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NEET PRINCIPLES OF INHERITANCE AND VARIATION — POLYGENIC INHERITANCE AND PLEIOTROPY — PYQS

Max. Marks: 32 **Questions:** 8

Section A (MCQ) — 8 questions

Q.1 What is the pattern of inheritance for polygenic trait? [NEET (UG) 2025]

(1) Autosomal dominant pattern
(2) X-linked recessive inheritance pattern
(3) Mendelian inheritance pattern
(4) Non-Mendelian inheritance pattern

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Q.2 Given below are two statements:
Statement-I: When many alleles of a single gene govern a character, it is called polygenic inheritance.
Statement-II: In Polygenic inheritance, the effect of each allele is additive.

In the light of the above statements, choose the correct answer from the options given below. [RE-NEET (UG) 2024]

(1) Statement-I is true but Statement-II is false
(2) Statement-I is false but Statement-II is true
(3) Both Statement-I and Statement-II are true
(4) Both Statement-I and Statement-II are false

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Q.3 Match **List-I** with **List-II**:

List - I Type of Inheritance		List - II Example	
A.	Incomplete dominance	I.	Blood groups in human
B.	Co-dominance	II.	Flower colour in *Antirrhinum*
C.	Pleiotropy	III.	Skin colour in human
D.	Polygenic inheritance	IV.	Phenylketonuria

Choose the correct answer from the options given below: [RE-NEET (UG) 2024]

(1) A-III, B-IV, C-II, D-I (2) A-II, B-I, C-IV, D-III
(3) A-II, B-III, C-I, D-IV (4) A-IV, B-I, C-III, D-II

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Q.4 The phenomenon of pleiotropism refers to [NEET (UG) 2023]

(1) Presence of two alleles, each of the two genes controlling a single trait
(2) A single gene affecting multiple phenotypic expression
(3) More than two genes affecting a single character
(4) Presence of several alleles of a single gene controlling a single crossover

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Q.5 Match the terms in **Column-I** with their description in **Column-II** and choose the correct option : [NEET 2016 (Phase 1)]

Column-I		Column-II	
a.	Dominance	i.	Many genes govern a single character
b.	Codominance	ii.	In a heterozygous organism only one allele expresses itself
c.	Pleiotropy	iii.	In a heterozygous organism both alleles express themselves fully
d.	Polygenic inheritance	iv.	A single gene influences many characters

(1) (a)-(ii), (b)-(iii), (c)-(iv), (d)-(i)
(2) (a)-(iv), (b)-(i), (c)-(ii), (d)-(iii)
(3) (a)-(ii), (b)-(ii), (c)-(iv), (d)-(iii)
(4) (a)-(iv), (b)-(iii), (c)-(i), (d)-(ii)

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Q.6 Inheritance of skin colour in humans is an example of: [AIPMT 2007]

(1) Chromosomal aberration

(2) Polygenic inheritance

(3) Codominance

(4) Point mutation

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Q.7 Which one of the following is an example of polygenic inheritance? [AIPMT 2006]

(1) Skin colour in humans

(2) Pod shape in garden pea

(3) Production of male honey bee

(4) Flower colour in *Mirabilis jalapa*

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Q.8 Which of the following is the example of pleiotropy ? [AIPMT 2002]

(1) Thalassemia (2) Haemophilia

(3) Sickle cell anaemia (4) Colour blindness

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ANSWER KEY

Ques.	1	2	3	4	5	6	7	8			
Ans.	**4**	**2**	**2**	**2**	**1**	**2**	**1**	**3**			