JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2026

B.Tech-III Semester (CSE/IT)

COURSE CODE (CREDITS): 18B11CI315 (3) MAX. MARKS: 15

COURSE NAME: Python Programming with Raspberry PI

COURSE INSTRUCTOR: Deepanshu Sharma 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

UNIT TEST-1 EXAMINATION-AUG-2026

Q.No	Question	CO	Marks
Q1	a) Write a command to check the available memory of a Raspberry Pi. b) Write a Python script for a Raspberry Pi that turns a buzzer ON when a button is pressed and turns it OFF when the button is released. c) Write a pseudocode to implement a Raspberry Pi-based automatic street light system where the light turns ON if it is dark and a vehicle is detected. If either condition is not satisfied, the light should remain OFF.	1	5
Q2	Explain the role of I²C pins on a Raspberry Pi. How does the I²C interface allow multiple sensors to communicate with the Raspberry Pi using the same communication bus?	1	3
Q3	a) Given the tuple (4, 5, 6), write a Python expression to replace its first element with 1 and obtain the resulting tuple (1, 5, 6). b) How can you delete a specific key-value pair from a dictionary in Python? Write a suitable Python statement with an example.	2	2
Q4	What is the purpose of the WebBolt component in graphical programming? Explain its role in developing web-based applications.	3	2
Q5	Write a Python program to simulate a PIN verification system: • The user is given a maximum of three attempts to enter the PIN. • If the entered PIN is correct, display "Access Granted". • If the PIN is incorrect and attempts are still remaining, display "Incorrect PIN. Try again." and ask the user to enter the PIN again. • If the user fails on all three attempts, display "Account Locked" and terminate the program.	2	3

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	Assume that the correct PIN is "2468" and use the input() function to accept the PIN from the command line.		

JUIT TEST-1 EXAMINATION- AUG-2026