16. Reproduction

16.2 Sexual reproduction

Paper 1 and 2

Question Paper

Paper 1

Questions are applicable for both core and extended candidates

1 Which statement about sexual reproduction is correct?

A Fertilisation is involved.

B Zygotes fuse.

C Offspring are always genetically identical.

D One female gamete fuses with many male gametes.

2 What occurs during fertilisation?

A fusion of two gamete nuclei

B fusion of two zygote nuclei

C splitting of a gamete nucleus

D splitting of a zygote nucleus

3 The statements refer to reproduction.

1 A zygote is formed.

2 Offspring are genetically identical to the parent.

3 Two gamete nuclei fuse together.

Which statements refer to sexual reproduction?

A 1, 2 and 3 **B** 1 and 3 only **C** 1 only **D** 2 and 3 only

4 Which is an example of sexual reproduction?

A a female insect laying unfertilised eggs that develop into new insects

B division of a single-celled bacterium to produce two new bacteria

C fusion of a pollen grain nucleus with an ovule nucleus to produce a seed

D growing cuttings taken from one plant to produce new, genetically identical plants

5 Fertilisation is defined as the fusion of the ……X…… of two gametes to form a ……Y…… .

Which row completes the sentence?

	X	Y
A	alleles	sex cell
B	alleles	zygote
C	nuclei	sex cell
D	nuclei	zygote

6 The diagram shows a specialised cell.

What is the function of this specialised cell?

A asexual reproduction

B conduction of impulses

C movement of mucus in the trachea

D sexual reproduction

7 What takes place during fertilisation?

A One gamete produces one zygote.

B One gamete produces two zygotes.

C Two gametes produce one zygote.

D Two gametes produce two zygotes.

Paper 2

Questions are applicable for both core and extended candidates unless indicated in the question

8 The table shows the percentage of sperm with different abnormalities in samples from a person with normal fertility and two people with low fertility.

	person with normal fertility	person P with low fertility	person Q with low fertility
percentage of sperm with no acrosome	2	25	2
percentage of sperm with deformed flagellum	11	11	35
percentage of sperm with few mitochondria	4	4	30

What are the causes of low fertility in person P and person Q?

	person P	person Q
A	too many sperm cannot digest jelly coat of egg cell	too many sperm cannot digest jelly coat of egg cell
B	too many sperm cannot digest jelly coat of egg cell	too many sperm cannot move to oviduct
C	too many sperm cannot move to oviduct	too many sperm cannot digest jelly coat of egg cell
D	too many sperm cannot move to oviduct	too many sperm cannot move to oviduct

9 Which statement about human sexual reproduction is correct? **(extended only)**

A All gametes are haploid.

B Fertilisation occurs when two diploid nuclei fuse.

C The sperm is the male zygote.

D Sexual reproduction results in haploid offspring.

10 What is a disadvantage of sexual reproduction for a population in the wild? **(extended only)**

A a reduction in genetic diversity

B a decreased ability to adapt to changes in the environment

C a reduction in reproduction if individuals are isolated

D an increased likelihood of a disease affecting all individuals

11 Which row describes sexual reproduction? **(extended only)**

	gamete nucleus	zygote nucleus	genetically different offspring produced
A	diploid	diploid	✗
B	diploid	haploid	✗
C	haploid	diploid	✓
D	haploid	haploid	✓