V.M.G.R.R SRI SARADA SAKTHI MAT. HR. SEC. SCHOOL

STD: XII **COMPUTER SCIENCE**

SPLIT TEST - 1

PORTION : L.1,2,3,4 **MARKS: 70**

I. CHOOSE THE BEST ANSWER: **15 x 1 = 15**

1. Which of the following is a unit of code that is often defined within a greater code structure?
   a) Subroutines b) Function c) Files d) Modules

2. The values which are passed to a function definition are called _____
   a) Arguments b) Subroutines c) Function d) Definition

3. The functions which will give exact result when same arguments are passed are called
   a) Impure functions b) Partial Functions c) Dynamic Function d) Pure functions

4. All functions are _____ definitions.
   a) dynamic b) static c) recursive d) None of these

5. Which of the following functions that retrieve information from the data type?
   a) Constructors b) Selectors c) recursive d) Nested

6. The data type whose representation is known are called
   a) Built in datatype b)Derived datatype c) Concrete datatype d) Abstract data type

7. Bundling two values together into one can be considered as
   a) Pair b) Triplet c) single d) quadrat

8. A sequence of immutable objects is called
   a) Built in b) List c) Tuple d) Derived data

9. Which scope refers to the variables defined in current function?
   a) Local scope b) Global scope c) Module scope d)Function Scope

10. Which of the following members of a class can be handled only from within the class?
    a) Public members b) Protected members c) Secured members d) Private members

11. Which of the following members of a class can be handled only from within the class?
    a) Public members b) protected members c) secured members d) private members

12. 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

13. From the following sorting algorithms which has the lowest worst case complexity?
    a) Bubble sort b) Quick sort c) Merge sort d) Selection sort

14. The notation in asymptotic evaluation represents
    a) Best case b) Average case c) Worst case d) Null face

15. This is a theoretical performance analysis of an algorithm.
    a) priori estimates b) posteriori testing c) space factor d) time factor

II. Answer any 6 of the following and question no. 24 is compulsory: 6 X 2 = 12

16. What is a subroutine?
17. Write the interface you get from X:=(78).

18. Differentiate interface and the implementation.
19. What is abstract data type?
20. Differentiate constructors and selectors.
21. What is a Tuple? Give an example.
22. Why scope should be used for variable. State the reason?
23. What is mapping?
24. How Python represents the private and protected Access specifiers?

PART – III

III. Answer ANY 6 questions and and question no. 29 is compulsory: 6 X 3 = 18

25.Why strlen is called pure function?
26. Differentiate pure and impure function .
27. What happens if you modify a variable outside the function? Give an example
28. Which strategy is used for program designing? Define that Strategy.

29. Identify which of the following are List, Tuple and class?
a) arr [1,2,34] b) arr [1, 2, 34] c) student [rno, name, mark]
d) day = ('sun', 'mon', 'tue', 'wed') e) x = [1, 5,6.5, [5, 6], 8.2]
f) employee [eno, ename, esal, eaddress]

30 . What are the different ways to access the elements of a list? Give example.
31. Why access control is required?
32. List the characteristics of an algorithm.
33. Write a note on Asymptotic notation.

PART – IV

ANSWER THE FOLLOWING: 5 x 5 = 25

34. What are called Parameters and write a note on
i) Parameter without Type ii) Parameter with Type

OR

Identify in the following program.
let rec gcd a b :=
if b < > 0 then gcd b (a mod b) else return a
i) Name of the function
ii) Identify the statement which tells it is a recursive function
iii) Name of the argument variable
iv) Statement which invoke the function recursively
v) Statement which terminates the recursion

35. Explain with example Pure and impure functions.

OR

How will you facilitate data abstraction? Explain it with suitable example.

36. What is a List? Why List can be called as Pairs? Explain with suitable example. What is a List? Give an example.

OR

How will you access the multi-item? Explain with example.
37. Explain the types of scopes for variable or LEGB rule with example.

