



43313

Library
Brainware University
398, Ramkrishnapur Road, Barasat
Kolkata, West Bengal-700125



BRAINWARE UNIVERSITY

Term End Examination 2025-2026

Programme – Dip.RA-2024

Course Name – Introduction to IOT

Course Code - DEC40113

(Semester IV)

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) Indicate the correct file extension for Python files.

- | | |
|---------|------------|
| a) .py | b) .python |
| c) .pyt | d) .exe |

(iii) Select the function used to take user input in Python.

- | | |
|------------|-----------|
| a) get() | b) read() |
| c) input() | d) scan() |

(iv) Select the correct keyword for adding multiple conditions in an if-else statement.

- | | |
|------------|------------|
| a) elseif | b) elif |
| c) else if | d) next if |

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

- | | |
|--------|-------|
| a) = | b) == |
| c) === | d) != |

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

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

(vii) Identify the correct term for a class that inherits from another class.

- | | |
|---------------|------------------|
| a) Superclass | b) Subclass |
| c) Main class | d) Derived class |

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

- | | |
|------------------|-----------------|
| a) Superclass | b) Subclass |
| c) Derived class | d) Parent class |

- (ix) Identify the core component of the Linux operating system.
- | | |
|----------|---------------|
| a) GUI | b) Kernel |
| c) Shell | d) Bootloader |
- (x) Identify the default text editor in most Linux distributions.
- | | |
|------------|------------|
| a) nano | b) wordpad |
| c) notepad | d) write |
- (xi) Identify the desktop environment used by Raspberry Pi OS.
- | | |
|-------------|---------|
| a) Cinnamon | b) LXDE |
| c) GNOME | d) KDE |
- (xii) Choose the GPIO pin count on Raspberry Pi 4.
- | | |
|-------|-------|
| a) 20 | b) 30 |
| c) 40 | d) 50 |
- (xiii) Choose the correct command to read the value of a GPIO pin set as input.
- | | |
|--------------------|--------------------|
| a) GPIO.getvalue() | b) GPIO.input(pin) |
| c) GPIO.read(pin) | d) GPIO.fetch(pin) |
- (xiv) Indicate which of the following is NOT a GPIO protocol pin.
- | | |
|--------|---------|
| a) SDA | b) SCL |
| c) PWM | d) HDMI |
- (xv) Select the correct bit rate for standard I2C communication.
- | | |
|-------------|-------------|
| a) 100 kbps | b) 1 Mbps |
| c) 10 Mbps | d) 100 Mbps |

Library
Brainware University
398, Ramkrishnapur Road, Barasat
Kolkata, West Bengal-700125

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Identify the difference between `=` and `==` in Python. (3)
3. Identify the method used to sort a list in ascending order. (3)
4. Indicate when a destructor (`\_\_del\_\_` method) is called in Python. (3)
5. Identify the purpose of a class constructor (`\_\_init\_\_` method). (3)
6. Explain the structure of the Linux file system. (3)

OR

Illustrate the differences between Raspberry Pi and Arduino. (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Explain different types of numbers in Python and how mathematical operations are performed on them. (5)
8. Explain string manipulation in Python with examples. (5)
9. State the lists in Python. Explain with examples. (5)
10. Discuss the default and multiple parameters in Python functions. (5)
11. Discuss the General Purpose IO (GPIO) pins on the Raspberry Pi II, and what are their uses. (5)
12. Explain how to access a webcam using a shell in Raspberry Pi. (5)

OR

Focus the security considerations while sending emails programmatically. (5)
