

**Question 1 Answer the following questions:**

- i. Describe the key differences between Windows, DOS, and Linux operating systems. 7Marks
- ii. What are the ethical considerations in computer usage? Differentiate between professional and business ethics. 7Marks

OR

- i. Discuss the importance of computer security models in maintaining system integrity. 7Marks
- ii. Discuss the role of basic computer terminology in understanding the fundamentals of computing. 7Marks

**Question 2 Answer the following questions:**

- i. Explain the significance of Python as a programming language. Provide examples of its real- world applications. 7Marks
- ii. What are Python functions? Write a program to illustrate the use of a function in Python. 7Marks

OR

- i. Explain the use of modules and packages in Python. Write a program demonstrating their import. 7Marks
- ii. Compare and contrast string formatting and basic string operations in Python. 7Marks

**Question 3 Answer the following questions:**

- i. What is SCADA? Discuss its basic architecture and components. 7Marks
- ii. Illustrate the use of ISBN, QR Code, and Barcode as practical applications of encoding. 7Marks

OR

- i. Describe the role of Wireless Sensor Networks in IoT and their applications. 7Marks
- ii. Explain the key concepts of IoT, including system architecture and machine-to-machine communication. 7Marks

(P.T.O)

**Questions 4 Answer the following questions:**

- i. Explain the basics of HTML with an example of a simple webpage. 7Marks
- ii. Describe the steps involved in configuring a Linux server for hosting websites. 7Marks

**OR**

- i. Discuss the importance of mobile application firewalls in securing mobile apps. 7Marks
- ii. Explain the architecture and role of Linux in web hosting environments. 7Marks

**Questions 5: Attempt any Seven out of Twelve.**

14Marks

1. What is the difference between hardware and software?
2. Provide an example of a DOS command and its function.
3. Write a single-line Python statement to add two numbers.
4. What is a Python module? Provide an example.
5. Define string formatting in Python.
6. What is the purpose of the `__init__()` method in Python?
7. Define SCADA in one sentence.
8. What is the purpose of an RTU in a SCADA system?
9. Name two technologies used in IoT.
10. What is M2M communication?
11. Define virtualization in one sentence.
12. What is an overlay in the context of Apache?

.....X.....X.....