BRAINWARE UNIVERSITY

Term End Examination 2024-2025
Programme – Dip.RA-2022
Course Name – Programming for IOT
Course Code - ECOE601B
(Semester VI)

Full Marks : 60   **Time : 2:30 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A
(Multiple Choice Type Question)   1 x 15=15

1. *Choose the correct alternative from the following :*

(i)   Identify the official website to download Python.

   a) www.python.org   b) www.python.com
   c) www.downloadpython.com   d) www.python-install.org

(ii) Select the command to check the installed Python version.

   a) python --check   b) python -V
   c) python --show-version   d) python -ver

(iii) Choose the Python command to run a script named script.py.

   a) python script.py   b) run script.py
   c) execute script.py   d) python -run script.py

(iv) Choose the logical operator that returns True if at least one condition is True.

   a) and   b) or
   c) not   d) nor

(v)   Identify the correct syntax for a nested if statement.

   a) if condition1: if condition2:   b) if condition1: \n if condition2:
   c) if condition1, if condition2:   d) if (condition1 && condition2):

(vi) Select the operator that checks for equality in Python.

   a) =   b) ==
   c) ===   d) !=

(vii) Identify the correct way to pass multiple parameters to a function.

   a) def myFunc(x, y):   b) def myFunc(x; y):
   c) def myFunc(x & y):   d) def myFunc(x y):

(viii) Select the default parameter in def myFunc(x, y=10):.

   a) x   b) y
   c) Both x and y   d) None

(ix) Select the correct term for a class that is inherited by another class.

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a) Superclass

b) Subclass

c) Derived class

d) Parent class

(x) Identify what happens when a subclass does not override a parent class method.

a) The method is inherited and used as-is

b) The subclass cannot use it

c) The program crashes

d) The subclass must redefine it

(xi) Select the command to change file permissions.

a) chmod

b) chown

c) chgrp

d) chperm

(xii) Select the command to kill a process using its ID.

a) kill

b) terminate

c) stop

d) end

(xiii) Identify the event that triggers a button press action in Tkinter.

a) onPress

b) click()

c) command

d) event.trigger()

(xiv) Indicate the default port used by Apache.

a) 22

b) 80

c) 443

d) 8080

(xv) Select the command to install the Raspberry Pi camera module.

a) sudo raspi-config

b) install-camera

c) setup-cam-module

d) enable-picam

Group-B
(Short Answer Type Questions)

3 x 5=15

2. Indicate which logical operator is used to invert a boolean value in Python. (3)
3. Explain how Tkinter is used to create a GUI application in Python. (3)
4. Identify the steps to install Python on a Windows system. (3)
5. Recognize the command used to list all connected hardware devices on a Raspberry Pi using (3)
   the shell.
6. Illustrate the differences between Raspberry Pi and Arduino. (3)

OR

Explain the benefits of using an operating system like Raspberry Pi OS. (3)

Group-C
(Long Answer Type Questions)

5 x 6=30

7. Explain any three built-in modules with examples. (5)
8. Explain the different types of errors in Python with examples. (5)
9. Extend to navigate the Linux file system using the command line. (5)
10. Discuss the role of the operating system on a Raspberry Pi. (5)
11. Discuss the Graphical User Interface (GUI) in Raspberry Pi, and why is it important. (5)
12. Explain the challenges and security concerns in remote camera access over the internet. (5)

OR

Explain how a simple internet-based camera access system works. (5)

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