

QUARTERLY EXAMINATION - 2023

CLASS : 12

COMPUTER SCIENCE



TIME : 3.00 hrs

MARKS : 70

PART - I

Note: (i) Answer all the questions (ii) Choose the most appropriate answer from the given four alternatives and write the option code and the corresponding answer.

15x1=15

1. The variables in a function definition are called as
(A) Subroutines (B) Function (C) Definition (D) Parameters
 2. A sequence of immutable objects is called
(A) Built in (B) List (C) Tuple (D) Derived data
 3. Which scope refers to variables defined in current function?
(A) Local Scope (B) Global scope (C) Module scope (D) Function Scope
 4. Which of the following is used to describe the worst case of an algorithm?
A) Big A (B) Big S (C) Big W (D) Big O
 5. This symbol is used to print more than one item on a single line.
A) Semicolon (;) (B) Dollor (\$) (C) comma (,) (D) Colon (:)
 6. What plays a vital role in Python programming?
A) Statements (B) Control (C) Structure (D) Indentation
 7. Which amongst this is not a jump statement ?
A) for (B) pass (C) continue (D) break
 8. A Function which calls itself is called as
(a) Built-in (b) Recursion (c) Lambda (d) return
- Pick the correct one to execute the given statement successfully.**
9. if ____ : print(x, " is a leap year")
(a) x%2=0 (b) x% 4 ==0 (c) x/4=0 (d) x%4=0
 10. Defining strings within triple quotes allows creating:
(a) Single line Strings (b) Multiline Strings
(c) Double line Strings (d) Multiple Strings
 11. The subscript of a string may be:
(a) Positive (b) Negative (c) Both (a) and (b) (d) Either (a) or (b)
 12. Pick odd one in connection with collection data type
(a) List (b) Tuple (c) Dictionary (d) Loop
 13. The keys in Python, dictionary is specified by
(a) = (b) ; (c) + (d) :
 14. Which of the following are the key features of an Object Oriented Programming language?
(a) Constructor and Classes (b) Constructor and Object
(c) Classes and Objects (d) Constructor and Destructor
 15. A private class variable is prefixed with
(a) _ (b) && (c) ## (d) **

PART - II**ANSWER ANY SIX. Q NO: 21 IS COMPULSORY.**

6 X 2 = 12

16. What is a subroutine?
17. What is a Pair? Give an example.
18. What is an Algorithm?
19. Write short notes on Tokens.
20. Write is the syntax of if..else statement
21. Define global scope.
22. What will be the output of the following python code?
`str1 = "School" print(str1*3)`
23. What will be the value of x in following python code?
`List1=[2,4,6[1,3,5]] x=len(List1)`
24. How will you create constructor in Python?

PART - III**ANSWER ANY SIX. Q NO : 32 IS COMPULSORY.**

6 X 3 = 18

25. Differentiate pure and impure function.
26. Identify the scope of the variables in the following pseudo code and write its output
`color:= 'Red' mycolor(): b:='Blue' myfavcolor(): g:='Green'`
`print color, b, g myfavcolor()`
`print color, b mycolor()`
`print color`
27. Write a note on Asymptotic notation.
28. Explain Ternary operator with examples.
29. Differentiate ceil () and floor () function?
30. Write a short about the followings with suitable example:
(a) capitalize () (b) swapcase ().
31. What will be the output of the following code?
`list = [2**x for x in range(5)] print(list)`
32. What are class members? How do you define it?
33. How to define constructor and destructor in Python?

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)
What is a List? Why List can be called as Pairs. Explain with suitable example
35. Write any Five Characteristics of Modules. (OR)
What is Binary search? Discuss with example.
36. Discuss in detail about Tokens in Python. (OR)
Write a detail note on for loop.
37. Explain recursive function with an example. (OR)
Explain about string operators in python with suitable example.
38. Explain the different set operations supported by python with suitable example.
(OR) Explain about constructor and destructor with suitable example.

