Tsl12CS

Tenkasi District
Common Second Revision Test - 2024

Standard 12
COMPUTER SCIENCE

Time Allowed: 3.00 Hours

Maximum Marks: 70

Part - I

15×1=15

Choose the correct answer:

1) The variables in a function definition is called as
   a) Parameters   b) Variables   c) Definition   d) Subroutines

2) Which keyword is used to exit a function block?
   a) define   b) def   c) return   d) end

3) How many spaces does Indentation have in Python?
   a) 5   b) 4   c) 3   d) 6

4) What is the output of the following program?
   setA = {3, 6, 9}
   setB = {1, 3, 9}
   print(set A | setB) (Set | Set B)
   a) {3, 9}   b) {3, 6, 9, 1, 3, 9}   c) {1, 3, 6, 9}   d) {1, 6}

5) In which arguments the correct positional order is passed to a function?
   a) Default   b) Required   c) Keyword   d) Variable-length

6) Which of the following is a string used to terminate lines produced by writer() method of csv module?
   a) Data Terminator   b) Form Feed   c) Enter Key   d) Line Terminator

7) What is the positive subscript and negative subscript of the character 'N' in the below string → str1 = "Tamil Nadu".
   a) 7, −3   b) 5, −4   c) 6, −3   d) 6, −4

8) What is the name of the data model developed by IBM?
   a) Relational   b) Hierarchical   c) Network   d) ER

9) The keys in python, dictionary is specified by
   a) :   b) ;   c) +   d) =

10) A framework for interfacing Python and C++ is
    a) Ctypes   b) SWIG   c) Cython   d) Boost

11) Which of the following are mandatory to write the type annotations in the function definition?
    a) { }   b) ( )   c) [ ]   d) < >

12) Which symbol is used to print more than one item on a single line?
    a) Semicolon (;)   b) Dollar ($)   c) Comma (,)   d) Colon (:)

13) A private class variable is prefixed with
    a) _ _   b) &&   c) ##   d) **

14) Which statement is generally used as a placeholder?
    a) continue   b) break   c) pass   d) goto

15) _____ is a type of chart which displays information as a series of data points connected by straight line segments.
    a) Line chart   b) Pie chart   c) Bar chart   d) All the above

Part - II

Answer any 6 questions. Q.No. 24 is compulsory:

6×2=12

16) Define a function with respect to programming language.
17) Write the general categories of SQL commands.
18) What is algorithmic solution?
19) Define - Pass statement.
20) What is normalization?
21) Write the syntax of While Loop.

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22) What is the difference between del and remove( ) function in List?
23) What is the purpose of destructor?
24) What is the value of X in the following python code?
   List1 =[2, 4, 6, [1, 3, 5]]
   x=len(list1) (List 1)

Part - III

Answer any 6 questions. Q.No. 33 is compulsory: 6×3=18

25) Differentiate Concrete Data type and Abstract Data type.
26) How will you access the elements in a list using for loop?
27) Write a note on Escape sequence.
28) Write the Syntax of csv.writer() and explain it.
29) What is string concatenation? Give example.
30) What are the applications of scripting language?
31) Explain the enclosed scope with example.
32) List the types of visualization in Matplotlib.
33) Write the output of the following python code.
   str="Thinking with Python"
   i)   print(str[: :3])
   ii) print(str[: :-4])
   iii) print(str[9 : 13])

Part - IV

Answer all the questions: 5×5=25

34) a) What is Binary search? Discuss with example.
   (OR)
   b) Differentiate DBMS and RDBMS.
35) a) How will you facilitate data abstraction? Explain it with suitable example.
   (OR)
   b) Write in brief about SQLite and the steps used to use it.
36) a) List out the Python File mode with its meaning while using csv.
   (OR)
   b) Write the syntax. Description with example of the following Built-in string functions.
   (i) isdigit()   (ii) islower()   (iii) ord()   (iv) chr()   (v) title()
37) a) Explain the clauses in SQL.
   (OR)
   b) Explain the while loop with suitable example.
38) a) Explain the various buttons in a Matplotlib windows.
   (OR)
   b) What is the output of the following code.
   ```
   class sample:
       num=0
       def __init__(self, var):
           sample.num+=1
           self.var=var
           print("The object value is=", var)
           print("The count of object created=", sample.num)
   s1=sample(15)
   s2=sample(35)
   s3=sample(45)
   ```

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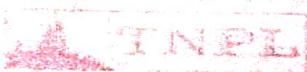Second Revision Test — 2024

