

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION MAY 2024
(Third Semester)

Branch – ZOOLOGY

GENETICS

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (5 x 1 = 5)

- 1 The _____ is popularly called as law of purity of gametes.
(i) Law of dominance (ii) Law of segregation
(iii) Law of Independent assortment (iv) Hardy Weinberg law
- 2 Lethal genes are expressed when genes are ?
(i) homozygous dominant (ii) heterozygous dominant
(iii) homozygous recessive (iv) None of the above
- 3 Eye colour in Drosophila is produced by
(i) Multiple alleles (ii) Pseudoalleles
(iii) Linked genes (iv) Sex linked genes
- 4 An individual having XXXY constitution of sex chromosome will have ___
Barr bodies
(i) 3 (ii) 4
(iii) 2 (iv) 1
- 5 Inborn errors of metabolism in human being was first reported by
(i) Archibold Garod (ii) Murray Barr
(iii) Turpin and Gantier (iv) Jacob and Monad

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 3 = 15)

- 6 a State the Law of Dominance with suitable example.
OR
b Explain the phenomenon of Incomplete dominance.
- 7 a Describe supplementary gene interaction
OR
b Analyze lethal genes and its effect on man.
- 8 a Narrate on complete and incomplete linkage
OR
b Summarise Pedigree analysis with example.
- 9 a Outline the Turner syndrome with their characteristic features.
OR
b Comment on Barr body and its significance.
- 10 a State Hardy Weinberg law and mention factors affecting the Hardy Weinberg equilibrium.
OR
b Explain the significance of Heterosis.

Cont...

SECTION -C (30 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

- 11 a State the Law of segregation with suitable example.
OR
b Explain the phenomenon of co-dominance.
- 12 a Describe how complementary gene interaction deviates from Mendelian dihybrid ratio
OR
b Analyze Rh blood grouping in man and the effect of Rh incompatibility.
- 13 a Narrate on sex determination in man.
OR
b Summarise Extra chromosomal inheritance with example.
- 14 a Outline the various structural and numerical aberrations
OR
b Bring out the major characteristic features of person affected by Down's syndrome.
- 15 a Compare and contrast between Inbreeding and Outbreeding.
OR
b Explain the significance of Sickle cell anaemia.

Z-Z-Z

END