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XII STANDARD QUARTERLY COMPUTER SCIENCE QUESTION ANSWER KEY 2023

PART – I		
S. NO	ANSWERS	
1.	d) Parameters	
2.	c) Tuple	
3.	a) Local Scope	
4.	d) Big O	
5.	c) comma(,)	
6.	d) Indentation	
7.	a) for	
8.	b) Recursion	
9.	b) $x\%4==0$	
10.	b) Multiline Strings	
11.	d) Either (a) or (b)	
12.	d) Loop	
13.	d) :	
14.	c) Classes and Objects	
15.	a) —	
PART – II		
16.	☆ Subroutines are small sections of code that are used to perform a particular task that can be used repeatedly.	1
	☆ Subroutines are the basic building blocks of computer programs. In Programming languages, these subroutines are called as Functions.	1
17.	☆ Any way of bundling two values together into one can be considered as a pair.	1
	☆ Example	1
18.	☆ An algorithm is a finite set of instructions to accomplish a particular task.	1
	☆ It is a step-by-step procedure for solving a given problem. An algorithm can be implemented in any suitable programming language.	1
19.	☆ Tokens Definition	1
	☆ Classification	1
20.	☆ Syntax	1
	☆ Example	1

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21.	☆ Definition ☆ Example	1 1		
22.	☆ SchoolSchoolSchool	2		
23.	☆ $x=4$	2		
24.	☆ Constructor Definition ☆ Syntax or Example	1 1		
PART – III				
25.	The return value of the pure functions solely depends on its arguments passed. Hence, if you call the pure functions with the same set of arguments, you will always get the same return values. They do not have any side effects. They do not modify the arguments which are passed to them.	1.5		
	The return value of the impure functions does not solely depend on its arguments passed. Hence, if you call the impure functions with the same set of arguments, you might get the different return values Eg: random(), Date(). They may modify the arguments which are passed to them	1.5		
26.	VARIABLE	SCOPE	OUTPUT	3
	color:=Red	Global Scope	Red Blue Green Red Blue	
	g:=Green	Local Scope		
	b:=Blue g:=Green	Enclosed Scope	Red	
27.	☆ Asymptotic Notation Definition	1		
	☆ Big O + Big Omega	1		
	☆ Big Theta	1		
28.	☆ Ternary Operator Definition	1		
	☆ Syntax	1		
	☆ Example	1		
29.	☆ Ceil Function Definition, Syntax and Example	1.5		
	☆ Floor Function Definition, Syntax and Example	1.5		

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30.	☆ Capitalize Definition, Syntax and Example	1.5
	☆ Swap Case Definition, Syntax and Example	1.5
31.	☆ [1, 2, 4, 8, 16]	3
32.	☆ Class Member Definition	2
	☆ Example for Class	1
33.	☆ Constructor	1.5
	☆ Destructor	1.5
PART – IV		
34. a)	☆ Parameters and Arguments Definition	1
	☆ Parameter without Type	2
	☆ Parameter with Type	2
b)	☆ List Definition with Example	2
	☆ Method 1	1
	☆ Method 2	1
	☆ Pair Definition	1
35. a)	☆ Characteristics of Modules(5 Points)	5
b)	☆ Binary Search Definition	1
	☆ Pseudocode	2
	☆ Example with Explanation	2
36. a)	☆ Tokens Definition & Classification	1
	☆ Keywords with Example	1
	☆ Identifiers with Example	1
	☆ Literals	1
	☆ Operators with Example	1
	☆ Punctuators with Example	1
b)	☆ Definition	1
	☆ Syntax	1
	☆ Flowchart	1
	☆ Example	1
	☆ Explanation	1
37. a)	☆ Recursive Function Definition	1
	☆ Recursive Function Works	2

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	☆ Base Condition	1
	☆ Example	1
b)	☆ Concatenation with example	1
	☆ Append with example	1
	☆ Repeating with example	1
	☆ String Slicing with example	1
	☆ Stride when Slicing with example	1
38. a)	☆ 4 Set Operations Definition	2
	☆ Operator and Function Explanation	1
	☆ Operator Example	1
	☆ Function Example	1
b)	☆ Constructor Definition with Syntax	1.5
	☆ Destructor Definition with Syntax	1.5
	☆ Constructor Example	1
	☆ Destructor Example	1