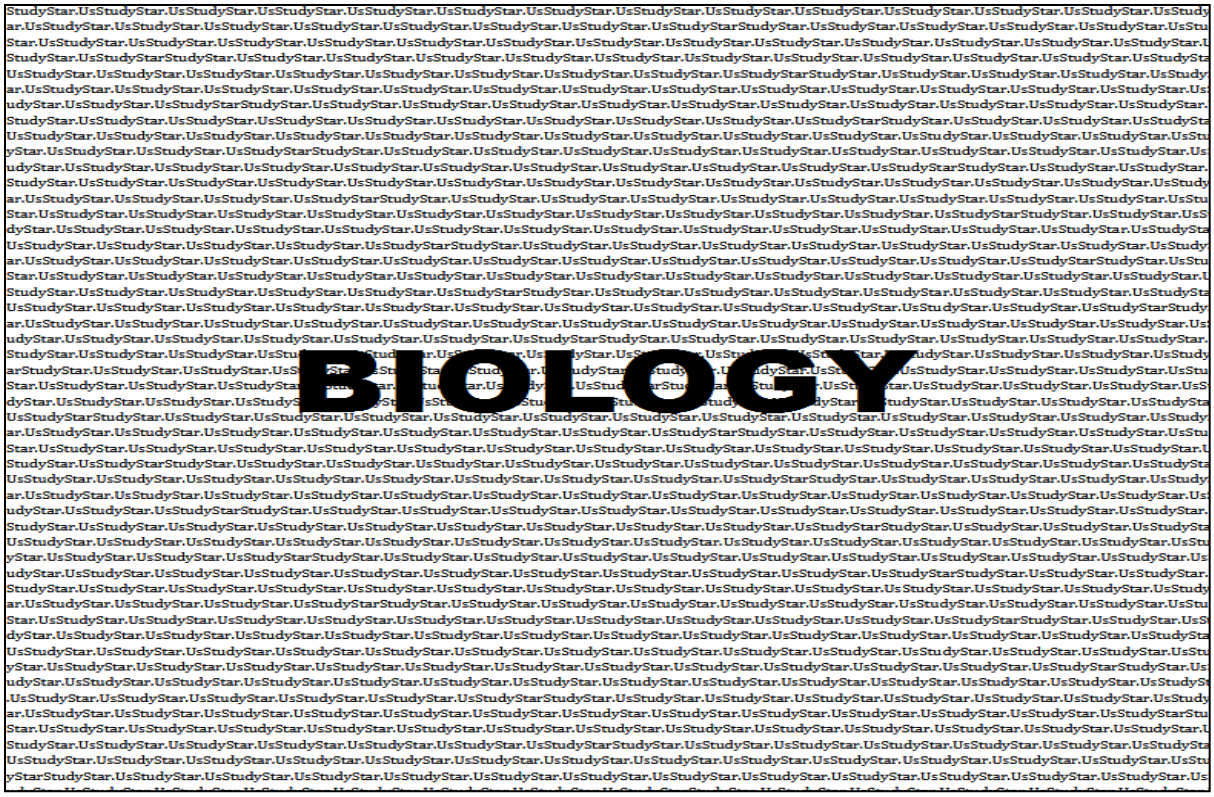

GENETICS

Total Marks: 25

Duration: 0 hours, 20 minutes

Instructions to test takers

1. Answer all the questions in this paper
2. All the answers for the questions in this paper will be found on **Study Star** (www.studystar.me)
3. Using the answers on the website, mark yourself truthfully and carefully.

Turn this page, time yourself and begin the test

Section A [10 marks]

1. Gene Aa is a _____ gene.
    a. Homozygous
    b. Heterozygous
    c. Co-dominant
2. Which of the following is an example of chromosomal mutation?
    a. Down's syndrome
    b. Colour blindness
    c. Sickle cell anaemia
3. Which of the following genes is co-dominance?
    a. A
    b. Ab
    c. AB
4. Phenotype refers to _____
    a. The physical appearance of an individual
    b. The genetic composition of an individual
    c. A phenotypic ratio between two blood groups
5. Which of the following is an example of continuous variation?
    a. Eye colour
    b. Height
    c. Blood group
6. Which of the following is not a cause of variation?
    a. Mitosis
    b. Environment
    c. Mutation
7. The number of chromosomes in somatic (body) cells is called _____
    a. Haploid number
    b. Diploid number
    c. Chromosome number
8. State the haploid number in humans.
    a. 21
    b. 23
    c. 46
9. Jacob is heterozygous tall and beauty is heterozygous tall. If they get married and have 12 children, how many of them will be tall?

a. 9
b. 3
c. 6

10. A homozygous tall man marries a heterozygous tall woman. What is the probability of them having a short child?
    a. 0%
    b. 25%
    c. 100%

Section B [5 marks]

11. The spontaneous change in the structure of a gene or number of chromosomes is called _____
12. A disorder caused by mutation of recessive gene that do not produce melanin in the skin cells is called _____
13. The smallest unit of inheritance is called _____
14. The genetic composition of an individual is called _____
15. A genetic disorder caused by mutation of chromosome 21 is called _____

Section C [10 marks]

16. Explain variation. [3]
17. A brown coat mouse is homozygous dominant is crossed to a black homozygous recessive coat colour. Using a genetic diagram, find the probability of having a black coat mouse. [4]
18. Write the genotype of the parents in the question 17. [1]
19. Blood group AB is called a _____ gene. [1]
20. The inherited disease where a human being bleed for longer periods than normal due to poor clotting of blood is called _____ [1]

A top student's secret tool