

Reproduction practice questions

7 questions • 25 marks • mark scheme at the back

For Cambridge IGCSE Combined Science 0653. **Supplement** is Extended content, only examined on Papers 2 and 4.

Name

Total / 25

Sexual reproduction in plants **Spec B14.1**

1 Which statement describes pollination? [1 mark]

- A. ☐ The fusion of a pollen nucleus with a nucleus in an ovule
- B. ☐ The transfer of pollen grains from an anther to a stigma
- C. ☐ The growth of a seed into a new plant
- D. ☐ The production of pollen in an ovary

2 Name the part of an insect-pollinated flower that: (a) produces pollen grains [1] (b) receives pollen grains [1] (c) contains the ovules [1] (d) protects the flower when it is in the bud. [1] [4 marks]

3 **Supplement** [4 marks]

A grass flower is pollinated by wind. Describe and explain how the anthers and the stigmas of the flower are adapted for wind pollination.

- 4** A student investigated the conditions needed for seeds to germinate. She set up four tubes, each containing 20 mustard seeds, and left them in the dark for five days. (a) State which tube is the control. [1] (b) Explain what the results show about the conditions needed for germination. [3] (c) Explain why the water in tube C was boiled and cooled before it was used. [1] **[5 marks]**

Germination investigation		
Tube	Conditions	number of seeds germinated
A	Damp cotton wool, air, 20 °C, dark	19
B	Dry cotton wool, air, 20 °C, dark	0
C	Seeds covered with boiled, cooled water and a layer of oil, 20 °C, dark	0
D	Damp cotton wool, air, 4 °C, dark (fridge)	0

Sexual reproduction in humans Spec B14.2

- 5** 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]

- 6** 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]

Sex hormones in humans Spec B14.2

- 7** The menstrual cycle lasts about 28 days. (a) Describe what happens to the lining of the uterus during days 1 to 5. [1] (b) Describe the change in the lining of the uterus between day 5 and day 14. [1] (c) Describe the change that happens in an ovary at about day 14. [1] (d) Describe what happens to the lining of the uterus from day 14 to day 28 if the woman does not become pregnant. [1] **[4 marks]**

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 (1)

2. [4]

- (a) anther (1) allow stamen
- (b) stigma (1)
- (c) ovary (1) allow carpel
- (d) sepal(s) (1)

3. [4] **Supplement**

- anthers hang outside the flower / on long filaments (1)
- so the wind can blow the pollen away (1)
- stigmas are large / feathery / hang outside the flower (1)
- to catch pollen grains from the air / give a large surface area (1)

4. [5]

- (a) A (1)
- (b) water is needed: B has no water and none germinated (1)
- oxygen is needed: boiling removes dissolved oxygen / the oil stops air entering in C and none germinated (1)
- a suitable (warm) temperature is needed: D is too cold and none germinated (1) allow low temperature stops germination
- (c) to remove dissolved oxygen (1) ignore cooled so the seeds are not killed / to keep the temperature the same

5. [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)

6. [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

7. [4]

- (a) breaks down and is lost through the vagina (with blood) (1)
- (b) repaired and becomes thicker (1)
- (c) an egg cell is released (ovulation) (1)
- (d) it stays thick, then breaks down at the end of the cycle (1) allow it is maintained, then lost