Ts12CS Tenkasi District Common Examinations
Common Half Yearly Examination - December 2022

Standard - 12
COMPUTER SCIENCE

Time Allowed:3.00 Hours   Maximum Marks: 70

PART - I

Answer all the questions.   15×1=15
Choose the correct answer and write the option code with answer:

1. The small section of code that are used to perform a particular task is called
   a) Pseudocode   b) Subroutines   c) Modules   d) Files

2. Which function build the abstract data type?
   a) Constructors   b) Data   c) List   d) Tuple

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

4. Which one of the following is not a factor to measure the excution time of an algorithm?
   a) Speed of the machine
   b) Operating system
   c) Programming language used
   d) Selection

5. Which one of the following character is used to give a single line comments in python program?
   a) @   b) #   c) $ d) &

6. Which statement is used to skip the remaining part of the loop and start with the next iteration?
   a) break   b) pass   c) continue   d) null

7. Evaluate the following function and with the output
   x = 14.4
   print (math. floor(x))
   a) 13   b) 14   c) 15   d) 14.3

8. In python, which operator is used to display a string in multiple number of times?
   a) * (multiplication)   b) + (addition)
   c) – (subtraction)   d) / (division)

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

10. The procers of creating an object is called as _____.
    a) Initialization   b) Constructor   c) Instantiation d) Destructor

11. A Tuple is also known as:
    a) Attribute   b) Table   c) Field   d) Row

12. Which is a TCL command in SQL
    a) Alter   b) Grant   c) Truncate   d) Commit

13. A CSV file is also known as :
    a) Random file   b) String file   c) 3D file   d) Flat file

14. Which SQL function returns the number of rows in a table?
    a) SUM ()   b) Max ()   c) CHECK ()   d) Count ()

15. Using Matplotlib from within a python script, which method inside the file will display your plot?
    a) plot ()   b) disp ()   c) clear ()   d) show ()

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PART - II

Answer any six questions. Question Number 24 is compulsory. 6×2=12

16. Write a short note on Namespace ().
17. What is searching? Write the types.
18. Define operators and operands.
19. Write the syntax of for loop.
20. What is the output of the given python code?
    ```
    >>> a = list (range (2, 11, 2))
    >>> print (a)
    ```
21. What is the purpose of destructor?
22. What is normalization?
23. Write a note on Database Users.
24. Differentiate Compiler and Interpreter.

PART - III

Answer any six questions. Question Number 33 is compulsory. 6×3=18

25. What is constructors and selectors.
26. List the characteristics of an algorithm.
27. Differentiate the function ceil() and floor().
28. What is string concatenation? Give an example.
29. What are the methods are used to connect a database? Give an example.
30. How will you access the list elements using for loop?
31. Give any DDL Commands.
32. Write a SQL statement using DISTINCT keyword.
33. List the types of Visualization in Matplotlib.

PART - IV

Answer all the questions. 5×5=25

34. a) Explain with example Pure and Impure function.

    (OR)

    b) Explain the characteristics of an algorithm.
35. a) Explain the scopes for variables with example.

    (OR)

    b) Explain if...else...elif statement with example.
36. a) What is arguments? Explain the types of arguments?

    (OR)

    b) Explain about string operators with example.
37. a) What are the different ways to insert an element in a list. Explain with suitable example.

    (OR)

    b) Explain the different types of data model.
38. a) Write the rules to be followed to format the data in a CSV file?

    (OR)

    b) Write in brief about SQLite and the steps used to use it?

12

Time : 3.00 hrs.

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Half-Yearly Examination - 2022
COMPUTER SCIENCE

Max. Marks : 70

PART - I

I.   Choose the correct answer.   15 x 1 = 15

1. Which of the following are mandatory to write the type annotations in the function definition
    a) Curly braces   b) parenthesis   c) square brockets   d) indentations

2. Which of the following functions that retrieve information from the data type
    a) contructor   b) selector   c) recursive   d) nested

3. Which scope refers to variables defined in current function
    a) local scope   b) Global scope   c) module scope   d) function scope

4. The complexity of Linear search algorithm is
    a) o(n)   b) o(log n)   c) o(n2)   d) o(log n)

5. Which operator is also called as conditional operator
    a) ternary   b) relational   c) logical   d) assignment

6. Which statement is generally used as place holder
    a) continue   b) break   c) pass   d) go to

7. Which function is called anonymous unnamed function
    a) Lambda   b) recursion   c) function   d) define

8. Strings in Python are   a) changeable   b) mutable   c) immutable   d) flexible

9. Pick odd one in connection with collection data type
    a) list   b) tuple   c) dictionary   d) loop

10. The process of creating and object is called as
    a) constructor   b) destructor   c) intialize   d) instantiation

11. Who developed ER model   a) Chen   b) E F Codd   c) Chend   d) Chand

12. The comment to delete a table is   a) drop   b) delete   c) delete all   d) alter table

13. 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

14. The expansion of API is   a) application programming interpreter   b) application programming interface
    c) application performing interface   d) application programming interlink

