

Sexual reproduction in humans: practice questions

7 questions • 23 marks • mark scheme at the back

For Cambridge IGCSE Biology 0610 (and 0970, which has the same content). **Supplement** is Extended content, only examined on Papers 2 and 4.

Name

Total / 23

1 What is the function of the amniotic fluid? [1 mark]

- A. ☐ To supply oxygen to the fetus
- B. ☐ To protect the fetus from knocks and bumps
- C. ☐ To carry urea away from the fetus
- D. ☐ To join the fetus to the uterus wall

2 State the function of each of the following parts of the male reproductive system. (a) testis [4 marks]
[1] (b) scrotum [1] (c) prostate gland [1] (d) urethra [1]

3 The female reproductive system includes the ovaries, oviducts, uterus, cervix and vagina. [3 marks]
(a) Name the part where fertilisation usually happens. [1] (b) State the function of the cervix. [1] (c) State the function of the ovaries. [1]

4 Explain how each of these features adapts a sperm to its function. (a) a flagellum [1] (b) many mitochondria [1] (c) enzymes in the acrosome [1] **[3 marks]**

5 (a) Explain why an egg cell has energy stores. [1] (b) Describe what happens to the jelly coat of an egg cell at fertilisation and explain why this is important. [2] **[3 marks]**

6 Compare sperm and egg cells in terms of size, motility and numbers produced. [4] **[4 marks]**

7 **Supplement** **[5 marks]**

The placenta and umbilical cord link a fetus to its mother. (a) State two substances that pass from the mother's blood to the fetus's blood. [2] (b) State two substances that pass from the fetus's blood to the mother's blood. [2] (c) Name one type of harmful agent, other than those in (a) and (b), that can cross the placenta and affect the fetus. [1]

Mark scheme

One mark for each point unless a maximum is given. Words in brackets are not needed for the mark.

1. [1]

B B (protects the fetus from knocks and bumps) (1)

2. [4]

- (a) makes sperm (1) allow produces sperm and testosterone
- (b) holds the testes outside the body / keeps the testes cooler than body temperature (1)
- (c) adds fluid to sperm to make semen / produces seminal fluid (1)
- (d) carries semen (sperm) (and urine) out of the body through the penis (1)

3. [3]

- (a) oviduct (1) allow fallopian tube
- (b) ring of muscle that keeps the fetus in the uterus during pregnancy / closes the opening of the uterus (1)
- (c) make and release egg cells (1) allow produce oestrogen and progesterone

4. [3]

- (a) moves / propels the sperm towards the egg cell (1) allow swim
- (b) release energy by respiration (1) allow for swimming / for the flagellum to move; accept energy for movement
- (c) digest the jelly coat / egg membrane so the sperm nucleus can enter the egg cell (1)

5. [3]

- (a) to supply energy for the zygote / early embryo to grow until it implants (1)
- (b) the jelly coat changes after one sperm has entered (1)
- so other sperm cannot enter / only one sperm nucleus fuses with the egg nucleus (1)

6. [4]

- sperm are smaller than egg cells / egg cells are larger (1)
- sperm can swim / have a flagellum (1)
- egg cells cannot move by themselves / are moved by cilia or muscle in the oviduct (1)
- millions of sperm are made but usually only one egg cell is released each month (1) allow sperm are made in much larger numbers
- Max 4

7. [5] **Supplement**

- (a) oxygen (1)
- (a) glucose / amino acids / dissolved nutrients (1) allow vitamins, minerals
- (b) carbon dioxide (1)
- (b) urea / excretory products (1)
- (c) toxins (for example alcohol or a drug) or pathogens (for example a virus) (1) allow nicotine