

SCHOOL OF BIO SCIENCES AND TECHNOLOGY
Continuous Assessment Test - I, August-2025
M.Sc. (5 Year Integrated), FALL SEMESTER 2025-2026

Course Code :	TBIT201L	Duration :	90 Minutes
Course Name :	Genetics	Max. Marks :	50
Class no :	VL2025260101013/ 1014	Slot :	B1+TB1
Faculty-In-Charge:	Dr. SUNITA NAYAK and Dr. ARAVIND SELVIN KUMAR R		

Answer all the questions

S. No	Question	Marks	CO	BL
1	Draw the Punnett square and determine the phenotype and genotype ratios for a test cross and Mendelian mono- and dihybrid crosses	10	CO 1	BL 3
2	How is epistasis different from dominance? Do you think epistasis falls under Mendelian inheritance? Justify your answer. Describe any two types of epistasis with suitable examples.	10	CO 1	BL2
3	Red-green colorblindness is a sex-linked trait, that appears in the recessive condition. A woman with normal color vision, whose father was color-blind, marries a man with normal color vision. a. What is the genotype of each person described above? (5) b. What genotypes do you expect to see among their offspring? (5)	10	CO 2	BL1
4	 a. Which members of the family above are affected by Huntington's Disease? (2 ½) b. There are no carriers for Huntington's Disease- what kind of inheritance pattern it shows? (2 ½) c. How many children did individuals I-1 and I-2 have? (2 ½) d. What genotype does II-1 and II-2 have? (2 ½)	10	CO 2	BL3
5	Explain with diagram the chromosomal disorders due to structural abnormalities.	10	CO 2	BL1