15. Which of the following class avoid the duplicate   a) distinct   b) remove   c) where   d) group by

II.   Answer any 6 Questions (Q.No.24 is compulsory)   6 x 2 = 12

16. What is pair? Give an example.

17. What is meant by mapping?

18. Write a note on range()in loop.

19. What is the advantage of declaring a column as "Integer Primary Key"

20. List the general types of data visualization.

21. Write the syntax of getopt() function.

22. What is CSV file?

23. Differentiate compiler and interpreter

24. What will be the output of the following python code.
    str="COMPUTER SCIENCE"
    (A) Print(str*2) (B) print(str[0:5])

III.   Answer any 6 questions (Q.No.33 is Compulsory)   6 x 3 = 18

25. How recursive function works?

26. Explain ternary operator with example.

27. Differentiate Pure and Impure function.

28. Write short note on DML commands in SQL.
29. What will be the output of the following python code.

    list=[3*x for x in range(5)]

    print(list)
30. Write any three uses of Data visualization.
31. Differentiate fetchone() and fetchmany()
32. Write note on Unique key constraint.
33. What will be the output of the following python code

    class hosting:

        def__init__(self,name):

            self.__name=name

        def display(self):

            print("Welcome to", self.____name)

    obj=hosting("Python Programming")

    obj.display()

IV. Answer all the questions.

34. Discuss about Binary search algorithm with example.

    (OR)

    Write in brief about Data Abstraction with example.
35. (i) Write a program to display all 3 digit even numbers

    (ii) Write a program to display the following pattern.

    A

    AB

    ABC

    ABCD

    (OR)

    Write about the following built-in function

    a) copy() · b) count() c) reverse() d) sort()
36. Write the feature of Python over C++

    (OR)

    Explain the various set operations supported by Python with suitable example.
37. Differentiate DBMS and RDBMS

    (OR)

    How to define constructor and destructor in Python? Explain with example.
38. What will be the output of the following python commands.

    str="Welcome to Python"

    (I) print(str)

    (II) print(str[10:15])

    (III) print(str[::4])

    (IV) print(str[11:17:2])

    (OR)

    Differentiate Excel file and CSV file.

HALF YEARLY EXAMINATION - 2022

COMPUTER SCIENCE

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Marks : 70

PART – I

Answer all the Questions.   15 x 1 = 15

1. The variables in a function definition are called as
   a) Subroutines   b) Function   c) Definition   d) Parameters

2. The data structure which is a mutable ordered sequence of elements is called
   a) Built in   b) List   c) Tuple   d) Derived data

3. All members in a Python class are by default
   a) public   b) protected   c) private   d) secured members

4. The complexity of linear search algorithm is
   a) $O(n)$ b) $O(\log n)$ c) $O(n2)$ d) $O(n \log n)$

5. Which of the following character is used to give comments in Python program
   a) #   b) &   c) @   d) $

6. What is the output of the following snippet?
```
i=1
   while True:
    if i % 3 == 0:
        break
     print(i, end='')
i+=1
```
   a) 12   b) 123   c) 1234   d) 124

7. Which function is called anonymous function?
   a) Lambda   b) recursion   c) function   d) define

8. Which of the following is the slicing operator
   a) { }   b) [ ]   c) <>   d) ( )

9. What is the use of type() function in python?
   a) To create a Tuple   b) To know the type of an element in tuple
   c) To know the Data type of python object   d) To create a type

10. Which of the following method is automatically executed when an object is created?
    a) _ object_ ( )   b) _ del_( )   c) _ rem_ ( )   d) _ init_ ( )

11. Who developed ER model?
    a) Chen   b) EF Codd   c) Chend   d) Chand

12. The expansion of CRLF is
    a) Control Return and Line Feed   b) Carriage Return and Last Feed
    c) Control Router and Line Feed   d) Carriage Return and Line Feed

13. Importing C++ program in a python program is called
    a) Wrapping   b) Downloading   c) Interconnecting   d) Parsing

14. Which of the following is a control structure used to traverse and fetch the records of the database
    a) pointer   b) key   c) cursor   d) insertion point

15. Identify the package manager for python packages or modules
    a) Matplotlib   b) PIP   c) PIPE   d) python packages

