

OPEN STUDENT FOUNDATION

CHAPTER : Genetics

STD 12TH Biology

Date : 29/02/24

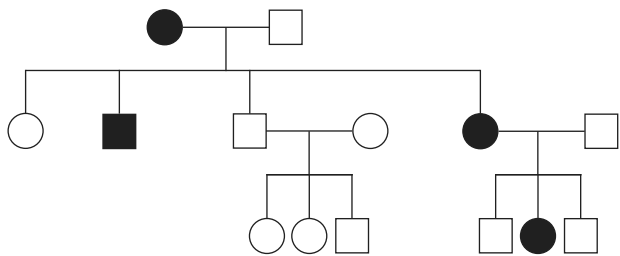
Total Marks: 30

PRACTICE SHEET DAY 13

Time: 1 hr

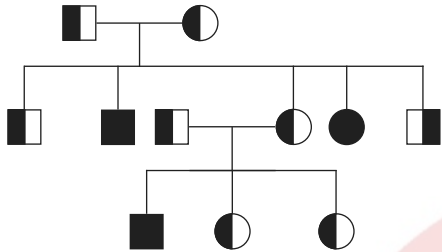
Section A

- Choose correct answer from the given options. [Each carries 1 Mark] [10]
- Frequency of recombination between gene pairs on same chromosome as a measure of the distance between genes to map their position on chromosome, was used for the first time by
(A) Henking (B) Thomas Hunt Morgan
(C) Sutton and Boveri (D) Alfred Sturtevant
 - The phenomenon of pleiotropism refers to
(A) more than two genes affecting a single character.
(B) presence of several alleles of a single gene controlling a single crossover.
(C) presence of two alleles, each of the two genes controlling a single trait.
(D) a single gene affecting multiple phenotypic expression.
 - Broad palm with single palm crease is visible in a person suffering from-
(A) Thalassemia (B) Down's syndrome
(C) Turner's syndrome (D) Klinefelter's syndrome
 - Select the correct match
(A) Phenylketonuria Autosomal dominant trait
(B) Sickle cell anaemia - Autosomal recessive trait, chromosome-11
(C) Thalassemia - X linked
(D) Haemophilia - Y linked
 - Identify the wrong statement with reference to the gene 'I' that controls ABO blood groups.
(A) A person will have only two of the three alleles.
(B) When I^A and I^B are present together, they express same type of sugar.
(C) Allele ' i ' does not produce any sugar.
(D) The gene (I) has three alleles.
 - The production of gametes by the parents, formation of zygotes, the F_1 and F_2 plants, can be understood from a diagram called :
(A) Net square (B) Bullet square (C) Punch square (D) Punnett square
 - What map unit (Centimorgan) is adopted in the construction of genetic maps ?
(A) A unit of distance between two expressed genes representing 100% cross over.
(B) A unit of distance between genes on chromosomes, representing 1% cross over.
(C) A unit of distance between genes on chromosomes, representing 50% cross over.
(D) A unit of distance between two expressed genes representing 10% cross over.
 - Select the incorrect statement.
(A) In male grasshoppers 50% of sperms have no sex-chromosome
(B) In domesticated fowls, sex of progeny depends on the type of sperm rather than egg.
(C) Human males have one of their exchromosome much shorter than the other
(D) Male fruit fly is heterogametic.
 - Study the given chart of pedigree, select the correct option for it.



- (A) X - linked Recessive
 (B) Autosomal Recessive
 (C) X - linked Dominant
 (D) Autosomal Dominant

10. Which types of Abnormalities seen in given chart



- (A) Autosomal dominant
 (B) X-Linked dominant
 (C) Autosomal Recessive
 (D) X-Linked Recessive

Section B

● Write the answer of the following questions. [Each carries 2 Marks]

[10]

1. Explain – Phenylketonuria.
2. Explain XX-XO type of sex determination.
3. Give the example of each
 - (i) Autosomal dominant trait
 - (ii) Autosomal recessive trait
 - (iii) X-linked dominant trait
 - (iv) X-linked recessive trait
4. Mention any two examples of pleiotropism.
5. During Dihybrid cross experiment, in F_2 generation what was the Genotype of Round yellow seed and also the number ?

Section C

● Write the answer of the following questions. [Each carries 3 Marks]

[3]

6. Describe Sex Determination in Honey Bee

Section D

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

[8]

7. Explain Linkage & Recombination.
8. What is point mutation ? Explain with an example

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Section [A] : 1 Mark MCQ

No	Ans	Chap	Sec	Que	Universal_Queld
1.	D	Chap 4	S6	361	QP23P13B1214_P1C4S6Q361
2.	D	Chap 4	S6	362	QP23P13B1214_P1C4S6Q362
3.	B	Chap 4	S6	363	QP23P13B1214_P1C4S6Q363
4.	B	Chap 4	S6	371	QP23P13B1214_P1C4S6Q371
5.	B	Chap 4	S6	370	QP23P13B1214_P1C4S6Q370
6.	D	Chap 4	S6	369	QP23P13B1214_P1C4S6Q369
7.	B	Chap 4	S6	377	QP23P13B1214_P1C4S6Q377
8.	B	Chap 4	S6	382	QP23P13B1214_P1C4S6Q382
9.	C	Chap 4	S5	340	QP23P13B1214_P1C4S5Q340
10.	D	Chap 4	S5	345	QP23P13B1214_P1C4S5Q345

Section [B] : 2 Marks Questions

No	Ans	Chap	Sec	Que	Universal_Queld
1.	-	Chap 4	S1	28	QP23P13B1214_P1C4S1Q28
2.	-	Chap 4	S3	9	QP23P13B1214_P1C4S3Q9
3.	-	Chap 4	S3	14	QP23P13B1214_P1C4S3Q14
4.	-	Chap 4	S3	18	QP23P13B1214_P1C4S3Q18
5.	-	Chap 4	S3	19	QP23P13B1214_P1C4S3Q19

Section [C] : 3 Marks Questions

No	Ans	Chap	Sec	Que	Universal_Queld
6.	-	Chap 4	S1	26	QP23P13B1214_P1C4S1Q26

Section [D] : 4 Marks Questions

No	Ans	Chap	Sec	Que	Universal_Queld
7.	-	Chap 4	S1	19	QP23P13B1214_P1C4S1Q19
8.	-	Chap 4	S1	32	QP23P13B1214_P1C4S1Q32