



## Standard 12

### COMPUTER SCIENCE

Time Allowed: 3.00 Hours

Maximum Marks: 70

#### Part - A

Choose the most appropriate answer from the given four alternatives and write the option code and the corresponding answer: 15x1=15

- 1) The functions which cause side effects to the arguments passed are called as
  - a) Dynamic function
  - b) Pure function
  - c) Impure function
  - d) Partial function
- 2) The data type whose representation is unknown are called as
  - a) Abstract data type
  - b) Derived data type
  - c) Concrete data type
  - d) Built in data type
- 3) Which of the following is used in programming language to map the variable and object?
  - a) =
  - b) ==
  - c) ::
  - d) :=
- 4) \_\_\_\_\_ is a finite set of instructions to accomplish a particular task.
  - a) Flow chart
  - b) Flow
  - c) Algorithm
  - d) Program
- 5) Which special character is called as Escape sequence in python?
  - a) /
  - b) \
  - c) #
  - d) >>>
- 6) How many important control structures are there in python?
  - a) 4
  - b) 5
  - c) 3
  - d) 6
- 7) In which arguments the correct positional order is passed to a function?
  - a) Default
  - b) Required
  - c) Keyword
  - d) Variable length
- 8) Which of the following formatting character is used to print exponential notation in uppercase?
  - a) %g
  - b) %G
  - c) %e
  - d) %s
- 9) Let Set A = {3, 6, 9}, Set B = {1, 3, 9} what will be the result of the following snippet? `Print (Set A \ Set B)`
  - a) {3, 9}
  - b) {1, 3, 6, 9}
  - c) {1}
  - d) {3, 6, 9, 1, 3, 9}
- 10) Which of the following method is used as constructor?
  - a) ....del....
  - b) ....object....
  - c) ....init....
  - d) ....func....
- 11) Which of the following is an RDBMS?
  - a) Dbase
  - b) Foxpro
  - c) Microsoft Access
  - d) SQLite
- 12) Which command lets to change the structure of the table?
  - a) ALTER
  - b) MODIFY
  - c) ORDER BY
  - d) SELECT
- 13) 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
- 14) Which of the following is a control structure used to traverse and fetch the records of the database?
  - a) Key
  - b) Cursor
  - c) Insertion point
  - d) Pointer
- 15) What does --name-- contains?
  - a) OS module name
  - b) C++ filename
  - c) main() name
  - d) python filename

Tsi12CS

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Part - B

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

6×2=12

- 16) What is a List? Give an example.
- 17) Define Pseudo code.
- 18) Write the syntax of if.....else statement.
- 19) How will you create constructor in python?
- 20) Write the difference between table constraint and column constraint.
- 21) What is the theoretical difference between scripting language and other programming language?
- 22) What is the advantage of declaring a column as 'Integer primary key'?
- 23) Differentiate del with remove() function of list.
- 24) What is the output of the following code?  

```
str = "Computer Science"
print (str [0 : 7])
```

Part - C

Answer any six questions. Q.No.32 is compulsory:

6×3=18

- 25) Differentiate pure and impure function.
- 26) Define Global scope with example.
- 27) Write a note on Escape sequence.
- 28) What are the points to be noted while defining a function?
- 29) What are the difference between Lists and Dictionary?
- 30) What is the role of DBA?
- 31) What is the difference between the write mode and append mode?
- 32) What are the applications of scripting language?
- 33) What is the output of following code?  

```
list = [2** x for x in range (5)]
print (list)
```

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Part - D

5×5=25

Answer all the questions:

- 34) a) Write the benefits in using modular programming.  
(OR)
- b) Explain the different types of operators using in Python.
- 35) a) Explain with example on while loop.  
(OR)
- b) Explain about any five Built in string functions.
- 36) a) What is the purpose of range ()? Explain with an example.  
(OR)
- b) Explain the types of relationship used in DBMS.
- 37) a) What are ways to read a CSV file using python and explain?  
(OR)
- b) Explain each word of the following command.  
python < file name.py> -<i> <c++ file name without extension>
- 38) a) Explain about the clauses in SQL.  
(OR)
- b) What are differences between Histogram and Bar graph?