HMD 12 - கணினி அறிவியல் (EM) பக்கம் - 1

PART – II

Answer any *six* questions. Q.No.24 is compulsory.　　　　　　　　　**6 x 2 = 12**

16. What is impure function?
17. What do you mean by Namespaces?
18. What are the different operators that can be used in Python?
19. Define control structures.
20. What are DCL commands in SQL?
21. List the types of visualization in Matplotlib?
22. What is List in Python?
23. What is the purpose of destructor?
24. What will be the output of the following snippet?
```
set_a = {'A', 2, 4, 'D'}
set_b = {'A', 'B', 'C', 'D'}
print(set_a&set_b)
```

PART – III

Answer any *six* questions. Q.No.33 is compulsory.　　　　　　　**6 x 3 = 18**

25. List the characteristics of an algorithm.
26. 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=[2, 5, 6.5, [5, 6], 8.2]
    f) employee[eno,ename,esal,eaddress]
27. Write the syntax of while loop.
28. What are the points to be noted while defining a function?
29. How index value allocated to each character of a string in Python?
30. Explain Cartesian product with a suitable example.
31. Write a SQL statement to modify the student table structure by adding a new field.
32. What is the difference between reader( ) and DictReader( ) function?
33. Consider the following tuple declaration:
    ```
    >>>Mytuple = tuple([x **2 for x in range(2,11,2)])
    ```
    What will be the output of the following print statements?
    (i)　　>>> print(Mytuple[1:3])
    (ii)　　>>> print(Mytuple[3:])
    (iii)　　>>> print(Mytuple[:])

PART – IV

Answer all the following questions.　　　　　　　　　　　**5 x 5 = 25**

34. (a) Explain LEGB rule with example. *(OR)*
    (b) Explain the Bubble sort algorithm with example.
35. (a) What are the different type of loops in Python? Explain with an example. *(OR)*
    (b) Explain about string operators in Python with suitable example.
36. (a) Write a note on aggregate functions of SQL. *(OR)*
    (b) Find the output of the following python 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)
    ```
37. (a) Explain the components of DBMS *(OR)* (b) Explain the various buttons in a matplotlib window.
38. (a) Differentiate Excel file and CSV file. *(OR)*
    (b) Write the syntax for getopt( ) and explain its arguments and return values.

HMD 12 – கணினி அறிவியல் (EM) பக்கம் - 2

HALF YEARLY EXAMINATION - 2022

12 - Std
COMPUTER SCIENCE

Time : 3.00 hrs.
Marks : 70

PART – I

Answer all the Questions.
15 x 1 = 15

1. The variables in a function definition are called as
   a) Subroutines   b) Function   c) Definition   d) Parameters

2. The data structure which is a mutable ordered sequence of elements is called
   a)Built in   b)List   c)Tuple   d) Derived data

3. All members in a Python class are by default
   a)public   b)protected   c) private   d) secured members

4. The complexity of linear search algorithm is
   a) O(n)   b) O(log n)   c) O(n2)   d) O(n log n)

5. Which of the following character is used to give comments in Python program
   a)#   b)&   c)@   d)$

6. What is the output of the following snippet?

   ```
   i=1
       while True:
           if i % 3 == 0:
               break
           print(i, end='')
   i+=1
   ```
   a)12   b)123   c)1234   d)124

7. Which function is called anonymous function?
   a) Lambda   b)recursion   c)function   d)define

8. Which of the following is the slicing operator
   a){ }   b)[ ]   c)<>   d)( )

9. What is the use of type() function in python?
   a)To create a Tuple   b)To know the type of an element in tuple
   c)To know the Data type of python object   d)To create a type

10. Which of the following method is automatically executed when an object is created?
    a)_ object_ ( )   b)_ del__( )   c)_ rem_ ( )   d)_ init_ ( )

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14. Which of the following is a control structure used to traverse and fetch the records of the database
    a) pointer   b) key   c) cursor   d) insertion point

