JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2026

B.Tech-I Semester (CSE/IT/BT/ECE/CE)

COURSE CODE (CREDITS):18B11CI314 (3) MAX. MARKS: 15

COURSE NAME: Python Programming Essentials

COURSE INSTRUCTOR: Harsh Srivastava 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 not allowed

Q.No	Question	CO	Marks
Q1	(a) Differentiate between = and == in Python. Give a code example showing the common error of using = in an if condition. (b) Evaluate these expressions (show order of operations) and state the outputs: • 10 + 3 * 2 ** 2 • (25 // 4) + (25 % 4)	CO1	1.5+1.5
Q2	(a) Write a function calc_rect(length, breadth) that returns a tuple of (area, perimeter). Call it with 5, 3 and print the results. (b) Explain local vs global scope with an example. Show how to modify a global variable counter = 10 inside a function using the global keyword.	CO1	1.5+1.5
Q3	(a) Write a while loop to print numbers 1–50. Use if-elif-else to print "Fizz" for multiples of 3, "Buzz" for multiples of 5, and "FizzBuzz" for both. (b) Write a function is_perfect(n) that returns True if n equals the sum of its proper divisors. Test it for n = 28 and n = 10.	CO2	1.5+1.5
Q4	(a) Reverse the string "Python Programming" using a loop (without [::-1]). Then print every alternate character from the reversed string.	CO2	1.5+1.5

	(b) For text = "The quick brown fox jumps over the lazy dog", write code to: • Count total vowels. • Count total words. • Replace all 'o' with '0' and print.		
Q5	(a) Explain the Guess-and-Check method. Write a program using increment 0.01 to approximate the square root of 10 with accuracy 0.01. Print the root and its square. (b) Explain the Bisection method. Write a function bisection_sqrt(x, epsilon) to find the square root of 25 with epsilon = 0.01, showing the low/high bounds and mid-point logic.	CO2	5+1.5

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