Dr. Vivek

Roll No:...................

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- October 2019

B.Tech IT III Semester

COURSE CODE: 18B11CI315   MAX. MARKS: 25

COURSE NAME: PYTHON PROGRAMMING WITH RASPBERRY PI

COURSE CREDITS: 03   MAX. TIME: 1.5Hr

Note: All questions are compulsory. Each question carries equal marks. Carrying of mobile phone during examinations will be treated as case of unfair means.
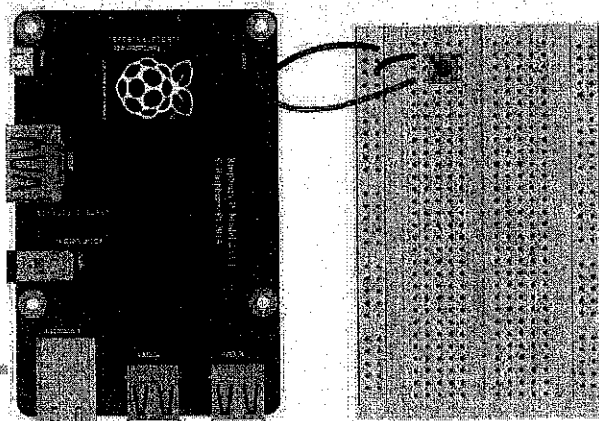
1. Explain the working and interface of following devices and sensors compatible with Raspberry Pi
   i. DHT11 and DHT22 sensors
   ii. BMP180 Barometer
   iii. Moisture Sensor
   iv. MQ-2 Gas Sensor
   v. HC-SR04 ultrasonic sensor
   vi. RFID-RC522 – Inductive RFID card reader
   vii. GPS NEO-6M Module
   viii. MPU-6050 Gyroscope
   ix. Arduino
   x. PCA9685 Servo Board

2. (a) What is the functionality of NOOBS during setting up Raspberry Pi 4? What is the difference between NOOBS and NOOBS Lite?
   (b) Write the all possible steps required to install an operating system on Raspberry Pi 4.

3. The terminal (or 'command-line') on a computer allows a user a great deal of control over their system (or in this case, Pi!). Write and explain the commands for:
   i. Navigating and browsing your Pi
   ii. History and auto-complete
   iii. Sudo
   iv. Installing software using apt
   v. Other useful commands: - cp, mv, rm, mkdir, cat
   vi. Pinout

4. (a) What is the role of GPIO Zero library in Python? Write the commands to install this library.

(b) WAP to turn an LED on and off repeatedly:
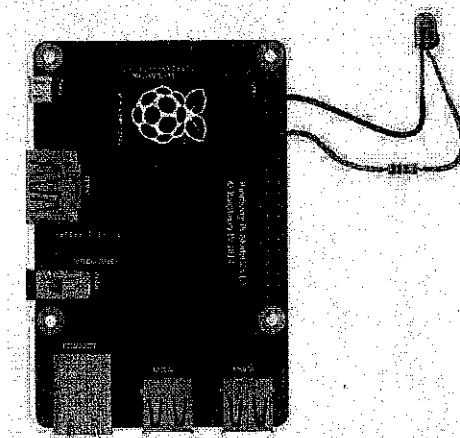
5. WAP to:
    i. Check if a Button is pressed
    ii. Wait for a button to be pressed before continuing
    iii. Run a function every time the button is pressed