

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

Branch - **ZOOLOGY**

GENETICS

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	During gamete formation the genes of a particular character separate and enter different gametes is ---- a) Law of segregation b) law of dominance c) Law of independent assortment d) Incomplete dominance	K1	CO1
	2	The two genes controlling a character are called ----- a) Crossing over b) Coupling c) Alleles d) Epistasis	K2	CO2
2	3	When a single character is controlled by two or more pairs of non- allelic genes independently called ----- a) Supplementary genes b) Duplicate genes c) Complementary genes d) Lethal genes	K1	CO1
	4	The prevention of the expression of a gene by a recessive non-allelic gene is called ----- a) Dominant epistasis b) Recessive epistasis c) Complementary genes d) Supplementary genes	K2	CO2
3	5	The separation of linked genes during inheritance is called ----- a) Complete linkage b) Incomplete linkage c) Coupling d) Repulsion	K1	CO1
	6	Which of the following disease is sex linked? a) Phenylketonuria b) Anaemia c) Alkaptonuria d) Haemophilia	K2	CO2
4	7	The chromosomal aberration where non-homologous chromosomes exchange segments is called ----- a) Translocation b) Inversion c) Duplication d) Deletion	K1	CO1
	8	----- is a genetical disease in human female caused by the absence of one X chromosome a) Klinefelter's syndrome b) Turner's syndrome c) Down's syndrome d) Sickle cell anaemia	K2	CO2
5	9	----- is a hereditary defect where the melanin pigments are absent from the skin a) Phenylketonuria b) Alkaptonuria c) Albinism d) Haemophilia	K1	CO1
	10	The of improvement of existing human race is called ----- a) Eugenics b) Euthenics c) Inbreeding d) Outbreeding	K2	CO2

Cont...

SECTION - B (35 Marks)Answer **ALL** questions**ALL** questions carry **EQUAL** Marks

(5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Describe the law of dominance.	K1	CO1
	(OR)			
	11.b.	Explain the law of segregation with example.	K1	CO1
2	12.a.	Write a note on inheritance of supplementary genes with example.	K2	CO2
	(OR)			
	12.b.	Discuss about duplicate genes.	K2	CO2
3	13.a.	Summarize the complete and incomplete linkage.	K2	CO2
	(OR)			
	13.b.	Comment on pedigree analysis.	K2	CO2
4	14.a.	Explain about Klinfelter's syndrome.	K4	CO4
	(OR)			
	14.b.	Describe about the Barr body.	K4	CO4
5	15.a.	Give an account of sickle cell anaemia.	K5	CO5
	(OR)			
	15.b.	Summarize the inborn errors of metabolism.	K5	CO5

SECTION - C (30 Marks)Answer **ANY THREE** questions**ALL** questions carry **EQUAL** Marks

(3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Elucidate Mendel's law of independent assortment with suitable example.	K2	CO2
2	17	What is epistasis? and explain the dominant and recessive epistasis with examples.	K3	CO3
3	18	Discuss about sex linked inheritance in man with any two examples.	K3	CO3
4	19	Explain in detail the numerical chromosomal abnormalities.	K4	CO3
5	20	Give an account on inbreeding and out breeding with its merits and demerits.	K5	CO5

Z-Z-Z

END