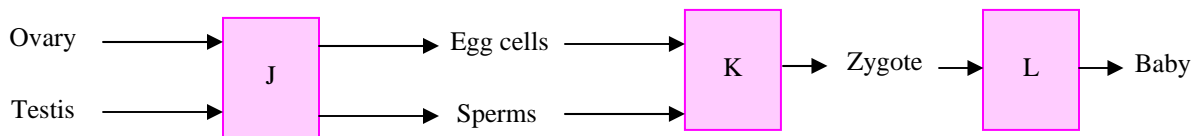


CHAPTER 3: HEREDITY AND VARIATION

PAPER 1: Objective Questions

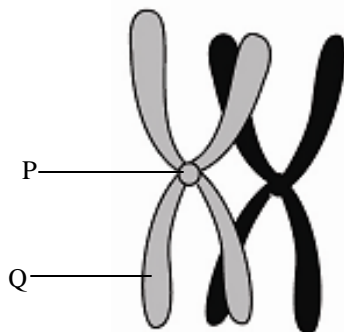
- 1 Which statement below is **incorrect**?
- A Genes are present on chromosomes.
 - B Genes are made of deoxyribonucleic acid.
 - C Body cells from different parts of a person have different genes.
 - D Each inherited characteristic is carried by two genes.



- 2 From the information given above, identify the processes J, K and L.

	J	K	L
A	Fertilization	Meiosis	Mitosis
B	Meiosis	Fertilization	Mitosis
C	Meiosis	Mitosis	Fertilization
D	Mitosis	Fertilization	Meiosis

- 3 The diagram below shows two homologous chromosomes in a process of cell division.



- Which statement about the chromosome is **incorrect**?
- A P is called the centromere.
 - B Q is called a chromatid.
 - C The chromosomes are exchanging genes.
 - D The process shown takes place during mitosis.

- 4 A female rabbit with hh genes for white fur is crossed with a male rabbit. Four offspring are obtained in the first generation. They are as follows.

- Two rabbits with Hh genes (black)
- Two rabbits with hh genes (white)

The male rabbit must...

- I have black fur.
 - II be a pure-bred rabbit.
 - III have Hh genes.
- A I and II only
B I and III only
C II and III only
D I, II and III
- 5 Colour-blindness is considered a sex-linked defect because it is caused by...
- A a dominant gene on the X-chromosome.
 - B a dominant gene on the Y-chromosome.
 - C a recessive gene on the X-chromosome.
 - D a recessive gene on the Y-chromosome.
- 6 Two species of cattle are crossed in the hope of getting a better species to supply food in the country. Which of the following characteristics are desirable in the new species?
- I The new species grows very fat
 - II The new species can withstand local animal diseases
 - III The new species needs cold weather
- A I and II only
B I and III only
C II and III only
D I, II and III
- 7 Disorders caused by gene mutation include...
- I haemophilia.
 - II Down's syndrome.
 - III albinism.
- A I and II only
B I and III only
C II and III only
D I, II and III

- 8 Which of the following causes Klinefelter's syndrome?
- A Body cell has 47 chromosomes
 - B The man has one extra X-chromosome in his body cells
 - C The woman has one X-chromosome less in her body cells
 - D The patient has no X-chromosome in the body cells
- 9 What are the aims of genetic research?
- I To identify all the genes in a human cell
 - II To identify the genes which cause genetic disorders
 - III To identify the characteristics controlled by each gene
- A I and II only
 - B I and III only
 - C II and III only
 - D I, II and III

- 10 Which comparison between continuous variation and discontinuous variation is **incorrect**?

	Continuous variation	Discontinuous variation
A	Differences are not clear cut	Differences are clear cut
B	Influenced by the environment	Caused by genes
C	Variation is permanent	Variation is temporary
D	Variation cannot be passed on	Variation can be passed on

- 11 Which of the following is least likely to cause permanent variation in a population of people?
- A Crossing over of genes during meiosis
 - B Mutation of chromosomes
 - C Food shortage in the country
 - D Defects in genes caused by radiation
- 12 Research on which of the following is **not** favoured by most people?
- A Genetically modified plants
 - B Cloning of human beings
 - C Investigation of genetic diseases
 - D Genetic engineering to produce medicines