

NAMA: _____

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SULIT
1511
Sains
Julai
2009



SMK SULTAN IBRAHIM KULAI
UJIAN BULAN JULAI TAHUN 2009
TINGKATAN 4

SAINS

JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIBERITAHU

1. Kertas soalan ini mengandungi **dua bahagian**.
 2. **Bahagian A** mengandungi **20 soalan objektif**, manakala **Bahagian B** pula mengandungi **2 soalan struktur**.
 3. Jawab **semua** soalan di dalam ruang yang disediakan.
 4. Rajah **tidak** dilukis mengikut skala kecuali dinyatakan.
 5. Penggunaan kalkulator saintifik tidak boleh diprogramkan adalah dibenarkan
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Kertas soalan ini mengandungi 10 halaman bercetak

SECTION A

Instruction: Answer **all** questions. Each question is followed by **four** alternative answers, **A, B, C,** or **D.** For each question, choose **one** answer only. **Write the answers in the space provided in page 7.**

- Which of the following controls a specific character of an individual?
 A Chromosome B Gene C Cytoplasm D Nucleus
- Diagram 1 shows the different stages of mitosis.

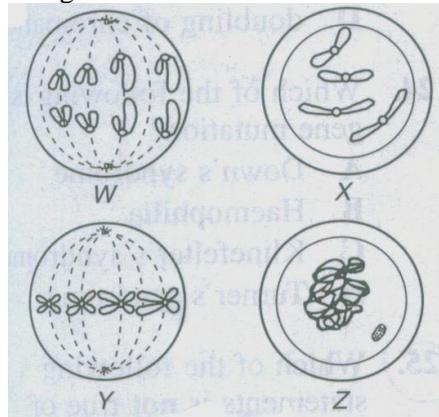


Diagram 1

Which of the following is the **correct** sequence in the mitosis?

- A X, Y, W, Z B X, Z, Y, W C Z, Y, W, X D Z, X, Y, W
- Which of the following is the **difference** between mitosis and meiosis?

	Mitosis	Meiosis
A	Crossing over occurs	Crossing over does not occur
B	The cell divides once	The cell divides twice
C	Occurs in germ cells	Occurs in somatic cells
D	Variation occur	No variation

- Diagram 2 shows the cross breeding of two rats.

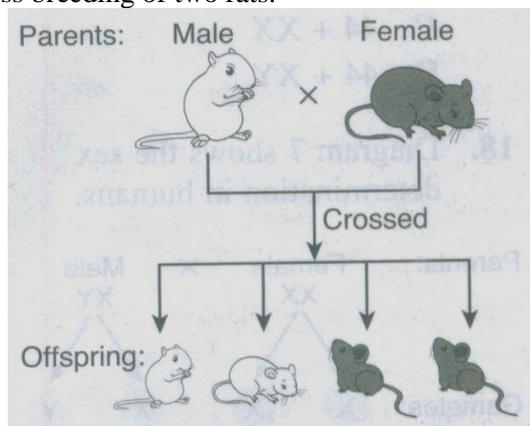


Diagram 2

B represents the dominant genes for black fur, meanwhile b represents the recessive genes for white fur. What are the genes for the parent?

	Male	Female
A	BB	Bb
B	BB	Bb
C	Bb	Bb
D	bb	Bb

5. Which of the following statements is **not true** about mutation?
- A It can be inherited or not inherited. B It can cause dropping of leaves in autumn.
 C It can cause inheritable diseases. D It can effect the structure of chromosomes.
6. Which of the following is **true** of the type of twins?

	Identical twins	Non-identical twins
A	They are the same of sex	They can be of the same or different sexes
B	Fertilised by two sperms	Fertilised by one sperm
C	Originated from different ovum	Originated from the same ovum
D	They have different genetic content	They have same genetic content

7. Which of the following statements is **correct** when a normal woman marries a colour-blind man?
- A All their children are colour-blind. B All their sons are colour-blind.
 C All their children are normal. D All their daughters are colour-blind.
8. Diagram 3 shows the chromosomes of a girl with genetic disorder.

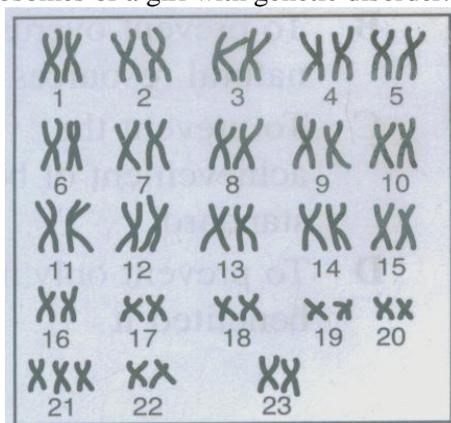


Diagram 3

- What is the name of this genetic disorder?
- A Albinism B Down's syndrome
 C Klinefelter's syndrome D Turner's syndrome
9. Which of the following statement is the contribution of genetic research?
- A Vaccination can prevent some diseases.
 B Breeding of rice that is resistant to disease.
 C The production of insulin by cow to cure diabetes.
 D Discovery of diseases causes by viruses.
10. Which of the following statements is **correct**?

