JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- 2025

B.Tech-VIII Semester (Open Elective)

COURSE CODE (CREDITS): 21B1WPH831 (03)   MAX. MARKS: 25

COURSE NAME: Biosensors

COURSE INSTRUCTORS: Ragini Raj Singh   MAX. TIME: 1 Hour 30 Min

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

(b) *The candidate is allowed to make Suitable numeric assumptions wherever required*

for solving problems

(c)*Candidate is allowed to use calculator.*

Q.No	Question	CO	Marks
Q1	**a.** We encounter with errors in measurements, how you can explain it.	2	1
	b. Discuss (i) Systematic errors (ii) Environmental errors		2 1
Q2	Discuss limiting and relative limiting error with all the necessary equations and explanation.	2	3
Q3	The set of voltage measurement that were recorded by eight different students in the laboratory as follows: 432V, 448V, 443V, 435V, 446V, 431V, 443V and 436. Calculate the Arithmetic mean, Deviations from mean, average deviation, the standard deviation, variance and probable error on recorded voltage data.	3	4
Q4	What is calibration of measurement systems? Calibration methods are classified into two types discuss them.	3	3
Q5	Explain Classification of transducers as follows: a) On the basis of transduction form used b) Primary and Secondary Transducers c) Active and Passive Transducers d) Transducers and Inverse Transducers	3	1 1 1 1
Q6	Explain the following with proper diagrams: a) Capacitive transducers b) Piezoelectric Transducers c) Photovolatic cell d) Resting and action potential of a biological cell	4	2 1.5 1.5 2