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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST - 3 EXAMINATIONS - 2026

B.Tech-VIII Semester (Biotechnology)

COURSE CODE (CREDITS): 18B1WBT831(03)

MAX MARKS: 35

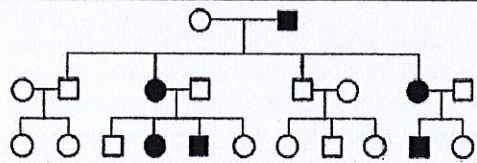
COURSE NAME: Genetic Counselling

COURSE INSTRUCTOR: Prof. Sudhir Kumar

MAX. TIME: 2 Hours

Note: (a) All questions are compulsory.

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

Q.No.	Questions	CO	Marks
Q1	a) "Risk # Certainty" . Elaborate this concept of Genetic Counselling in light of at least two human diseases. b) Rh negative pregnant woman shows antibodies in blood test. Is giving anti-D useful now?	IV	2.5 each
Q2	a) Differentiate between Parkinson's diseases and Lewy Body Dementia. b) Is there any situation where in a Genetic Counselor should choose Directive Counselling? Justify your answer.	I	2.5 each
Q3	What are the reasons for Retinoblastoma and what information can be given to parents of affected child on next pregnancy and on taking care of affected child.	II	5
Q4	A woman has a sister suffering from X-linked recessive disorder, prepare a pedigree indicating their genotypes including of their parents and if they got married with normal partners, what is the probability that 02 out of 04 of their children (in each case) will be suffering from this disease. Show your work and calculation, prepare the pedigree nicely and include explanation wherever required.	IV	7
Q5	a) Does having a Y chromosome make someone a man? Justify your answer. b) Which viral vector is most promising in gene therapy? Justify your answer with logical reasoning.	III	2.5 each
Q6	 What is the most probable inheritance pattern and why? Indicate genotypes of each individual.	II	5
Q7	How one should prepare for a genetic counselling visit?	I	3