	Continuous variation	Discontinuous variation
A	Quantitative characters	Qualitative characters
B	There are no intermediate types	There are many intermediate types
C	Not easily influenced by environment	Easily influenced by environment
D	Heritable	Not heritable

11. Which of the following is an example of a discontinuous variation?
- A Intelligence B Weight C Blood group D Height

18. The table shows some physical properties of elements K, L and M.

	Boiling point	Electrical conductivity in	
		Solid state	Molten state
K	1500	Poor	Good
L	1950	Good	Good
M	35	Poor	Poor

Elements K, L and M are most likely

	K	L	M
A.	Sulphur	Lead bromide	Aluminium
B.	Aluminium	Lead bromide	Sulphur
C.	Lead bromide	Aluminium	Sulphur
D.	Aluminium	Lead bromide	Sulphur

19. Which of the following is **not** the properties of molecules?

- A. Soluble in non-aqueous solvents
- B. Soluble in water
- C. Soft
- D. Have weak Van der Waal's forces between molecules

20. Which of the following statements explains the malleability of metals?

- A. Metals are soft
- B. Atoms in metals are orderly arranged and closely pack
- C. The forces of attraction between atoms in metals are strong
- D. The layers of atoms in metals slide over one another easily

ANSWERS FOR SECTION A

1.	11.
2.	12.
3.	13.
4.	14.
5.	15.
6.	16.
7.	17.
8.	18.
9.	19.
10.	20.

SECTION B

Answer all questions in the space provided.

1. Diagram 1 shows the inheritance of the types of ear lobes.

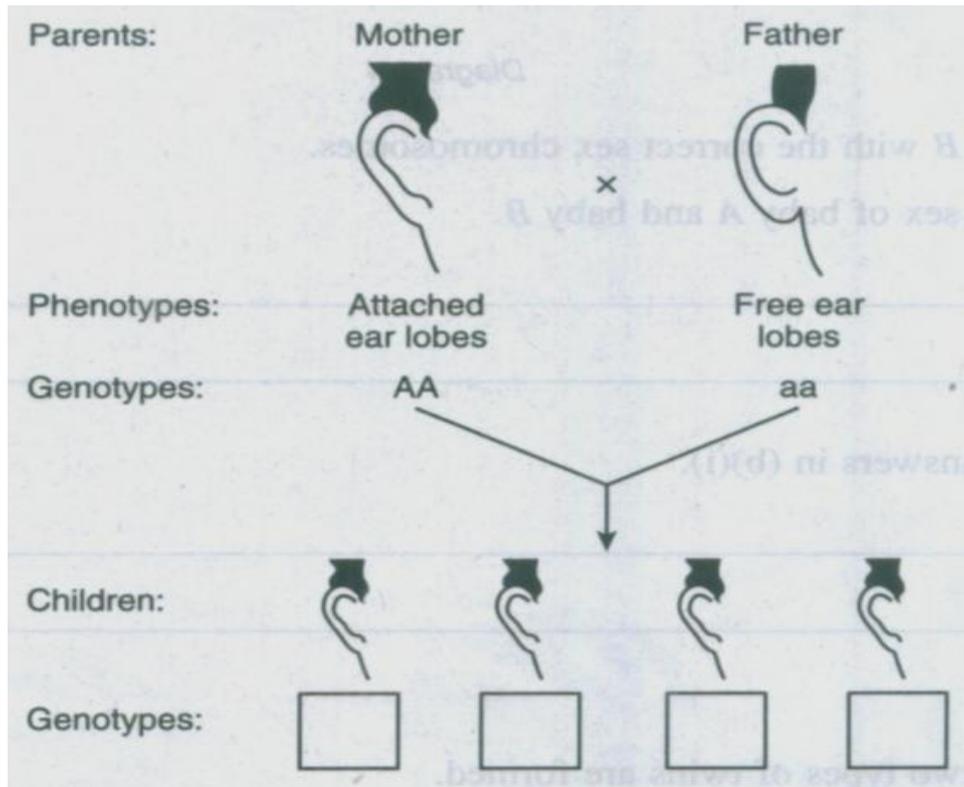


Diagram 1

a) What type of variation is this?

_____ [1 mark]

b) Name two examples of the same type of variation as mentioned in (a).

_____ [2 marks]

c) Name a factor that can influence the above variation.

_____ [1 mark]

d) In the boxes provided, write genotypes of the children.

[1 mark]

e) Which type of ear lobes is dominant?

_____ [1 mark]

2. Figure 2 shows the Periodic Table and the position of elements E, F, G and H in the Periodic Table.

a.) What is represented by the numbers 1 to 18? _____ (1 mark)

b.) Which element has the highest proton number? _____ (1 mark)

c.) G does not react with any other elements. Why? _____ (1 mark)

d.) Give **one** importance of the Periodic Table.

_____ (1mark)

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