OR

Write any five benefits in using modular programming.
38. Discuss about Linear search algorithm.

OR

Explain the Bubble sort algorithm with example.

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SPLIT TEST – 2

PORTION: 5,6,7,8 **MARKS: 70**

I. CHOOSE THE BEST ANSWER: **20 x 1 = 20**

1. The Python prompt indicates that Interpreter is ready to accept instruction.
   a) >>> b) <<< c) # d) <<
2. Which of the following is not a token?
   a) Interpreter b) Identifiers c) Keyword d) Operators
3. Which operator is also called as Comparative operator?
   a) Arithmetic b) Relational c) Logical d) Assignment
4. elif can be considered to be abbreviation of
   a) nested if b) if.. else c) else if d) if..elif
5. Which statement is generally used as a placeholder?
   a) continue b) break c) pass d) goto
6. Which is the most comfortable loop?
   a) do...while b) while c) for d) if..elif
7. A named blocks of code that are designed to do one specific job is called as
   a) Loop b) Branching c) Function d) Block

8A. Which function is called anonymous unnamed function?
   a) Lambda b) Recursion c) Function d) define
9. In which arguments the correct positional order is passed to a function?
   a) Required b) Keyword c) Default d) Variable - length
10. Pick the correct one to execute the given statement successfully.
if _____ : print(x, “is a leap year”)
   a) x%2=0 b) x%4==0 c) x/4=0 d) x%4=0
11. Which of the following is the output of the following python code?
str1="TamilNadu"
print(str1[::-1])
   a) Tamilnadu b) Tmlau c) udanlimaT d) udaNlimaT
12. Strings in python:
   a) Changeable b) Mutable c) Immutable d) flexible
13. What is stride?
   a) index value of slide operation b) first argument of slice operation
   c)second argument of slice operation d) third argument of slice operation
14. Which command can be used to remove entire string variable in python?
   a) rem b) remove c) del d) delete
15. What will be the output of the following snippet?
Str 1 = "COMPUTER"
print (str1 [: : 2])
   a) ER b) CO c) OPTR d) CMUE

II. Answer any 6 the questions. Question No. 24 is compulsory : **6 X 2 = 12**

16. What are the different modes that can be used to test Python Program?
17. Write short notes on Exponent data?
18. Define control structure.
19. Write note on range ( ) in loop.
20. What are the main advantages of function?

21. How to set the limit for recursive function? Give an example.
22. What is String?
23. What is an Algorithm?
24What will be the output of the following python code?
str1 = “School”
print(str1*3)

PART – III

III. II. Answer any 6 the questions. Question No. 33 is compulsory : 6 X 3 = 18

25. Explain Ternary operator with examples.
26. Write short notes on Escape sequences with examples.
27. Using if..else..elif statement write a suitable program to display largest of 3 numbers.
28. Write the basic rules for global keyword in python.
29. Differentiate ceil( ) and floor( ) function?
30. What is the use of format ( )? Give an example.
31. How recursive function works?
32. What is the use of the operator += in Python string operation?
33. Write a Python program to display the given pattern.

C O M P U T E R
C O M P U T E
C O M P U T
C O M P U
C O M P
C O M
C O
C

PART – IV

ANSWER THE FOLLOWING: 5 x 5 = 25

34. Explain input ( ) and print ( ) functions with examples.

OR

Explain the different operators in Python.

35. Write a detail note on for loop.

OR

Write a program to display all 3 digit odd numbers.

36. Explain the different types of function with an example.

OR

Explain the scope of variables with an example.

37. Explain the following built-in functions.

a) id( ) b) chr( ) c) round( ) d) type( ) e) pow( )

OR

Explain recursive function with an example.