Tenkasi District

Second Revision - Answer Key - 2023

XII Computer Science

Q.No	Options	Answers	Part-A	Marks
1.	C) Impure function.			1
2.	A) Abstract Datatype			1
3.	a) =			1
4.	c) Algorithm			1
5.	<del>a) \</del> b) \			1
6.	c) 3			1
7.	b) Required.			1
8.	b) %E			1
9.	b) { 1, 3, 6, 9, 3 }			1
10.	<del>a) ... dot ...</del> c) ... ..			1
11.	d) Sa lite.			1
12.	a) ALTER.			1
13.	d) Line Terminator.			1
14.	d) Python file name.			1
14. 15.	b) cursor.			1

Part-B

16. List:

List is constructed by placing expressions within square brackets separated by commas.

- 1 marks

Example: list = [10, 20]

x, y = list

(OR) Any Example.

- 1 marks

(OR)

Chapter 9:

17. Pseudo code:

x Pseudo code is a methodology that allows

The Programmer to represent the implementation of an algorithm - 1 marks

\* It has no syntax like the programming languages and thus can't be compiled or interpreted by the computer.

- 1 marks

18. syntax of if...else statement

if <condition>:

Statements\_block 1

else:

Statements\_block 2

- 2 marks

19. Create constructor in Python:

\* In Python there is a special function called `__init__` which act as a constructor.

\* It must begin and end with double underscore

\* constructor function will automatically executed when an object of a class is created. 3 ~~marks~~ - 2 marks

20.

Table constraint

Column constraint

\* Table constraints apply to a group of one or more columns

Column constraints apply to individual column.

- 2 marks

21. \* A scripting language requires an interpreter.

while programming language requires a compiler.

- 1 marks

\* Do not require compilation step and rather than interpreted. - 1 marks

22.

Is a column of a table is declared as an INTEGER PRIMARY KEY that

Column will be automatically auto-incremented  
 (OR) - 2 marks

Whenever a null is used for this column the null will be automatically converted into an integer which will be one larger than the highest value so far used in that column.

23.

Del

1. del statement is used to delete known elements.

remove()

remove() function is used to delete elements of a list

- 1 marks

if its index is unknown.

2. The del statement can also be used to delete entire list.

The remove is used to delete a

particular element.

- 1 marks

24.

COMPUTE compute.

- 2 marks

Part - C

25)

Pure function

Impure function

1. The return value of the pure functions solely depends on its arguments passed.

The return value of the impure functions does not solely depend on its arguments passed.

- 1 marks

2. They do not have side effects

They have side effects.

- 1 marks

3. They do not modify the arguments which are passed to them.

They may modify the arguments which are passed to them.

- 1 marks

26. \* A variable which is declared outside of all the functions in a program is



known as global variable.

1 1/2 marks

Any valid example: - 1 1/2 marks

27. Escape sequences:  
Python strings, backslash "\" escape character & representing white space character  
"t" is tab, "n" is a newline

- 1 marks  
- 1 marks

Example:

```
>>> print ("It's raining")
```

It's raining

- 2 marks

(OR) Any valid example)

28. \* Functions blocks begin with the keyword def followed by function name and Parenthesis()

\* Any input Parameters or arguments should be placed with in these Parentheses  
When you define a function

\* The code block always come after Colon(:) and is indented

\* The statement "~~return~~ return Expression" exits a function, optionally passing back an expression to the caller.

- ANY 3 points - 3 marks

29. Difference between Lists & Dictionary.

- | Lists   | Dictionary  |
|---|---|
| 1. Lists is an ordered set of elements.                         | Dictionary is a data structure that is used for matching one element (key) with another (value) |
| - 1 marks   |   |
| 2. The index values can be used to access a particular element. | Dictionary key represents index.  |
|   | - 1 marks   |
| 3. Lists are used to look up a value.                           | Dictionary is used to take one value & look up another value.                                   |

DBA  
Date

30. Role of DBA:

\* DBA is the one who manages the complete database management system.

