VILLUPURAM DIST.

Class : 12

Register Number

COMMON QUARTERLY EXAMINATION-2024-25

COMPUTER SCIENCE

Time Allowed : 3.00 Hours] [Max. Marks : 70

PART - I

15X1=15

Note : i) All the questions.

ii) Choose the most appropriate answer from the given four alternatives and write the option code and the corresponding answer.

1. Which of the following is a distinct syntactic Block
   (a) Subroutines (b) Function (c) Definition (d) Modules
2. Which of the following Carries out the instructions defined in the Interface
   (a) Operating System (b) Compiler
   (c) Implementation (d) Interpreter
3. A data Structure which is a mutable ordered sequence of elements is called ——
   (a) Built in (b) List (c) Tuple (d) Derived Data
4. The members are accessible within the class and also in sub- Classes
   (a) Public Members (b) Protected Members
   (c) Secured Members (d) Private
5. Two main Measures for the efficiency of an Algorithm are
   (a) Processor and Memory (b) Complexity and Capacity
   (c) Time and Space (d) Data and Space
6. In a Dynamic programming, the techniques of Storing the Previously Calculated result is
   (a) Saving Value (b) Storing Value (c) Memoization (d) Mapping
7. Which of the following is not a Token
   (a) Interpreter (b) Identifiers (c) Keyword (d) Operators
8. Which statement is generally used as a Place Holder
   (a) Continue (b) Break (c) Pass (d) Goto
9. Which functions is called anonymous un-named Function
   (a) Lambda (b) Rwecursion (c) Function (d) Define
10. Which of the following keyword is used to exit a function block
    (a) Define (b) Return (c) finally (d) def
11. Which of the following operator is used for concatenation
    a) + b) & c) * (d) =
12. The subscript of a string may be ——
    (a) positive (b) Negative (c) Both (d) Either (a) or (b)
13. Pick odd one in connection with collection data type
    (a) List (b) Tuple (c) Dictionary (d) Loop
14. Which of the following python can be used to add more than one element in the list
    (a) append () (b) append _ More () (c) Extend () (d) more()

15. The Key in Python, dictionary is specified by

(a) = (b) ; (c) + (d) :

PART - II

Answer any SIX of the following Question 23 is Compulsory: **6X2=12**

16. What is a Subroutine?
17. What is a Pairs? Give an example.
18. How Python represents the private and protected Access specifiers.
19. What is Sorting?
20. Write short notes on TOKENS
21. List the control structures in Python.
22. Write the different types of Function.
23. What is String.

PART - III

Answer any SIX of the following Question 31 is Compulsory: **6X3=18**

24. What is the side effect of Impure Function. Give example.
25. What are the different ways of accessing elements in a List. Give example.
26. List the characteristics of Algorithm.
27. Write notes on Arithmetic Operators with example.
28. Write the syntax of While Loop.
29. Write a program to check whether a given year is leap year or not.
30. Write a note about count () function with example.
31. How will you access the list elements in Reverse Order.

PART - IV

Answer all the Questions. **5X5=25**

32. (a) Explain with example PURE and IMPURE Functions.

(OR)

(b) Explain the types of SCOPES for variable or LEGB RULE.

33. (a) Discuss about LINEAR search algorithm.

(OR)

(b) Explain in detail about for Loop.

34. (a) Discuss in detail about Tokens in Python.

(OR)

(b) Explain Input () and print () statements.

35. (a) Write a program to print all odd numbers from 1 to 299.

(OR)

(b Explain Recursive Function with example.

36. (a) Explain about String Operators in Python with examples.

(OR)

(b) Explain different Set Operators in Python.

COMPUTER SCIENCE - HSC – SECOND YEAR – QUARTERLY EXAMINATION -2024

PART-I

1. DEFINITION
2. IMPLEMENTATION
3. LIST
4. PROTECTED MEMBERS
5. TME AND SPACE
6. MEMOIZATION
7. INTERPRETOR
8. PASS
9. LAMBDA
10. RETURN
11. +
12. BOTH
13. LOOP
14. EXTEND()
15. :

PART-II

16. SUBROUTINE : is a small section of code that is often defined within the greater code

17: PAIR: is a combination of two values separated by comma enclosed within () Ex: (10,12)

18. In Python Private Access specifiers are represented by single or double underscores

19. SORTING: is arranging the values in ascending or descending or alphabetical order

20. TOKENS: are fundamentals in PYTHON programming. 5

21. CONTROL STRUCTURES: are classified into 3 a. sequential b. selection c. iteration

22. FUNCTIONS: 4 types in python (USER Defined/ Recursive/ Lambda/ Built in) or 2 types (PURE / IMPURE)

23. STRINGS: is a collection of characters enclosed within single/ double/ triple quotes

PART –III

24. IMPURE FUNCTIONS: gives different results at different times. EX: time() give 4.05

After 10 minutes it gives 4.15

25. ACCESSING ELEMENTS IN A LIST: POSITIVE INDEX STARTS FROM 0 TO N-1

NEGATIVE INDEX STARTS FROM -1 TO –n FROM RIGHT

26. ALGORITHM : is writing the sequence of steps required to solve the given problem ANY 4 characteristics

27. ARITHMETIC OPERATORS : + - * / % // with possible example

28. WHILE LOOP: is a conditional style loop. It will repeat the given statements upto condtion is t

The syntax : while(condition):

Loop statements

<else>:

Other statements

29. Any correct program

30. count() function: is used to count number of times a particular character/substring appeared string. Any correct example

31. ACCESSING ELEMENTS IN REVERSE ORDER: NEGATIVE INDEX STARTS FROM -1 FROM RIGHT SID

ANY CORRECT EXAMPLE

PART- IV

32.(a) PURE FUNCTIONS: gives exact results - no side effects to the arguments- any user defined function

IMPURE FUNCTIONS: gives different results at different times. It gives side effects to the arguments passed to it. Time() date() etc.,

(b)SCOPES FOR VARIABLES: Scope is how long a variable that can be used in the program code

L: Local scope E: Enclosed Scope G: Global scope B: Built in Scope correct explanation

33. (a) LINEAR SEARCH ALGORITHM: under wihich the search is made from the beginning of the list

If match is found stop the search Otherwise go to the next element in the list. Do it upto the final element in the list. Any correct example

(b) FOR LOOP : for is the counter style loop in Python. It is used to repeat the statements from the beginning value upto the final value-1. Each and every time, the loop will be incremented with step value. It is combined with range() function to perform it. SYNTAX and EXAMPLE

34(a). TOKENS in PYTHON: i. IDENTIFIERS II. KEYWORDS III OPERATORS IV LITERALS V.DELIMETERS

(b) input() - is the input statement in PYTHON. It is used to get the value for the variable at the execution time. The user may give any value to the variable at that time. SYNTAX and EXAMPLE

Print() - is the output statement in PYTHON. It will display the result in the screen. It also used to display the given string or information in the screen. SYNTAX and EXAMPLE

35.(a) # printing odd numbers

```
for I in range(1,300,2):
    print(i)
```

or any possible program that gives same result

(b) RECURSIVE FUNCTION: A FUNCTION calling itself is called Recursive Function

rec is the keyword used to start recursive function SYNTAX and possible example

36(a) STRING OPERATORS : STRING CONCATENATION +

STRING APPEND+=

STRING REPEAT * STRING SLICING & STRING STRIDING

(b) SET OPERATORS : UNION | INTERSECTION & DIFFERENCE - and SYMMETRIC DIFFERENCE^

Correct example