

ANNUAL EXAMINATION : 2019-20  
Class - XI (CBSE)  
Subject - Computer Science (083)

Time : 3 hrs.

M.M.: 70

- Instructions**
- a. ALL questions are compulsory.
  - b. Programming Language Python.
  - c. Answer according to the Python version you are using.

- Q.1-
- a. Differentiate between application and system software. [2]
  - b. Convert the following and show working also: [2]
    - i.  $(29, 45)_{10} = (?)_2$
    - ii.  $(110110101)_2 = (?)_{10}$
  - c. Draw the symbol used for AND , OR logic gate and also make the truth table of each for two input gate. [2]
  - d. What is Cloud computing and what are different types of Cloud? [2]
  - e. What are advantages of Parallel computing? [2]
- Q.2-
- a. Differentiate between (3) and (3,). [1]
  - b. Identify the errors in the following code, make corrections and **underline all the corrections** made(logic of the code should not change). [2]

```
j = 99
a = int("Enter value of a")
b = int("Enter value of b")
if(a > b)
    MAX = 5
for in range(0,MAX):
    print(x)
```
  - c. Write output of following code: [2]

```
letter = "hai sethuraman"
for i in letter:
    if i == "a":
        pass
        print("pass statement is execute.....")
    else:
        print(i)
```
  - d. Write output of following code: [1]

```
x = 2
y = 10
x * = y * x + 1
```
  - e. What is the use of continue statement? Illustrate with an example. [2]
  - f. What are the possible outputs of the following code from the given options (i) to (iv)? [2]

```
import random
val = ["red","green","blue","yellow"]
for in in range(1, 4):
    r = random. randint( 1, 4)
    print(val[r], end = ' ')
```

    - i. blue : yellow : blue :
    - ii. red : blue : blue :
    - iii. green : green : blue :
  - g. Differentiate between mutable and immutable data types? [2]

- Q.3- a. Write a program to sort a list in ascending order using bubble sort method  
For e.g. if list [3]   
A = [2, 5, 9, -3, -5, 1] after sorting it will be [-5, -3, 1, 2, 5, 9]
- b. Write output of following code: [2]   
b, c = 0, [1, 2, 3, 4, 5, 6, 7, 8, 9, 0]   
for a in range(0, 5):   
    if(a%2 == 0):   
        b += c[a]   
    print(b, end=" ")
- c. Write output of following code: [2]   
str = 'virus-virus-virus'   
dl = '-'   
print(str.split(dl))   
str=["Fundamental","of","Python"]   
dl = "" #no space   
print(dl.join(str))
- d. Answer (i) to (iii) based on following dictionary: [3]   
student = {5:"AsthaAnand", 7:"Shivangi Singhal", 11:"KavyaPillai"}   
i. print(student.keys())   
ii. print(student.values())   
iii. print(student.items())
- e. State two differences between tuple and list. [2]
- Q.4- a. Define following: i. Primary Key ii. Foreign Key [2]   
Attempt part (b) and (c) based on tables BOOKS [6 + 4]

**Table : BOOKS**

BookID	BookName	AuthorName	Publisher	Price	Type	Quantity
C0001	Fast Cook	Lata Kapoor	BPB	355	Cookery	5
F0001	The Tears	William Hopkins	Tata Mc Graw	650	Fiction	20
T0001	My First C++	Brain & Brooke	BPB	350	Text	10
T0002	C++ Brainworks	A.W. Rossaine	TDH	350	Text	15
F0002	Unserstand Python	Anna Roberts	First Publ.	750	Text	50

- b. i. To show book name, author name and price of books of BPB publisher.   
ii. To list the names of books of text type.   
iii. To display name and price of books in ascending order of their price.   
iv. To increase price of all books of First Publ. publisher by ₹ 50.   
v. To display book id and book name of those books which have book name with 3<sup>rd</sup> letter as 's'.   
vi. To insert a new row in the table BOOKS.
- c. i. SELECT COUNT(\*) FROM BOOKS;   
ii. SELECT MAX(Price) FROM BOOKS WHERE QUANTITY >= 15;   
iii. SELECT Bookname, AuthorName, Price where Publisher IN ('BPB', 'Tata Mc Graw');   
iv. SELECT COUNT(DISTINCT Publishers) FROM BOOKS;
- Q.5- a. What is SQL? What are different categories in SQL? Give examples of each. [3]   
b. Define Degree and Cardinality and write a query to find cardinality of relation BOOKS given in above question. [2]

- c. What do you mean by constraints? What are different types of constraints that can be defined in a relation? [3]
- d. Illustrate with an example how the structure of a relation can be modified. [2]
- Q.6- a. Create following table as per the given specifications: [2]

Table Name : **FLIGHT**

Column Name	Data Type	Size	Constraint	Description
FlightNo	Number	4	Primary key	Flight Number
Origin	String	30	Not Null	Place of origin of flight
Destination	String	30	Not Null	Destination of flight
Seats	Number			
FlightDate	Date			
Rate	Number	7,2		

- b. What is NoSQL database and what are its type? [2]
- Q.7- a. What is cyber crime and mention some common cyber crimes? [2]
- b. What is digital footprint ? Why is it so important? [2]
- c. What are cookies? [1]
- d. What measure would you take to avoid? [2]
- Virus attack
  - Spyware
  - Adware
  - Spam
- e. Fill in the blanks: [3]
- \_\_\_\_\_ is a program that appears harmless but actually performs malicious functions.
  - The redirection of an individual to an illegitimate web site through technical means is known as \_\_\_\_\_ .
  - A system designed to prevent unauthorized access to or from a private network is called \_\_\_\_\_ .

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