MCQ TEST SERIES

S12-BZ-C4-PRINCIPLES OF INHERITANCE AND VARIATION

4.8. MENDELIAN DISORDERS

1. Mendelian disorders are caused by:
   A. Structural changes in chromosomes
   B. Environmental mutagens
   C. Mutation in a single gene
   D. Hormonal imbalance
2. Which of the following is not a Mendelian disorder?
   A. Phenylketonuria
   B. Thalassemia
   C. Down's syndrome
   D. Albinism
3. Thalassemia is inherited in which pattern?
   A. Autosomal dominant
   B. Autosomal recessive
   C. X-linked recessive
   D. Codominant
4. Which gene mutation causes β-Thalassemia?
   A. HBA1
   B. PAH
   C. HBB
   D. TYR
5. Alpha-thalassemia is associated with which chromosome?
   A. 21
   B. 13
   C. 16
   D. 11
6. The genetic defect in phenylketonuria leads to the absence of which enzyme?
   A. Galactose-1-phosphate uridyl transferase
   B. Tyrosinase
   C. Phenylalanine hydroxylase
   D. Hexosaminidase-A
7. Phenylketonuria is caused by mutations in the gene located on:
   A. Chromosome 12
   B. Chromosome 21
   C. Chromosome 9
   D. Chromosome 18
8. Which metabolite accumulates in the urine of a patient with phenylketonuria?
   A. Galactose
   B. Phenylpyruvic acid
   C. Homocysteine
   D. Bilirubin
9. Albinism results due to:
   A. Defective melanin receptor
   B. Absence of melanocytes
   C. Absence of tyrosinase enzyme
   D. Excess production of DOPA
10. Individuals with albinism have:
   A. No melanocytes at all
   B. Normal melanocytes but no pigment production
   C. Extra melanin
   D. Overexpression of tyrosinase
11. Huntington's chorea is inherited as a:
   A. Recessive X-linked trait
   B. Autosomal dominant disorder
   C. Mitochondrial disorder
   D. Autosomal recessive disorder
12. A key feature of Huntington's chorea is:
   A. Anaemia and jaundice
   B. Loss of motor coordination and mental decline
   C. Hyperpigmentation
   D. Male infertility
13. In phenylketonuria, phenylalanine is not converted to:
   A. Tyrosine
   B. Alanine
   C. Glycine
   D. Serine
14. Which of the following disorders is also called Cooley's anaemia?
   A. Albinism
   B. β-Thalassemia
   C. Phenylketonuria
   D. Sickle cell anaemia
15. What is the pattern of inheritance in albinism?
   A. Sex-linked dominant
   B. Autosomal dominant
   C. Autosomal recessive
   D. X-linked recessive

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ANSWER KEY

1. C
2. C
3. B
4. C
5. C
6. C
7. A
8. B
9. C
10. B
11. B
12. B
13. A
14. B
15. C