

DPP

DAILY PRACTICE PROBLEMS

Class : XIIth

Date :

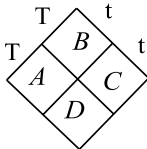
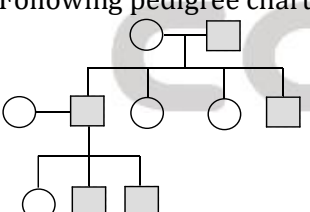
Subject : BIOLOGY

DPP No. : 1

Topic :- Principles Of Inheritance & Variation

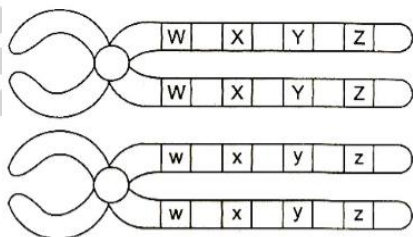
- A condition characterized by not having an exact number of chromosomes in a multiple of haploid set is called
 - Polyploidy
 - Synploidy
 - aneuploidy
 - None of these
- Choose correct option for A, B, C and D

TT × Tt

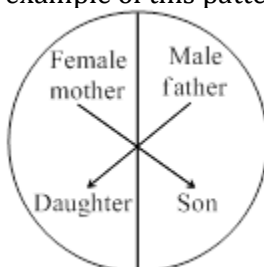

 - A-tt, B-TT, C-TT, D-TT
 - A-Tt, B-Tt, C-Tt, D-Tt
 - A-TT, B-TT, C-Tt, D-TT
 - A-Tt, B-Tt, C-Tt, D-TT
- When a cross is conducted between black feathered hen and a white feathered cock, blue feathered fowls are formed. When these fowls are allowed for interbreeding, in F₂- generation, there are 20 blue fowls. What would be the number of black and white fowls?
 - Black 20, white 10
 - Black 20, white 20
 - Black 10, white 10
 - Black 10, white 20
- Chromosomes are made up of
 - DNA and protein
 - RNA and DNA
 - DNA and histone
 - Only histones
- In pedigree analysis, the square, blackened and horizontal lines represents
 - Female, healthy individual, parents
 - Female, affected individual, parents
 - Male, affected individual, parents
 - Male, affected individual, progeny
- Following pedigree chart shows
 
 - Character is carried by Y-chromosome
 - Character is sex-linked recessive
 - Character is sex-linked dominant
 - Character is recessive autosomal
- Mr. Sidd is suffering from hypertrichosis and phenylketonuria. His father is heterozygous for phenylketonuria. The probability of Sidd's sperm having one recessive autosomal allele and holandric gene is
 - $\frac{1}{2}$
 - $\frac{1}{8}$
 - $\frac{1}{10}$
 - $\frac{1}{4}$

8. F_3 -generation is obtained by
 - a) Selfing of F_1
 - b) Selfing of F_2
 - c) Crossing of F_1 and F_2
 - d) None of these
9. In which one of the following, complementary gene interaction ratio of 9 : 7 is observed?
 - a) Fruit shape in Shepherd's purse
 - b) Coat colour in mouse
 - c) Feather colour in fowl
 - d) Flower colour in pea
10. Starch synthesis gene in pea plant is the example of
 - a) Single gene produce more than one effects
 - b) Multiple genes produce more than one effects
 - c) Two genes produce more than one effects
 - d) Multiple genes produce less than one effects
11. In *Drosophila*, the sex is determined by
 - a) The ratio of pairs of X-chromosomes to the pairs of autosomes
 - b) Whether the egg is fertilized or develops parthenogenetically
 - c) The ratio of number of X-chromosomes to the set of autosomes
 - d) X and Y-chromosomes
12. The 1 : 2 : 1 ratio with the pink flower in the F_2 -generation indicate the phenomenon of
 - a) Dominance
 - b) Codominance
 - c) Incomplete dominance
 - d) Segregation
13. Sexual reproduction leads to
 - a) Genetic recombination
 - b) Polyploidy
 - c) Aneuploidy
 - d) Euploidy
14. Husband has blood group-A and wife has blood group-B. What is the blood group of children?
 - a) A
 - b) B
 - c) AB
 - d) A, B, AB and O

15. Study the following figure and find out the most probable position at which the crossing over takes place

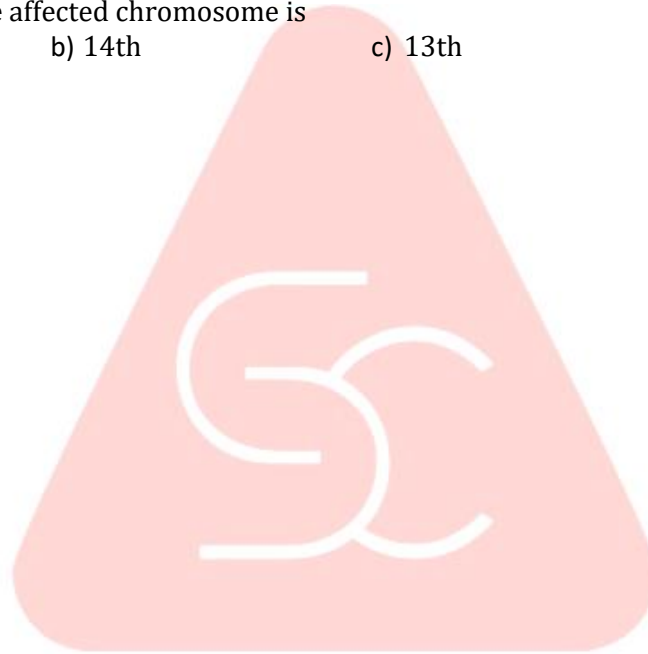


- a) w and W
 - b) X and y
 - c) y and Z
 - d) w and z
16. Given diagram shows certain type of traits in human. Which one of the following option could be an example of this pattern?



- a) Haemophilia
 - b) Anaemia
 - c) Phenylketonuria
 - d) Thalassaemia

17. In case of incomplete dominance, what will be the phenotypic ratio of F_2 generation?
a) 3 : 1 b) 1 : 2 : 1 c) 1 : 1 : 1 : 1 d) 2 : 2
18. Haemophilia, a X-linked recessive disease is caused due to deficiency of
a) Blood plasma and vitamin-K b) Blood platelets and haemoglobin
c) Lack of clotting material and vitamin-K d) All of the above
19. All of this obeys Mendel's laws except
a) Codominance b) Independent assortment
c) Dominance d) Purity of gametes
20. in β -thalassaemia, the affected chromosome is
a) 16th b) 14th c) 13th d) 19th



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