



KWAZULU-NATAL PROVINCE

EDUCATION
REPUBLIC OF SOUTH AFRICA

CURRICULUM GRADE 10-12 DIRECTORATE

NCS (CAPS)

SPRING CLASSES PRE-TEST

GRADE 12

LIFE SCIENCES

2025

MARKS: 40

TIME: 30 MINUTES

NB: This question paper consists of 9 pages.

INSTRUCTIONS AND INFORMATION

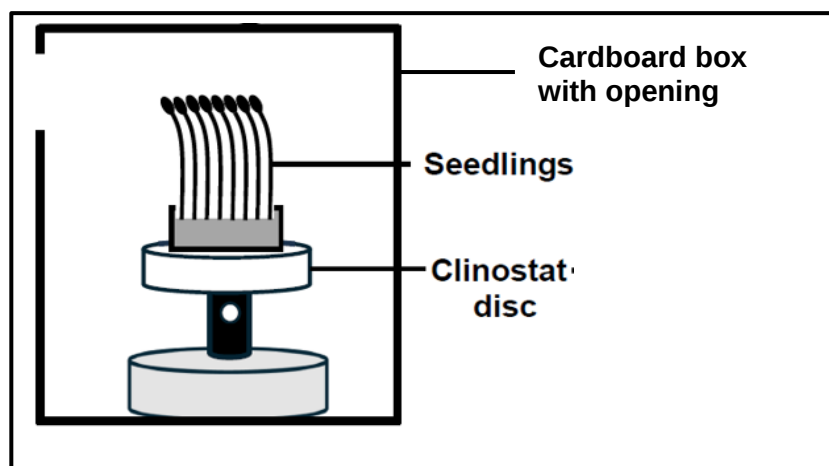
Read the following instructions carefully before answering the questions.

1. Answer ALL the questions.
2. Write ALL the answers in the ANSWER SHEET.
3. Number the answers correctly according to the numbering system used in this question paper.
4. Present your answers according to the instructions of each question.
5. You must use a non-programmable calculator, protractor, and a compass where necessary.
6. Write neatly and legibly.

SECTION A**QUESTION 1**

- 1 Various options are given as possible answers to the following questions. Choose the answer and write only the letter (A to D) next to the question number (1.1.1 to 1.1.20) in the ANSWER BOOK, for example 1.1.21 D.
- 1.1 Various options are given as possible answers to the following questions. Choose the answer and write only the letter (A to D) next to the question number (1.1.1 to 1.1.10) in the ANSWER BOOK, for example 1.1.11 D.
- 1.1.1 Which ONE of the following characteristics do African apes and humans have in common?
- A Opposable thumbs
 - B C-shaped spines
 - C S-shaped spines
 - D Short upper arms
- 1.1.2 Which ONE of the following is a role of abscisic acid in plants?
- A Apical dominance
 - B Stem elongation
 - C Seed germination
 - D Seed dormancy
- 1.1.3 The reproductive isolation mechanism characterised by an animal displaying a specific action to attract a mating partner is known as ...
- A breeding at different times of the year.
 - B prevention of fertilisation.
 - C infertile offspring.
 - D species-specific courtship behaviour.
- 1.1.4 Which ONE of the following is an example of discontinuous variation in humans?
- A Blood groups
 - B Height
 - C Skin colour
 - D Hair colour
- 1.1.5 The deliberate breeding of organisms for desirable characteristics selected by humans is...
- A Artificial selection
 - B Cloning
 - C Recombinant DNA technology
 - D Natural selection

QUESTIONS 1.1.6 AND 1.1.7 ARE BASED ON THE DIAGRAM BELOW WHICH REPRESENTS AN INVESTIGATION THAT WAS SET UP IN A BRIGHT ROOM



1.1.6 The following is a list of growth responses:

- (i) Positive phototropism
- (ii) Negative geotropism
- (iii) Positive geotropism
- (iv) Negative phototropism

Which combination represents the growth response of the seedlings?

- A (i), (ii) and (iii) only
- B (i), (ii), (iii) and (iv)
- C (i) and (ii) only
- D (iii) and (iv) only

1.1.7 The growth response in the seedlings is due to...

- A a rotating clinostat disc
- B auxins moving to the dark side
- C auxins moving to the bright side
- D slower growth on the dark side

1.1.8 A gradual change in the characteristics of a species over time is known as ...

- A punctuated equilibrium.
- B genetic engineering.
- C speciation.
- D biological evolution.

