JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2026

M.Sc.- I Semester (Biotechnology)

COURSE CODE (CREDITS): 02, 20MS1BT115 MAX. MARKS: 15

COURSE NAME: Genetics

COURSE INSTRUCTOR: Prof. Sudhir Kumar MAX. TIME: 1 Hour

Note: *(a) All questions are compulsory.*

(b) The candidate is allowed to make suitable numeric assumptions wherever required for solving problems.

(c) Use of calculator is allowed.

Q.No	Question	CO	Marks
Q1	"Drosophila fly is a model in Precision medicine." Justify this statement with logical reasoning and what are the steps to insert human DNA into Fly.	II	03
Q2	Design a flow chart to explain the strategy of Gene Pyramiding and mention its significance.	II	03
Q3	The ability to taste PTC is due to a single dominate allele "T". You sampled 215 individuals in biology, and determined that 150 could detect the bitter taste of PTC and 65 could not. Calculate all of the potential frequencies.	III	03
Q4	What were the conceptual errors in theory of Blending Inheritance and theory of Inheritance of Acquired Characteristics?	I	03
Q5	Elaborate on the concept of Fine Structure of Gene and its essential components.	I	03

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