Chapter 3 : Inheritance and Variation

(1) Chromosomal theory of inheritance was proposed by ..... .

(a) Sutton and Boveri (b) Watson and Crick

(c) Miller and Urey (d) Oparin and Halden

(2) A colour blind man marries a woman, who is homozygous for normal colour vision, the probability of their son being colour blind is ..... .

(a) 0% (b) 25% (c) 50% (d) 100%

(3) Which one of the following characters is recessive in case of pea plant?

(a) Axial flower (b) Green pod

(c) Green seed (d) Inflated pod

(4) When phenotypic and genotypic ratios are the same, then it is an example of ..... .

(a) incomplete dominance (b) complete dominance

(c) multiple alleles (d) cytoplasmic inheritance

(5) Inheritance of AB blood group is due to ---------- .

(a) incomplete dominance (b) polyploidy

(c) polygeny (d) co-dominance

(6) A cross between an individual with unknown genotype for a trait with recessive plant for that trait is ..... .

(a) back cross (b) reciprocal cross

(c) monohybrid cross (d) test cross

(7) In a cell, primary basic number of chromosome is determined by X. Identify the type of aneuploidy where $X = (2n - 2)$. ***(Sept. '21)***

(a) Monosomy (b) Trisomy

(c) Tetrasomy (d) Nullisomy

(8) Deviations from Mendel's findings are known as ..... .

(a) Neo-Mendelism (b) pure genetics

(c) interactive genetics (d) classical genetics

(9) Which of the following is phenotypic ratio of incomplete dominance in *Mirabilis jalapa*?

(a) 2 : 1 : 1 (b) 1 : 2 : 1

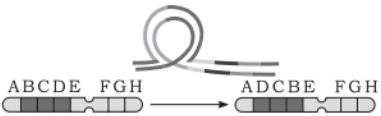
(c) 3 : 1 (d) 2 : 2

(10) If the centromere is situated near the end of the chromosome, the chromosome is called ..... .

(a) Metacentric (b) Acrocentric

(c) Sub-Metacentric (d) Telocentric

(11)



Which event is represented by the above diagram related to chromosomal aberrations? ***(March '22)***

(a) Deletion (b) Duplication

(c) Inversion (d) Translocation

(12) If the genes are located in a chromosome as p-q-r-s-t, which of the following gene pairs will have least probability of being inherited together?

(a) p and q (b) r and s

(c) s and t (d) p and s

(13) Down's syndrome is represented by ..... .

(a) $n+1$ (b) $2n+1$ (c) $3n+1$ (d) $n-1$

(14) In which of the following disorders the number of chromosomes present is (extra) 47?

(a) Turner's syndrome

(b) Cushing's syndrome

(c) Acquired immuno-deficiency syndrome

(d) Down's syndrome

Ans. (1) (a) Sutton and Boveri **(2)** (a) 0% **(3)** (c) Green seed **(4)** (a) incomplete dominance **(5)** (d) co-dominance **(6)** (d) test cross **(7)** (d) Nullisomy **(8)** (a) Neo-Mendelism **(9)** (b) 1 : 2 : 1 **(10)** (d) Telocentric **(11)** (c) Inversion **(12)** (d) p and s **(13)** (b) $2n+1$ **(14)** (d) Down's syndrome.