) C (1)

1.4.5 Name the part of the female reproductive system where the events in the diagram above usually take place. (1)

1.4.6 Give the chromosome number of the cell at A if this cell is going to develop into a child with Down syndrome. (1)

DIAGRAMS (SHORT QUESTIONS)**REPRODUCTIVE STRATEGIES**

- 1.1.1      - The hatchling's eyes are closed✓  
              - The hatchling can't move (✓away from predators)  
              - The hatchling can't feed on its own ✓  
              - The hatchling has no feathers✓/The wings are not developed
- 1.1.2      - Foetus develops inside the uterus or greater protection✓  
              - Food is supplied by the mother✓ and is therefore supplied for a longer period. ✓
- 1.1.3      - More yolk allows for greater development✓ of the chick  
              - so that it can be more independent so that it can be more independent✓ after hatching
- 1.2.1      Internal✓ fertilisation
- 1.2.2      -Sperm are deposited inside the female body✓  
              thereby increasing the chances of fertilisation✓  
              -Gametes/zygote are inside the body✓  
              therefore protected from the predators✓/environmental dangers
- 1.2.3      - The eggs hatch inside the female's body✓  
              -and the young are born alive✓
- 1.3.1      (a) Diagram 1✓  
              (b) Diagram 2✓and Diagram 3✓  
              (c) Diagram 1✓ and Diagram 2✓
- 1.3.2      Amniotic egg✓