Answer key

Part—I

1. a) Parameters
2. c) return
3. b) 4
4. c) {1,3,6,9}
5. b) Required
6. d) Line Terminator
7. d) 6, — 4
8. b) Hierarchical
9. a) :
10. d) Boost
11. b) ()
12. a) — —
13. c) comma (,)
14. c) Pass
15. a) Line Chart

Tamil nadu
0123456789

6

Part—II

16. A function is a unit of code that is often defined with in a greater code structure (1) Marks
    A functions contains a set of code that works on many kinds of inputs, like variants, expressions and produces a concrete output (1) Marks

17. DDL, DML, DCL, TCL, DQL   — 2 marks

18. An algorithm that yields expected output for a valid input is called an algorithmic solution.
                                                          — 2 Marks

19. Pass statement is a null statement, it is generally used as place holder.
    When executed by interpreter it is completly ignored
                                                          —2marks

    TNPL

20. Normalization which divides the data in such a way that repetition is minimum

(OR)

Normalization reduces data redundancy and improves data Integrity.

— 2 marks

21. While <condition>:
    Statements block 1
    [else:
        Statements block2]

— 2marks

22.

del	remove
1. It is used to delete known elements.	It is used to delete elements of a list is its index is unknown.
2. del statement can also be used to delete entire list.	remove function is used to delete a Particular element.

— 2 marks

23. Destructor is also a special method to destroy the objects.

It is just opposite to constructor

In Python _del_() method is used as destructor

— 2marks   — 2 marks

Part— III

25)

Concrete Data type	Abstract Datatype
1. concrete datatypes are direct implementations of a relatively Simple concept.	Abstract Datatypes offer a highlevel view of a concept independent of its implementation.
2. The datatype whose representation is known are called Concrete Datatype.	The datatype whose representation is unknown are called Abstract Datatype.

— 3marks

24. 4 / Error

26. for loop is used to access all elements in a list one by one — 1 marks
    Syntax   — 1 mark
    for Index_var in list: —
        print (Index_var)
        Any Example — 1 marks

27. The blackslash "\" is a special character, also called the escape character.
        It is used in representing certain white space character
    \t — tabe   \n — new line   \r — carriage return.
        Any suitable Example   — 3 marks

28. CSv writer (file object, deilmiter, fmt params)
    It returns   → optional parameter
                  ↓ mode of the file   ↖ override default values
                                          — 3 marks

29. * Joining of two or more strings is called as concatenation
    * The plus (+) operator is used to concatenate strings in python.   — 2 marks
        Any suitable Example   — 1 marks

30) 1. To automate certain tasks in a program
    2. Extracting information from a data set
    3. Less code intensive as compared to traditional programming languages
    4. can bring new function to applications and glue complex systems together. (Any three points) — 3 marks

31) A variable which is declared inside a function which contains another function definition with in it / the inner function can also access th variable of th outer function
        Any valid example — 1½ marks. — 1½ marks

32) Line Plot   Bar chart and } Any 3
    Scatter   pie chart   } — 3 marks
    Histogram
    Box Plot

33) i)   Output:
       Tnnwhy0
   ii)   ~~netgak~~ n y et g n
   iii)   With

Part - IV

34) a)   Binary search also called half interval search algorithm
       It finds the position of a search element
     with in a Sorted array.
     The binary search algorithm can be done as
     divide and conquer search algorithm and
     executes in logarithmic time   — 2marks
     Any valid example.   — 3marks

   b)   Expansion, Data storage, Data redundancy / Normalization,
     Data access, keys & Indexes, Transaction management,
     Distributed databases / Example
       (Explain Any 5)   — 5marks

35) a)   constructors
     Selectors   Definition   } 3 marks
     Example — 2marks

   b)   Sq Lite   Definition   — 2marks
                Steps   — 3 marks

36) a)   'r', 'w', 'x', 'a', 't', 'b', '+' — Explain any 5 modes
                              — 5marks
   b)   Definition & Any suitable Example   — 5marks

37) a)   Explain following headings.
     DISTINCT, WHERE, GROUP BY, ORDER BY, HAVING — 5marks
   b)   Definition — 2 marks   Example — 1marks
     Syntax — 2 marks

38) a)   Explain Any 5 Buttons (Home Button, forward
        Buttons / Pan axis / Zoom, Configure subplots, save figure)
                           — 5marks

   b)   Error /   The object value is = 15
               The count of object is created = 1
               The object value is = 35
               The count of object created = 2
               The object value is = 45
               The count of object created = 3