ENGLAND GCSE COMBINED SCIENCE EDEXCEL HIGHER · UNIT 3 · 25 QUESTIONS

Genetics — 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 **A peach tree flowers in spring. What do bees carry between flowers?**

- A leaves
- B water
- C seeds
- D pollen

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

- A mutation of the genes
- B evolution over millions of years
- C natural selection in the wild
- D selective breeding

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3 **A brown dog has fleas. What are fleas?**

A producers

B parasites

C predators

D prey

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4 **A forest absorbs carbon dioxide. Which process does this?**

A decomposition in the soil

B respiration in the trees

C photosynthesis

D combustion of the wood

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5 **Rabbits breed quickly. What does this mean for the population?**

A it always falls

B it can grow fast

C it never changes

D it always stays small

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6 **A honeybee is an insect. How many legs does it have?**

A 4

B 6

C 8

D 10

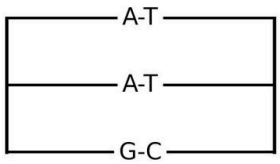
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7 **What is the genome?**

- **A** one chromosome
- **B** all the proteins in a cell
- **C** all the DNA of an organism
- **D** one gene

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



- **A** 1
- **B** 5
- **C** 4
- **D** 2

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

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

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10 **How is sex determined in humans?**

- A XX is male, XY is female
- B XX is female, XY is male
- C XY is female, XX is male
- D the mother decides the sex

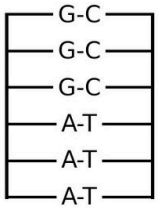
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11 **What does non-coding DNA do?**

- **A** it makes proteins directly
- **B** it is junk with no function at all
- **C** it controls genes switching on
- **D** it copies the whole genome

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



- **A** 8
- **B** 7
- **C** 6
- **D** 5

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13 **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
- C 1/4
- D 1/2

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14 **In a DNA sample, 30 percent of the bases are adenine. What percent are thymine?**

- A 20%
- B 40%
- C 30%
- D 70%

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

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

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16 **What is an ethical issue with embryo screening?**

- A it always harms the embryo badly
- B it raises difficult choices
- C it guarantees a healthy baby
- D it changes the genes of the parents

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17 **What is a genome?**

A all the DNA of an organism

B all the genes on one chromosome

C all the cells of an organism

D all the proteins of an organism

Understand It with Pulse | Flag a mistake

18 **What is meiosis?**

A the fusion of two gametes

B cell division that makes body cells

C cell division that makes gametes

D the copying of DNA

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19 **A mother has blood group O and a father has blood group AB. Which blood group can their children NOT have?**

- A AB
- B A
- C B
- D O

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20 **Where is DNA found in a cell?**

- A in the mitochondria only
- B in the nucleus
- C in the cytoplasm
- D in the cell membrane

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21 How many chromosomes does a human body cell have?

- A 46
- B 12
- C 23
- D 92

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22 Which disorder is caused by a dominant allele?

- A polydactyly
- B cystic fibrosis
- C sickle cell anaemia
- D haemophilia

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23 **What is embryo screening?**

A testing an adult for a disease

B choosing the sex of the baby

C testing an embryo for alleles

D cloning an embryo in a laboratory

Understand It with Pulse | Flag a mistake

24 **Which bases pair together in DNA?**

A A pairs with A, T pairs with T

B A pairs with G, C pairs with T

C A pairs with T, C pairs with G

D A pairs with C, T pairs with G

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25

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

A 25%

B 15%

C 75%

D 35%

Understand It with Pulse

Flag a mistake

ANSWER KEY

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

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