GUJARAT TECHNOLOGICAL UNIVERSITY
BE- SEMESTER–V (NEW) EXAMINATION – WINTER 2020

Subject Code:3151108   **Date:22/01/2021**
Subject Name:Python Programming
Time:10:30 AM TO 12:30 PM   **Total Marks: 56**

Instructions:
1. **Attempt any FOUR questions out of EIGHT questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

			Marks
Q.1	(a)	Briefly explain Data types and Variable in Python.	03
	(b)	Write a program that calculates and prints the number of minutes in a year.	04
	(c)	Discuss following Python's operators: Arithmetic, Assignment, Comparison, Logical with suitable examples.	07
Q.2	(a)	What is The Structure and Behavior of a "while Loop" explain with example.	03
	(b)	Write a program that accepts the lengths of three sides of a triangle as inputs. The program output should indicate whether or not the triangle is a right triangle.	04
	(c)	Write a python script to Convert Decimal number to Binary number	07
Q.3	(a)	Discuss Boolean Functions with examples.	03
	(b)	Define a function named even. This function expects a number as an argument and returns True if the number is divisible by 2, or it returns False otherwise.	04
	(c)	Write a Python function to calculate the factorial of a number (a non-negative integer). The function accepts the number as an argument	07
Q.4	(a)	Discuss in brief python "Dictionaries" with example	03
	(b)	Assume that the variable data refers to the dictionary {'b':20, 'a':35}. Write the values of the following expressions: a. data['a'] b. data.get('c', None) c. len(data) d. data.keys()	04
	(c)	Write a Python function that checks whether a passed string is palindrome or not	07
Q.5	(a)	Discuss common functions for accessing files	03
	(b)	what are the differences between python and Micro python	04
	(c)	Write a Python program to copy the contents of a file to another file	07
Q.6	(a)	How to read CSV file in python explain with example.	03
	(b)	Discus the steps of Installation of MicroPython on Hardware	04
	(c)	Write a python program to find the longest words in a read file.	07
Q.7	(a)	Explain following fucntions of micropython: 1. uart.read(5); 2. pwm0.freq(1000) 3. wlan.scan()	03
	(b)	Write a micropython script to Blink led pin connected to GPIO digital pin 1 to 4 of ESP8266 continuously.	04
	(c)	Write a micropython script to read PIR sensor data for an ESP8266. If value is high print "Motion detected" otherwise print "Motion Stopped".	07
Q.8	(a)	Explain steps in micropython to connect esp module's wifi.	03
	(b)	Write a micro python program: if Button is Connected with Pin number 1 of ESP8266. When button is pressed toggle the leds connected to pin number 2 and 3.	04
	(c)	Write a micropython script to read and print DHT Sensor data for ESP8266 continuously.	07

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