Answer ALL the questions, each question carries ONE mark   **20 x1=20**

I. **Select the correct answer from the choices given.**

1. Which memory is known for its high speed and is placed between the CPU and primary memory?
   a) Cache Memory   b) RAM   c) Secondary Memory   d) ROM

2. What kind of software is an antivirus program?
   a) Utility Software   b) System Software
   c) Application Software   d) Development Software

3. What is an algorithm?
   a) A set of exact steps to solve a problem   b) A programming language
   c) A type of computer hardware   d) A method of debugging

4. How many bits are in a byte?
   a) 4   b) 8   c) 16   d) 32

5. What is Artificial Intelligence (AI)?
   a) A form of computer software   b) Simulation of human intelligence by machines
   c) A type of robot   d) A programming language

6. In a flowchart, which symbol represents the start or end?
   a) Diamond   b) Oval   c) Rectangle   d) Parallelogram

7. Which language is called machine language?
   a) Python   b) Assembly   c) C++   d) 0s and 1s

8. What is source code?
   a) Machine language code   b) Assembly language code
   c) High-level language code   d) Hardware description

9. What is the symbol for the Python prompt in interactive mode?
   a) $ b) &   c) %   d) >>>

10. What is the keyword used to return a value from a function in Python?
    a) send   b) yield   c) return   d) give

11. Assertion (A): String is immutable data type.
    Reason(R): The contents of string can be altered after creation.
    a) A is true, R is false   b) A is false, R is true   c) A is true, R is true   d) A is false, R is false

12. What does the `+` operator do when applied to two lists?
    a) Concatenates them   b) Subtracts one from the other
    c) Multiplies them   d) Divides one by the other

13. Which operator is used to check if an element is not present in a tuple?
    a) in   b) is   c) not in   d) not is

14. What operator is used to repeat elements of a tuple?
    a) '+'   b) '-'   c) '/'   d) '*'

15. Which of the following browser is an open source software.
    a) Google Chrome   b) Firefox   c) Edge   d) All of the above

II. Fill in the blanks choosing the appropriate word from those given in the brackets.

(default , nested, for, input(), keys, index)

16. The ………….. function gets the input from the user.
17. The ………….. loop iterates over a sequence
18. The default value assigned to a parameter in a function definition is known as a _____ parameter.
19. A list within another list is called a _____ list.
20. Elements in a dictionary are accessed using _____

PART – B

III. Answer any FOUR questions. Each question carries TWO marks. 4x2=8

21. Write the differences between compiler and interpreter.
22. Write the difference between interactive mode and script mode.
23. Define
    a) Selection   b) Repetition
24. Define
    a) Modular Programming b) Flow of execution
25. Suppose tuple1=(2,4,6,8,10,12)
    What is the value returned for
    a) >>>tuple1[3]   b) >>>tuple1[1+4]
26. Explain any two net etiquettes.
27. Explain two kinds of digital footprints.

PART – C

IV. Answer any FOUR questions. Each question carries THREE marks. 4x3=12

28. Define:
    a) Proprietary software   b) Free software   c) Open source software
29. Write a note on ASCII.
30. Write the applications of virtual reality.
31. Write pseudocode to swap two numbers using third variable.
32. Draw flowchart to check whether input number is odd or even.
33. What is identity operator? Explain the types of identity operators.
34. Write the output of the following.
        Suppose str1 = 'Hello'
          str2 = 'world'
          a) >>> str1+str2   b) >>> str1*2   c) >>> 'Hello' in str1

PART – D

V. Answer any FOUR questions. Each question carries FIVE marks 4x5=20

35. What is a microprocessor? Explain the features of microprocessor.
36. What is operating system? Explain the functions of operating system.
37. Define :
    a) Natural language processing   b) Block chain   c) Robotics   d) Internet of things e) Machine learning
38. Write pseudocode and flowchart to find area and perimeter of rectangle.
39. Explain relational operators with example.
40. Write the advantages of functions.
41. Write the purpose of the following functions for list manipulations.
    a) len( )   b) sorted( )   c) reverse( )   d) index( )   e) insert( )

VI. Answer any TWO questions. Each question carries FIVE marks.   **2x5=10**

42. Convert
    a. $1110001000_{(2)} = ?_{(8)}$
    b. $4052_{(10)} = ?_{(16)}$
    c. $120_{(10)} = ?_{(2)}$

43. Write a program in python to print
    12345
    1234
    123
    12
    1

44. Write the output of the following.
    1. print(8.00/(4.0+4.0))
    2. print('HI' == 'Hi')
    3. print((10!=9) and (20>=10))
    4. print(15.0/4 + (8+3.0))
    5. print((5<4) or (3>2))

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