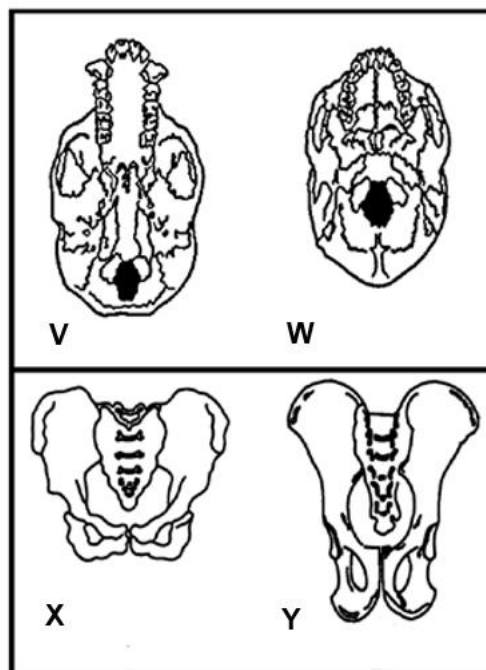
1.1.9 A list of different lines of evidence to support evolution is given below.

- (i) Evidence from biogeography
- (ii) Fossil evidence
- (iii) Genetic evidence
- (iv) Cultural evidence

Which ONE of the following options are used as evidence to support human evolution?

- A (i), (ii), (iii) and (iv)
- B (iv) only
- C (ii), (iii) and (iv) only
- D (i) only

1.1.10 The diagrams below represent anatomical features of different species.



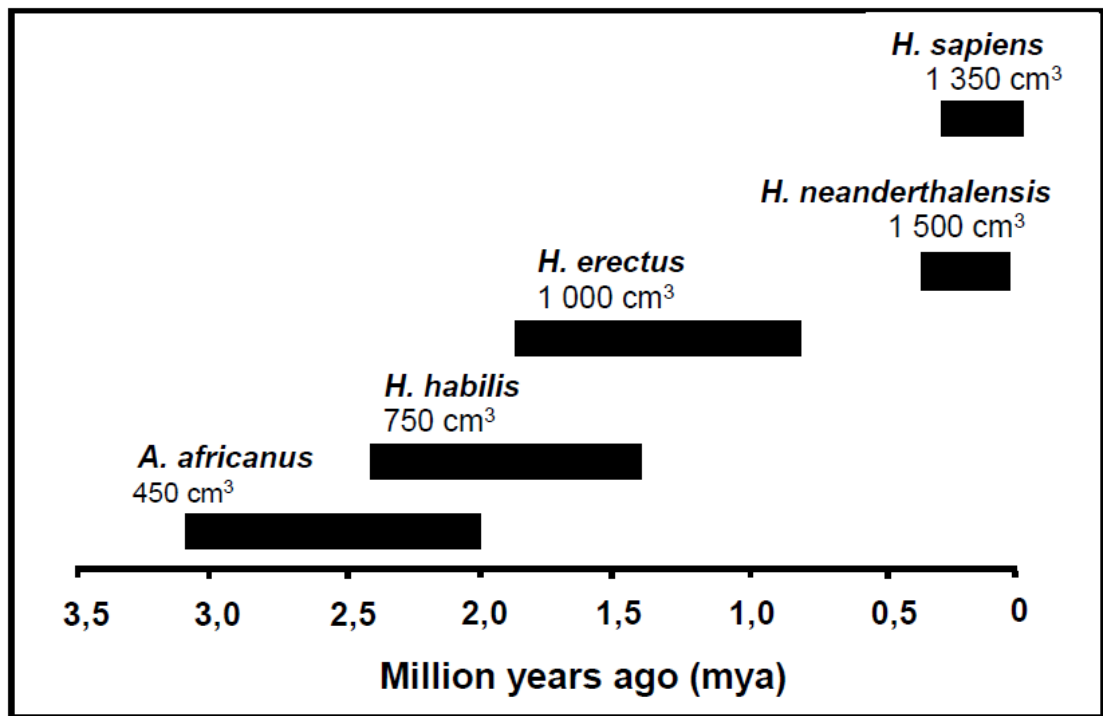
Which diagrams represent a species that is fully bipedal?