15. Identify the package manager for python packages or modules
    a) Matplotlib   b)PIP   c) PIPE   d) python packages

PART – II

Answer any *six* questions. Q.No.24 is compulsory.   6 x 2 = 12

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24. What will be the output of the following snippet?
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set_a = {'A,' 2, 4, 'D'}
set_b = {'A', 'B', 'C', 'D'}
print(set_a&set_b)
```

PART – III

Answer any *six* questions. Q.No.33 is compulsory.   6 x 3 = 18

25. List the characteristics of an algorithm.
26. 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=[2, 5, 6.5, [5, 6], 8.2]
    f) employee[eno,ename,esal,eaddress]
27. Write the syntax of while loop.
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32. What is the difference between reader( ) and DictReader( ) function?
33. Consider the following tuple declaration:
    ```
    >>>Mytuple = tuple([x **2 for x in range(2,11,2)])
    ```
    What will be the output of the following print statements?
    (i)   `>>> print(Mytuple[1:3])`
    (ii) `>>> print(Mytuple[3:])`
    (iii) `>>> print(Mytuple[:])`

PART – IV

Answer all the following questions.   5 x 5 = 25

34. (a) Explain LEGB rule with example. *(OR)*
    (b) Explain the Bubble sort algorithm with example.
35. (a) What are the different type of loops in Python? Explain with an example. *(OR)*
    (b) Explain about string operators in Python with suitable example.
36. (a) Write a note on aggregate functions of SQL. *(OR)*
    (b) Find the output of the following python 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)
    ```
37. (a) Explain the components of DBMS *(OR)* (b) Explain the various buttons in a matplotlib window.
38. (a) Differentiate Excel file and CSV file. *(OR)*
    (b) Write the syntax for getopt( ) and explain its arguments and return values.

12 **Computer Science**   Page -2

VIRUDHUNAGAR   **Standard 12**

Time: 3.00 Hrs.   **COMPUTER SCIENCE**   Marks: 70

PART - I

I. Choose the correct answer: **15×1=15**

1) Which of the following defines, what an object can do?
   a) Operating system   b) Compiler
   c) Interface   d) Implementation

2) The datatype whose representation is known?
   a) Built-in   b) Derived   c) Concrete   d) Abstract

3) Containers for mapping names of variables to object is called _____.
   a) Scope   b) Mapping   c) Namespace   d) Binding

4) The two main measures for the efficiency of an algorithm are _____ and
   _____.
   a) Process, memory   b) Time, space
   c) Data, memory   d) Data, capacity

5) Which of the following is not a keyword?
   a) while   b) operators   c) continue   d) else

6) Fill the blank with correct expression for the following statement:
   if ____ : print (X, "is a leap year")
   a) X%2 = 0   b) X%4 = 0   c) X%4 ==0   d) X/4 ==0

7) What is stride? Stride is the _____ argument of slicing operations.
   a) First   b) Second   c) Third   d) default

8) >>> squares = [X**2 for X in range (1, 5)]
   >>> print (squares). What is the output?
   a) [0, 1, 2, 3, 4]   b) [1, 2, 4, 8]   c) [1, 4, 9, 16]   d) [2, 4, 6, 8]

9) Which of the following method is used as constructor?
   a) --init--   b) --del--   c) --class--   d) --rem--

10) ER model was developed by _____.
   a) EF codd   b) chen   c) chand   d) chend

11) _____ is a condition applicable on field, fields and table.
   a) limit   b) range   c) constraint   d) scope

12) csv.reader () and csv.writer () work with _____.
   a) list   b) dictionary   c) tuple   d) list/tuple

13) importing C++ programs in a python progam is called _____.
   a) wrapping   b) downloading   c) passing   d) connecting

14) Which of the following is called master lable?
   a) sqlite_master   b) sql_master   c) main_master   d) master_file

15) _____ is a management software for installing python packages.
   a) Pip   b) Matplotlib   c) plt   d) plt.show()

PART - II

II. Answer ANY SIX questions. Qn.no. 24 is compulsory: **6×2=12**

16) What is the difference between parameters and arguments.
17) What is an algorithm?
18) What is a literal in python? List the types of literals.
19) What are the differences between break and continue statements?
20) What is installation?

21) What is the difference between SQL and Mysql?

22) Expand : (i) SWIG   (ii) MinGW

23) Define "Data Visualization".

24) What will be the output for the following code?
```
>>> place = "Tech-Park"
>>> print (place * 3)
```

PART - III

III. Answer ANY SIX questions. Qn.no. 32 is compulsory: **6×3=18**

25) Write notes on Asymptotic notations.

26) Write notes on the ways of accessing elements of a list.

27) What are the logical operators in python? Give example for the usage of them.

28) What is composition in function?

29) Differentiate remove (), pop () and clear () functions used in lists.

30) What is the role of DBA?

31) Write notes on TCL commands: Commit, Roll back and Save point

32) Identify the module, operator and the definition name from the following statement.

     Welcome . display ()

33) Write any three uses of data vizualization.

PART - IV

IV. Answer the following questions: **5×5=25**

34) a) What are the characteristics of modules?

         (OR)

    b) Explain the Bubble sort algorithm.

35) a) Write a python program to print the following pattern:

```
1
2 2
3 3 3
4 4 4 4
5 5 5 5 5
```

         (OR)

    b) What are the types of function arguments? Explain them with suitable examples.

36) a) Explain the set operations with suitable example.

         (OR)

    b) What is Relational Algebra in DBMS? Explain the various groups in it.

37) a) Explain the need of python's OS module with suitable example.

         (OR)

    b) Write notes on the aggregate functions used in values of Table column.

38) a) List the rules to be followed to format the data in a CSV file.

         (OR)

    b) Explain the purpose of the following functions in data visualization.

      a) plt.X label ()

      b) plt.Y label ()

      c) plt.title ()

      d) plt.legend ()

      e) plt.show ()