JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2026

M.Sc.-II Semester (BT & Microbio.)

COURSE CODE (CREDITS):**24MS1BT211 (3)** MAX. MARKS: **15**

COURSE NAME: **Molecular Diagnostics and Forensic Biology**

COURSE INSTRUCTOR: **Dr. Jitendraa Vashistt** 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 calculators is not allowed.*

Q.No	Question	Marks
Q1	Define the body fluid for identification of disease/pathogen for following. a) Cancer b) Diabetes mellitus c) Tuberculosis disease. Also explain the different precautions during the collection, preservation and transport of body fluids as clinical specimens.	3
Q2	If you want to diagnose a disease in a population of 200 persons with a time span of 1 hour, which of the biomarker (nucleic acid or protein) will be utilized? Explain the benefit and limitation of the test utilized based on choice of above mentioned biomolecules.	3
Q3	How do you differentiate between a) 'acute disease' and 'chronic disease' b) 'Symptomatic disease' and 'Asymptomatic disease'	3
Q4	Explain the phenomenon of usage of 'false positive' and 'false negative' test results in molecular diagnosis. Justify the answer with suitable example.	3
Q5	What are the consequences if following get changed from optimum amount during "Polymerase chain reaction"? a) Annealing temperature b) Primers c) Mg ions	3

160