38. Explain about string operators in Python with suitable example.

OR

Write a short note on the following built in string functions. (PTA - 3)

i) Capitalize ( )
ii) isalpha ( )
iii) isalnum ( )
iv) lower ( )

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SPLIT TEST – 3

PORTION: 9,10,14,16 **MARKS: 70**

I. CHOOSE THE BEST ANSWER: **15 x 1 = 15**

1. Let list1 = [2,4,6,8,10], then print(List1[-2]) will result in
   a) 10 b) 8 c) 4 d) 6
2. If List=[10,20,30,40,50] then List[2]=35 will result
   a) [35,10,20,30,40,50] b) [10,20,30,40,50,35] c) [10,20,35,40,50] d) [10,35,30,40,50]
3. What will be the result of the following Python code?
   S=[x**2 for x in range(5)]
   Print(S)
   a) [0,1,2,4,5] b) [0,1,4,9,16] c) [0,1,4,9,16,25] d) [1,4,9,16,25]
4. Functions defined inside a class:
   a) Functions b) Module c) Methods d) section
5. A private class variable is prefixed with
   a) __ b) && c) ## d) **
6. The process of creating an object is called as:
   a) Constructor b) Destructor c) Initialize d) Instantiation
7. Importing C++ program in a Python program is called
   a) wrapping b) Downloading c) Interconnecting d) Parsing
8. A framework for interfacing Python and C++ is
   a) Ctypes b) SWIG c) Cython d) Boost
9. The module which allows you to interface with the Windows operating system is
   a) OS module b) sys module c) csv module d) getopt module
10. getopt( ) will return an empty array if there is no error in splitting strings to
    a) argv variable b) opt variable c) args variable d) ifile variable
11. Which is a python package used for 2D graphics?
    a) matplotlib.pyplot b) matplotlib.pip c) matplotlib.numpy d) matplotlib.plt
12. Identify the package manager for Python packages, or modules.
    a) Matplotlib b) PIP c) plt.show( ) d) python package
13. Read the following code: Identify the purpose of this code and choose the right option from the following.
    C:\Users\YourName\AppData\Local\Programs\Python\Python36-32\Scripts>pip list
    a) List installed packages b) list command c) Install PIP d) packages installed
14. To install matplotlib, the following function will be typed in your command prompt. What does "-U" represents? Python-m pip install -U pip
    a) downloading pip to the latest version b) upgrading pip to the latest version
    c) removing pip d) upgrading matplotlib to the latest, version
15. Identify the right type of chart using the following hints.
    Hint 1: This chart is often used to visualize a trend in data over intervals of time.
    Hint 2: The line in this type of chart is often drawn chronologically.
    a) Line chart b) Bar chart c) Pie chart d) Scatter plot

II. Answer any 6 the questions. Question No. 24 is compulsory : **6 X 2 = 12**

16. How will you access the list elements in reverse order?
17. Differentiate del with remove ( ) function of List.

18. What is instantiation?
19. How will you create constructor in Python?
20. What is the theoretical difference between Scripting language and other programming language?
21. What is the use of cd command? Give an example.
22. List the types of Visualizations in Matplotlib.
23. Write the difference between the following functions:
plt.plot([1,2,3,4]), plt. plot([1,2,3,4],[1,4,9,16])
24. Write the syntax of creating a Tuple with n number of elements.

PART – III

II. Answer any 6 the questions. Question No. 33 is compulsory : 6 X 3 = 18

25. What are the advantages of Tuples over a list?
26. List out the set operations supported by python.
27. What are class members? How do you define it?
28. Write a class with two private class variables and print the sum using a method.
29. How to define constructor and destructor in Python?
30. Differentiate PYTHON and C++.
31. What is MinGW? What is its use?
32. Write any three uses of data visualization.
33. What is sys.argv? What does it contain?

PART – IV

ANSWER THE FOLLOWING: 5 x 5 = 25

34. What is the purpose of range ( )? Explain with an example.

OR

What is nested tuple? Explain with an example.

35. Explain the different set operations supported by Python with suitable example.

OR

Explain in detail the types of pyplots using Matplotlib.

