Model Quarterly Examination – 2020

COMPUTER SCIENCE

Time: 3.00 hrs   **12TH STD**   Max. Marks: 70

PART-I

I. Note: i) Answer all the questions. ii) Choose the most appropriate answer from the given four alternatives and write the option code and corresponding answer.   15×1=15

1. Which of the following defines what an object can do?
(A) Operating System (B) Compiler (C) Interface (D) Interpreter

2. A sequence of immutable objects is called
(A) Built in (B) List (C) Tuple (D) Derived data

3. Which scope is defined at the uppermost level?
(A) Built in (B) Enclosed (C) Global (D) Local

4. The complexity of linear search algorithm is
(A) O(n) (B) O(log n) (C) O(n2) (D) O(n log n)

5. Consider the below Pseudocode:
(1) − Insert the value (2) − Compare with all elements in the sorted sub-list (3) − If it is the first element, it is already sorted. (4) − Shift all the elements in the sorted sub-list that is greater than the value to be sorted (5) − Pick next element   (6) − Repeat until list is sorted
Find which type of sorting algorithm is used in the above pseudocode and arrange in correct order.
(A) Bubble Sort, (4,5,1,3,2,6)   (B) Insertion Sort, (1,2,3,4,5,6)
(C) Bubble Sort, (1,2,3,4,5,6)   (D) Insertion Sort, (3,5,2,4,1,6)

6. The following snippet represents the syntax of _____.

> Variable Name = [on_true] if [Test expression] else [on_false]

 (A) Conditional Operator (B) Ternary operator (C) Both (A) and (B) (D) None of the above

7. The condition in the if statement should be in the form of
(A) Arithmetic or Relational expression
(B) Arithmetic or Logical expression
(C) Relational or Logical expression
(D) Arithmetic

8. Read the following statement and choose the correct statement(s).
(I) In Python, you don't have to mention the specific data types while defining
function.
(II) Python keywords can be used as function name.
(A) I is correct and II is wrong   (B) Both are correct
(C) I is wrong and II is correct   (D) Both are wrong

9. What will be the output of the following code?

> str1 = "Chennai Schools"
> str1[7] = "-"

(A) Chennai-Schools (B) Chenna-School (C) Type error (D)Chennai

10. Which of the following function will change case of every character to its opposite case vice-versa?
(A) upper() (B) lower() (C) swapcase() (D) isalnum()

11. Which of the following function is used to count the number of elements in a list?
(A) count() (B) find() (C)len() (D) index()

12. Which of the following is the private class variable?
(A) __cse   (B) ##cse   (C) $$cse   (D) &&cse

13. Which of the following is an RDBMS?
(A) Dbase   (B) Foxpro   (C) Microsoft Access (D) SQLite

14. The clause used to sort data in a database
(A) SORT BY (B) ORDER BY (C) GROUP BY (D) SELECT

15. Which of the following is/are Database Management System(s)?
(a) Oracle (b) MySQL (c) IBM Db2 (d) All of the above

PART – II

Answer any 6 questions. Qn.No. 24 is compulsory.   6×2=12

16. What is the side effect of impure function. Give example.

17. Differentiate constructors and selectors.

18. What is Space Complexity?

19. Write a note on if..else structure.

20. Write a program to swap two strings.

21. Write a class with two private class variables and print the sum using a method.

22. Define: (i) Data consistency (ii) Data Redundancy.

23. Compare and contrast the DELETE and DROP command.

24. Create a query to display the student table with students of age more than 18 and arrange the table in descending order based on their AdmNo.

PART – III

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

25. Why strlen is called pure function?

26. Write the pseudo code for half-interval search algorithm.

27. What are string literals? Explain.

28. Justify the below statement and illustrate with an example:
Statement: "A function calls itself".

29. Predict the output and give explanation:

```
str1 = "welcome"
str2 = "to school"
str3=str1[:2]+str2[len(str2)-2:]
print(str3)
```

30. Explain the difference between del( ) and clear( ) in dictionary with an example.

31. Explain Cartesian Product with a suitable example.

32. Write a SQL statement using
(i) WHERE   (ii) HAVING   (iii) GROUP BY

33. Write a python program to print the following pattern.

A B C D E
A B C D
A B C
A B
A

PART – IV

Answer all the questions.   5×5=25

34. a) (i) Explain Parameter with and without type.
(ii) How Python represents the private and protected Access specifiers? **OR**
b) Explain the types of scopes for variable or LEGB rule with example.

35. a) Explain the Fibonacci Series using Dynamic Programming. **OR**
b) Write a Python code to find the L.C.M. of two numbers.

36. (a) What the different ways to insert an element in a list. Explain with suitable example. **OR** (b) (i) Write a program using class to accept three sides of a triangle and print its area. (ii)How do define constructor and destructor in Python?

37. a) Discuss in detail about Tokens in Python **OR**
b) (i) Write a program using if..else..elif statement to check smallest of five numbers.
(ii) Write a program to check if the year is leap year or not.

38. a) (i)Write a SQL statement to create a table for employee having any five fields and create a table constraint for the employee table.
(ii)List some examples of RDBMS **OR**
b) (i) Explain TCL Command with example. (ii) Differentiate DBMS and RDBMS.

*****

Prepared By:
N.KARTHICK RAJA B.Tech(IT).,
Contact : 9360228089
nkarthickraja.btech@gmail.com
Contact me for Paper valuation.