ENGLAND GCSE COMBINED SCIENCE OCR GATEWAY HIGHER · UNIT 5 · 25 QUESTIONS

Genes, Inheritance and Selection — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button so it can be fixed.

1

Eggs are produced by hens. What is the female reproductive cell called?

A a sperm cell

B a zygote

C an egg cell

D an embryo

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Flag a mistake

2 **Horses are bred for speed. What is this called?**

A selective breeding

B natural selection in the wild

C mutation of the genes

D evolution over millions of years

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3 **A honeybee moves pollen between flowers. What is this an example of?**

A fertilisation

B germination

C pollination

D photosynthesis

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4 **Rabbits in a meadow show variation in fur colour. What causes this variation?**

A the rabbits' diet only

B the number of rabbits

C natural selection only, acting over time

D different alleles and the environment

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5 **A peach contains a stone. What is inside the stone?**

A a root

B a seed

C a flower

D a leaf

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6 **A sunflower turns its head to follow the Sun. What is this a response to?**

- A touch
- B gravity
- C light
- D water

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7 **A pea plant with genotype Bb is crossed with a plant with genotype bb. What fraction of the offspring will be bb?**

- A 3/4
- B 1/4
- C 1
- D 1/2

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8 **What does non-coding DNA do?**

A it is junk with no function at all

B it makes proteins directly

C it controls genes switching on

D it copies the whole genome

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9 **In a DNA sample, 20 percent of the bases are adenine. What percent are thymine?**

A 20%

B 80%

C 10%

D 30%

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10 **What is an embryo transplant?**

- **A** moving genes between embryos
- **B** splitting an embryo into two
- **C** fusing two embryos into one animal
- **D** freezing an embryo for later use

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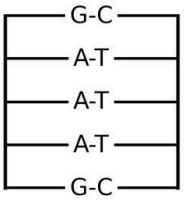
11 **The diagram shows a short section of DNA. How many adenine-thymine pairs are there?**



- **A** 5
- **B** 3
- **C** 2
- **D** 6

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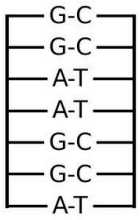
12 **The diagram shows a short section of DNA. How many base pairs are there in total?**



- **A** 9
- **B** 7
- **C** 6
- **D** 8

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13 **How are GM crops made?**

- **A** by watering them more
- **B** by changing their genes
- **C** by growing them in greenhouses
- **D** by spraying them with chemicals

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14 **What is a mutation?**

- **A** a disease
- **B** a change in the environment
- **C** a change in the DNA
- **D** a new species

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15 **What did Lamarck think happened to a giraffe neck?**

- **A** a mutation made it longer at once
- **B** the neck stretched in one generation only
- **C** use stretched it, then it was inherited
- **D** the giraffe chose to grow a longer neck

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16 **What causes Huntington disease?**

A a missing chromosome

B a dominant allele acting late

C a recessive allele that acts at birth

D a viral infection of the brain

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17 **What is the order of the Linnaean groups, largest first?**

A kingdom to species in order

B a list of all living things

C species to kingdom in order

D genus to family in order

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18 **One parent is homozygous dominant and the other is heterozygous. What is the probability their child is homozygous recessive?**

- A 50%
- B 25%
- C 75%
- D 0%

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19 **Which chromosomes determine that a baby is male?**

- A one X only
- B an X and a Y
- C two X chromosomes
- D two Y chromosomes

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20 **In a DNA sample, 25 percent of the bases are adenine. What percent are thymine?**

A 15%

B 75%

C 25%

D 35%

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21 **Which animal was the first cloned from an adult cell?**

A a farm cow

B a laboratory mouse

C a pet dog

D Dolly the sheep

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22 **What is a clone?**

A an organism genetically identical to another

B a twin

C a new species

D an organism that looks similar to another organism

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23 **Who reached the same ideas as Darwin, working separately?**

A Lamarck

B Woese

C Wallace

D Mendel

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24 **What causes cystic fibrosis?**

A two recessive alleles

B a mutation in the sex chromosomes

C a dominant allele

D an infection in the lungs

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25 **How many chromosomes does a human gamete have?**

A 12

B 92

C 23

D 46

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ANSWER KEY

1.	C	**10.**	B	**19.**	B
2.	A	**11.**	B	**20.**	C
3.	C	**12.**	B	**21.**	D
4.	D	**13.**	B	**22.**	A
5.	B	**14.**	C	**23.**	C
6.	C	**15.**	C	**24.**	A
7.	D	**16.**	B	**25.**	C
8.	C	**17.**	A		
9.	A	**18.**	D		

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