

ETERNAL CAREER CLASSES

SUBJECT : BIOLOGY

CLASS : XII

FULL MARKS : 20

NAME :

BOARD TEST : 10

DATE : 14.12.2024

SECTION - A





Single answer type question. Attempt any seven question :-

Marks : $1 \times 7 = 7$

- Which of the following is a correct match pair ?
 - Gene – Alternate form of a character
 - Gene locus – Position of a gene on chromosome
 - Trait – Determinant of a character
 - Allelomorph – Dominant allele
- Which of the following is a correct match pair ?
 - Heterozygous – Gene pair contain two identical genes
 - Homozygous – Gene pair contain two different genes
 - Dominant allele – Express itself in heterozygous condition only
 - Recessive allele – Express itself in homozygous condition only
- Select the option which correctly represents the gametes produced by TT and tt parents
 - 2 different types of gametes containing TT and tt combinations
 - Only one type of allele containing Tt combination
 - 2 different types of gametes, containing T and t alleles
 - 3 different types of gametes, containing TT, tt and Tt combinations
- A test cross between ww (homozygous recessive) and Ww (heterozygous dominant) will result in the production of
 - 75% dominant and 25% recessive
 - 25% dominant and 75% recessive
 - 50% dominant and 50% recessive
 - 80% dominant and 20% recessive
- Which of the following statement correctly represents the significance of a test cross ?
 - it is used to generate new genotypic combinations in monohybrid cross.
 - it is used to determine the genotype of a dominant phenotype .
 - it is used to determine the phenotype of all the genotypes.
 - it is used to generate whether an allele is dominant or recessive.
- Identify the correct match pair regarding dihybrid cross
 - Number of genotypic classes in F_2 – generation – Three
 - Number of offsprings produced in F_2 –generation – Four
 - Number of phenotypic classes in F_2 –generation – Four
 - Number of gametes produced in F_2 –generation – Two
- Which of the following relations are correct regarding linkage and recombination ?
 - Recombination \propto Distance between genes
 - Recombination $\propto \frac{1}{\text{Distance between genes}}$
 - Linkage \propto Distance between genes
 - Linkage $\propto \frac{1}{\text{Distance between genes}}$

Choose the answer from the options given below .

 - I and III
 - I and IV
 - II and III
 - II and IV
- Identify the correct match pair regarding symbols used in pendigree analysis ?

- (a)  → Five affected offsprings
- (b)  → Consanguineous mating
- (c)  → Males
- (d)  → Parents with female child affected with disease

9. Choose the incorrect match pair .
- (a) Monohybrid cross – Cross in which only one pair of contrasting character is considered
- (b) Dihybrid cross – Cross in which two pairs of contrasting characters are considered
- (c) Reciprocal Cross – Independent of sex of parents
- (d) Back cross – Cross of the hybrid of F_1 – generation with recessive parent only
10. A disease caused by an autosomal primary non-disjunction is
- (a) Down's syndrome
- (b) Klinefelter's syndrome
- (c) Turner's syndrome
- (d) Sickle – cell anaemia

SECTION - B

Short answer type question. Attempt any one question :-

Marks : $1 \times 3 = 3$

11. Explain Down's syndrome.
12. What are Sex chromosomes?

Long answer type question. Attempt any two question :-

Marks : $2 \times 5 = 10$

13. What is aneuploidy? Differentiate between aneuploidy and polyploidy.
14. Describe the individuals with the following chromosomal abnormalities:
- Trisomy at chromosome 21
- XXY
- XO
15. Explain autosome, hemizygous, homozygous, and heterozygous?
