

OPEN STUDENT FOUNDATION

CHAPTER 5 genetics

STD 12TH Biology

Date : 20/02/24

Total Marks: 30

PRACTICE SHEET DAY 2

Time: 1 hr

Section A

- Choose correct answer from the given options. [Each carries 1 Mark] [8]
- One of the following is correct statement.
(A) Dominant trait is expressed in homozygous condition.
(B) Dominant trait cannot be expressed in heterozygous condition
(C) Recessive trait can only be expressed in homozygous condition
(D) Recessive trait can always expressed in heterozygous condition
 - In *Mirabilis jalapa* red and white flowers are crossed, what can be phenotype and genotype of F_2 generation ?
(A) 1 : 2 : 1 and 3 : 1 (B) 3 : 1 and 1 : 2 : 1 (C) 1 : 2 : 1 and 1 : 2 : 1 (D) 9 : 3 : 4 and 3 : 1
 - Dihybrid cross explains
(A) law of dominance (B) purity of gametes
(C) independent assortment (D) law of segregation
 - A blue fowl was obtained after crossing between a white and black fowl. Than the ratio of their F_2 generation will be
(A) 3 : 1 (B) 9 : 2 (C) 1 : 2 : 1 (D) 13 : 3
 - In *Lathyrus odoratus* the crossing over between two white and purple is case of
(A) co-dominance (B) incomplete dominance
(C) polymerization (D) complementary gene action
 - The work of Mendel was published in year
(A) 1900 (B) 1901 (C) 1884 (D) 1866
 - The commonly used animal in genetics is
(A) echerichia coli (B) drosophila (C) neurospora (D) chlorella
 - Three children in a family have blood types O, AB and B respectively. What as the genotypes of their parents ?
(A) $I^A I^B$ and ii (B) I_i^A and I_i^B (C) $I^A I^A$ and I_i^B (D) $I^B I^B$ and $I^A I^A$

Section B

- Write the answer of the following questions. [Each carries 2 Marks] [6]
- Write short note on pleiotropy.
 - Give scientific reason : Thalassemia and haemophilia categorised as Mendelian disorders.
 - Give scientific reason : The human male never passes on the gene for haemophilia to his son.

Section C

- Write the answer of the following questions. [Each carries 3 Marks] [12]
- Describe incomplete dominance.
 - Explain - Co-dominance in relation to human blood group.
 - Why are thalassemia and haemophilia categorised as Mendelian disorders ? Write the symptoms of these diseases. Explain their pattern of inheritance in humans.

7. Write short note on sickle-cell anaemia.

Section D

● Write the answer of the following questions. [Each carries 4 Marks]

[4]

8. Describe linkage and recombination in detail.



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Section [A] : 1 Mark MCQ

No	Ans	Chap	Sec	Que	Universal_Queld
1.	C	Chap 4	S9	2	QP23P11B1214_P1C4S9Q2
2.	C	Chap 4	S9	1	QP23P11B1214_P1C4S9Q1
3.	C	Chap 4	S9	4	QP23P11B1214_P1C4S9Q4
4.	A	Chap 4	S9	5	QP23P11B1214_P1C4S9Q5
5.	A	Chap 4	S9	7	QP23P11B1214_P1C4S9Q7
6.	A	Chap 4	S9	8	QP23P11B1214_P1C4S9Q8
7.	B	Chap 4	S9	13	QP23P11B1214_P1C4S9Q13
8.	B	Chap 4	S9	12	QP23P11B1214_P1C4S9Q12

Section [B] : 2 Marks Questions

No	Ans	Chap	Sec	Que	Universal_Queld
1.	-	Chap 4	S1	19	QP23P11B1214_P1C4S1Q19
2.	-	Chap 4	S2	9	QP23P11B1214_P1C4S2Q9
3.	-	Chap 4	S2	10	QP23P11B1214_P1C4S2Q10

Section [C] : 3 Marks Questions

No	Ans	Chap	Sec	Que	Universal_Queld
4.	-	Chap 4	S1	8	QP23P11B1214_P1C4S1Q8
5.	-	Chap 4	S1	10R2	QP23P11B1214_P1C4S1Q10R2
6.	-	Chap 4	S1	29	QP23P11B1214_P1C4S1Q29
7.	-	Chap 4	S1	27.4	QP23P11B1214_P1C4S1Q27.4

Section [D] : 4 Marks Questions

No	Ans	Chap	Sec	Que	Universal_Queld
8.	-	Chap 4	S1	17	QP23P11B1214_P1C4S1Q17