\* DBA take care of security of the DBMS, Managing license keys, managing user accounts and access etc. → 3 marks

31. w - open file for writing. Creating a new file if it does not exist or truncates the file if it exists. → 1 1/2 marks

a - open for appending at the end of the file without truncating it create a new file if it does not exist. → 1 1/2 marks

- 32.
1. To automate certain tasks in a program
  2. Extracting information from a data set
  3. Less code intensive as compared to traditional programming language.
  4. Can bring new functions to application and give complex systems together.

Any three points → 3 marks

33) [1, 2, 4, 8, 16]

PART-D.

Say any module as programming:

- Less code to be written.
- A single procedure can be developed for reuse, eliminating the need to retype the code many times.
- \* programs can be designed more easily because a small team deals with only a small part of the entire code.
- \* The code is stored across multiple files
- \* code is short, simple and easy to understand
- \* The same code can be used in many applications.

Q77  
Q78

\* The Scoping of variables can easily be controlled  
Any 5 points [ - 5 marks ]

b) Different types of operators in Python:

Operators: Special symbols which represents Computations, conditional matching etc.  
Types:

- (i) Arithmetic Operator (ii) Relational or Comparative operators
- (iii) Logical operators (iv) Assignment operators
- (v) Conditional Operator

(Operators list with examples of above types)

[ - 5 marks ]

25) a) while loop:

Syntax:

while (condition):  
Statements block 1

[else:  
Statements block 2]

Any valid example

Explanation

1 1/2 marks

- 2 marks

o 1 1/2 marks.

b) Built In string functions:

Explain any 5 string functions.

- 1. len(str)
- 2. capitalize()
- 3. center()
- 4. find()
- 13. swapcase
- 16. chr()
- 5. isalnum()
- 6. isalpha()
- 7. isdigit()
- 8. lower()
- 14. count()
- 9. islower()
- 10. isupper()
- 11. upper()
- 12. title()
- 15. ord()

Explain with syntax, definition, Example -  
- 5 marks.



362a)

The range () is a function used to generate a series of values in python

Syntax: range (Start Value, end value, Step Value)

Any valid example:

Start value - beginning value of series.

Zero is the default beginning value.

End value - upper limit of series, Python takes the ending value as upper limit - 1

Step value - It is optional argument which is used to generate different interval of values. - 3 marks

C/R

The range () function is the sequence to specify the initial, final and increment values range () generates a list of values starting from start till stop - 1.

Syntax:

range (start, stop, [step])

Where,

Start - refers to initial value

Stop - >> final value

Step - >> increment value, this is optional arg

(3 marks can be allocated if anyone of method is written)

Any valid example: (- 2 marks)

b) Relational Relationship:

Relationship Give Explanation with Example.

1. One-to-one Relationship

2. One-to-many >>

3. Many-to-one >>

4. Many-to-many >>

- 5 marks.

DATE: \_\_\_\_\_

- 37) a)
1. CSV file - data with default delimiter comma
  2. CSV file - data with space at the beginning
  3. CSV file - data with quotes
  4. CSV file - data with custom delimiters.
- Explain with Example. - 5 marks

- b)
- Python - To execute the Python Program from command line (2 marks)
- file name .py - Name of the Python program to execute (1 mark)
- file name - Name of the file to be compiled & executed (1 mark)
- i - input mode (1 mark)

- 38) a)
- clauses in SQL:
- \* DISTINCT
  - \* WHERE
  - \* HAVING
  - \* GROUP BY
  - \* ORDER BY

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The following heading with Explanation. - 5 marks

- b) Histogram Bar graph.
1. It refers to a graphical representation that displays data by way of bars to show the frequency of numerical data. It is a pictorial representation of data that uses bars to compare different categories of data
  2. It represents frequency distribution of continuous variables. It is a diagrammatic comparison of discrete variables.
  3. It presents numerical data. It shows categorical data.
  4. The histogram is drawn in such a way that there is no gap between the bars. There is proper spacing between bars in a bar graph that is discontinuity.
  5. Histogram  $\rightarrow$  categorical categorised to represent range of data. Bar graph  $\rightarrow$  It individual entities.
  6. Rearrange blocks: Highest to lowest sequence of class.
  7. width: may or may not same It is always same.

- Any 5 points - 5 marks