- A V and W
- B W and X
- C V and X
- D W and Y

1.1.11 Which ONE of the following scientists discovered the fossil Taung Child?

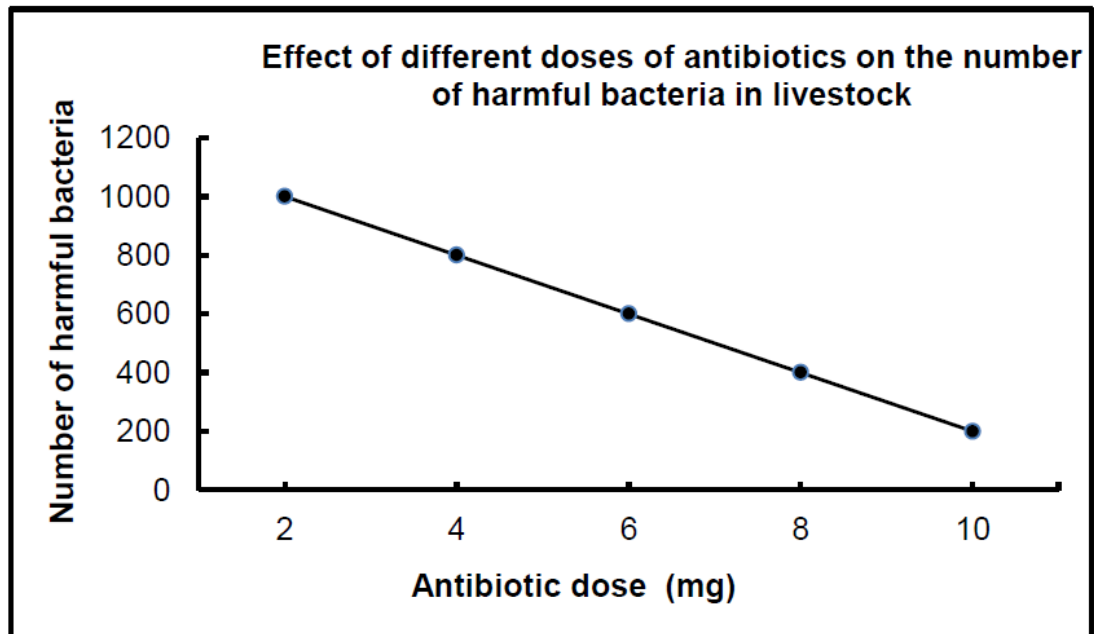
- A Raymond Dart
- B Lee Berger
- C Ron Clarke
- D Robert Broom

QUESTIONS 1.1.12 AND 1.1.13 ARE BASED ON THE DIAGRAM BELOW WHICH REPRESENTS AN INVESTIGATION THAT WAS SET UP IN A BRIGHT ROOM



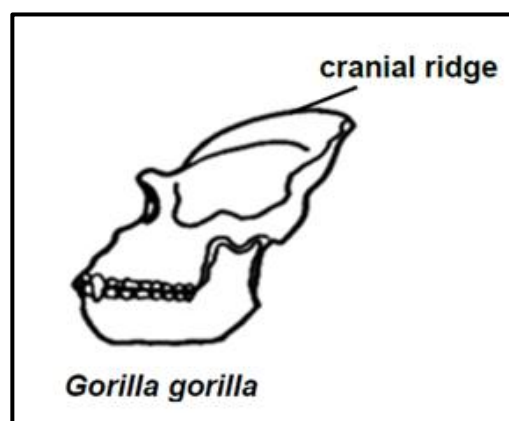
- 1.1.12 How many genera are shown in the diagram?
- A 1
 - B 2
 - C 4
 - D 5
- 1.1.13 How many times larger is the skull of *H. sapiens* compared to the skull of *A. africanus*?
- A 0.3
 - B 0.5
 - C 2
 - D 3
- 1.1.14 According to Lamarck's theory for evolution, ...
- A acquired characteristics are not inherited.
 - B organisms evolve because they adapt to their environment.
 - C there is variation amongst offspring.
 - D environmental changes have no influence on species diversity.

- 1.1.15 The graph below represents the effect of different doses of antibiotics on the number of harmful bacteria in livestock.



Which ONE of the following can be concluded from the information in the graph?