36. Explain the various buttons in matplotlib window.

OR

Explain the purpose of the following functions.
a) plt. xlabel b) plt. ylabel c) plt. title d) plt. legend( ) e) plt.show( )

37. Write any 5 features of Python.

OR

Explain each word of the following command.
Python <filename.py> -<i> <C++ Filename without cpp extension>

38 What is the purpose of sys, getopt module in Python? Explain.

OR

Write the syntax for getopt ( ) and explain its arguments and return values.

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SPLIT TEST – 4

PORTION: 11,12,13,15 **MARKS: 70**

I. CHOOSE THE BEST ANSWER: **15 x 1 = 15**

1. What is the acronym of DBMS?
   a) DataBase Management Symbol b) DataBase Managing System
   c) DataBase Management System d) DataBasic Management System
2. Which database model represent parent child relationship?
   a) Relational b) Network c) Hierarchical d) Object
3. Which of the following is an RDBMS?
   a) Dbase b) FoxPro c) Microsoft Access d) SQLite
4. A tuple is also known as
   a) table b) row c) attribute d) field
5. Which commands provide definitions for creating table structure, deleting relations , and modifying relation schemas.
   a) DDL b) DML c) DCL d) DQL
6. Which command lets to change the structure of the table?
7. The command to delete a table is
   a) DROP b) DELETE c) DELETE ALL d) ALTER TABLE
8. The expansion of CRLF is
   a) Control Return and Line Feed b) Carriage Return and Form Feed
   c) Control Router and Line Feed d) Carriage Return and Line Feed
9. The command used to skip a row in a CSV file is
   a) next( ) b) skip( ) c) omit ( ) d) bounce ( )
10. Which of the following is a string used to terminate lines produced by writer( )method of csv module?
    a) Line Terminator b) Enter key c) Form feed d) Data Terminator
11. Which of the following creates an object which maps data to a dictionary?
    a) listreader( ) b) reader( ) c) tuplereader( ) d) DictReader ( )
12. Making some changes in the data of the existing file or adding more data is called
    a) Editing b) Appending c) Modification d) Alteration
13. Which of the following is an organized collection of data?
    a) Database b) DBMS c) Information d) Records
14. Any changes made in the values of the record should be saved by the command
    a) Save b)Save as c) Commit d) Oblige
15. The most commonly used statement in SQL is
    a) cursor b) select c) execute d) commit

II. Answer any 6 the questions. Question No. 24 is compulsory : **6 X 2 = 12**

16. List some examples of RDBMS.
17. What is the difference between Hierarchical and Network data model?
18. Differentiate Unique and Primary Key constraint.
19. Write the difference between table constraint and column constraint?
20. What is the difference between SQL and MySQL?

21. Mention the two ways to read a CSV file using Python.
22. What is use of next ( ) function?
23.Write the command to populate record in a table. Give an example.
24. What is the advantage of declaring a column as "INTEGER PRIMARY KEY ".

PART – III

II. Answer any 6 the questions. Question No. 33 is compulsory : 6 X 3 = 18

25. What is the difference between Select and Project command?
26. Explain Object Model with example.
28. What is a constraint? Write short note on Primary key constraint.
29. Write a SQL statement using DISTINCT keyword.
30. Write a note on open ( ) function of python. What is the difference between the two methods?
31.Mention the difference between fetchone( ) and fetchmany ( ).
32. What is the use of Where Clause. Give a python statement using the where clause?
33. Write a Python program to read a CSV file with default delimiter comma (,).

PART – IV

ANSWER THE FOLLOWING: 5 x 5 = 25

34. Explain the different types of data model.

OR

Differentiate DBMS and RDBMS.

35. Explain the different operators in Relational algebra with suitable examples.

OR

Explain the characteristics of DBMS.

36. Write the different types of constraints and their functions.

OR

What are the components of SQL? Write the commands in each.

37. Tabulate the different mode with its meaning.

OR

Write the different methods to read a File in Python.

38. Write in brief about SQLite and the steps used to use it.

OR

What is the use of HAVING clause? Give an example python script.

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