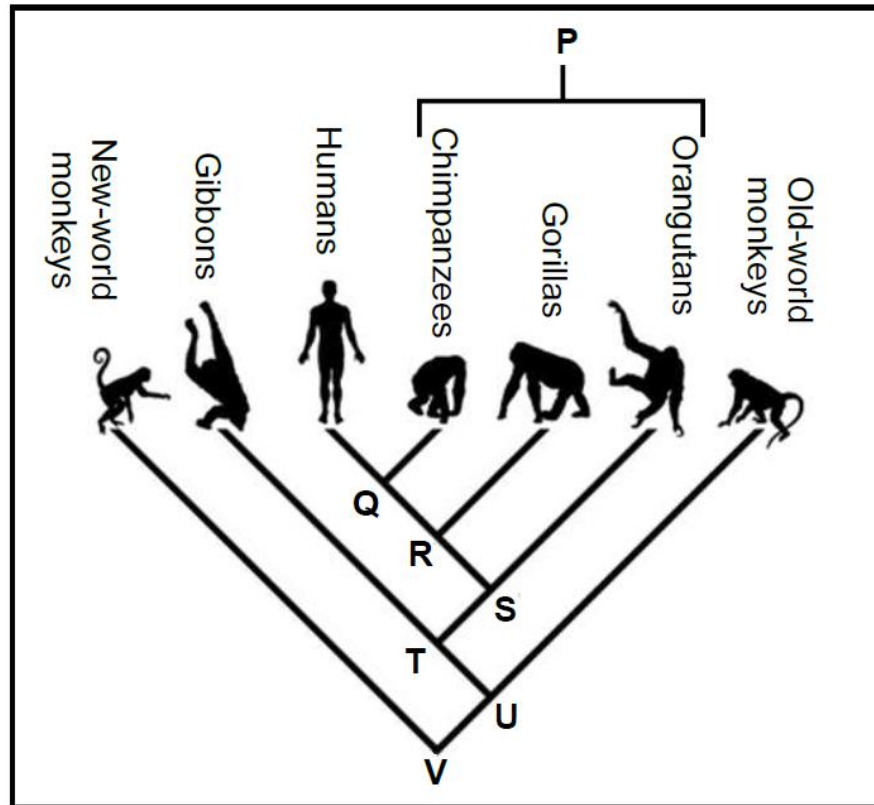
- A Bacteria are resistant to antibiotics
 - B Survival of harmful bacteria is low at higher doses of antibiotic
 - C The population of livestock decreases as the number of bacteria increases
 - D Antibiotics have no effect on bacteria
- 1.1.16 The diagram below represents the skull of a hominid



The cranial ridge in *Gorilla gorilla* ...

- A provides spacer for a large brain.
- B ensures that there are large brow ridges.
- C is an adaptation to the diet of the hominid.
- D reduces prognathous.

- 1.1.17 The phylogenetic tree below shows the evolutionary relationship between some species.



The common ancestor of humans, chimpanzees and gorillas is...

- A Q
- B R
- C S
- D T

- 1.1.18 The following are characteristics of a group of animals:

- (i) Able to interbreed
- (ii) Occupy the same habitat
- (iii) Produce infertile offspring
- (iv) Belong to the same species

Which combination CORRECTLY represents a population?

- A Only (i), (ii) and (iv)
- B (i), (ii), (iii) and (iv)
- C Only (i), (ii) and (iii)
- D Only (i) and (iv)

QUESTIONS 1.1.19 AND 1.1.20 ARE BASED ON THE INVESTIGATION BELOW.

A group of researchers conducted an investigation to determine the influence of the type of milk on the height of children drinking the milk. (The investigation was conducted over a period of 7 years from age 3 to age 10).

They:

- Selected 4 146 healthy 3-year-old children of the same race and gender
- Divided the children into two equal groups:
 - One group was given 1 litre of cow's milk to drink daily
 - The other group was given 1 litre of soy milk to drink daily
- Ensured that each group had:
 - The same additional diet
 - Similar daily activities
 - Similar living conditions
- Provided the milk from the same supplier
- Measured the children's height at the end of the investigation and calculated the average

1.1.19 The independent variable for the investigation is...

- A the height of children.
- B height.
- C influence of the type of milk.
- D type of milk.

1.1.20 Which ONE of the following factors ensured the validity of this investigation?

- A 2073 children were placed in each group
- B The investigation was conducted over 7 years
- C The average height was calculated at the end of the investigation
- D Baseline height was not measured

(20 x 2) **(40)**