

Half Yearly Examination (2019 - 2020)

M.M.: 70

Class – XI

Time: 3 hrs.

Name of the Student _____ Roll No. _____

Subject- Computer Science

Q1. Do as directed:

[10x1=10]

1	<pre>for x in range(0,8): if (x==4): break print(x) # Give output</pre>	6	<pre>#Give output: for p in range(97,101,1): print(chr(p) ,end = " ")</pre>
2	<pre>for x in range(4): print(x,2**x) #Give output</pre>	7	Convert (2) in while
3	<pre>C=1 while C<150: print(C) C=C *2 #Give output</pre>	8	<pre>va=input("") if va=='j': print("January") elif va=='A': print("April") else: print("rest Month") #Give output if va= 'a'</pre>
4	<pre>for d in range(-8,-5,2): print(d+1) #Give output</pre>	9	<pre>c=1 for x in range(-10,-100,-30): c=c+1 print('Value is ',c) #Give output</pre>
5	<pre>for c in range(1,4): print(c) if c==4 break # Rectify the code such that output should be 1,2,3,4</pre>	10	<pre>N,x,R=131,0,0 CN=N while N !=0: x=N%10 R = (R*10) + x N=N//10 print(R==CN) #Give output</pre>

Q2. Write programs in Python using loops.

[4+4+2=10]

- Write a program to accept three numbers, add them and now check whether added number is a prime number or not. [A prime number is a number having only two factors i.e. 1 and the number itself]
- Write a program to accept a number , generate Fibonacci series till that number and print only ODD numbers of the series generated. [If user entered 8, series generated should be 0 , 1 , 2 , 3 , 5 , 8 , 13 , 21. Now the output should be 1 , 3 , 5 , 13 , 21]
- Write a program to print the following series
2 , 4² , 6 , 8² , 10 , 12² , 14 , 16²

Q3. Answer the following:

[10x1=10]

- What is SEP? Where it is used?
- Differentiate between hex() and oct()
- What do you mean by the term abbreviative if?
- What is slicing concept of Strings?
- In how many ways, indexes of Strings are numbered?
- What is 'break' keyword used for?
- Give example of 'pass' statement.
- What do you mean by the term identifiers?
- What is the purpose of the function FIND()? Give example
- What is the purpose of capitalize()? Give example.

Q4. Write programs in Python using Strings and Library:
[2.5 x 4 = 10]

1. Write a program to accept a String and print it in reverse. [If user enters MAD output should be DAM]
2. Write a program to accept a String and print count of letter 'a' or 'A' in the entered in it. [If String entered is 'Anaconda' then output should be 3]
3. Write a program to accept a String and N (integer) and print first N letters of it. [If user enters "MY NATION", 6 output should be MY NAT]
4. Write a program to accept a String and print only capital letters entered from the String entered. [Input: "An APple a Day" Output: AAPPD]

Q5. Answer the following using SQL:
[10x1=10]

1. What do you mean by the term relationship in database?
2. From the table given below, give its Degree and Cardinality

Name	Activity
Omm Gupta	Reading
Rishi Pandey	Singing
Skand Agarwal	Talking

3. What is Primary key?
4. What are constraints?
5. What do you mean by the term Unique?
6. How Cartesian Product of two table is calculated?
7. What is the use of DISTINCT clause used in select statement?
8. Give the error, if any: Select NAME, AGE from TBL_1 where SAL = NULL;
9. What will be the output: Select 4500*10/100;
10. Write its equivalent query giving same output: SELECT NAME, AGE from TBL_1 where SAL >=1000 and SAL <=2000;

Q6. Answer the following using SQL single table:
[8+2=10]

Mr. Devottam, a database administrator in "Global Educational and Training Institute" has created following table named "Training" for the upcoming training schedule:

Training

Training_Id	Name	Email_Id	Topic	City	Fee
ND01	Mr. Rajan	raj@gmail.com	Cyber Security	New Delhi	10000
GU01	Ms. Urvashi	urv@yahoo.com	ICT in Education	Gurugram	15000
FD01	Ms. Neena	neena@rediff.com	Cyber Security	Faridabad	12000
ND02	Mr. Vinay	NULL	ICT in Education	New Delhi	13000
GU02	Mr. Naveen	nav@gmail.com	Cyber Security	Gurugram	NULL

(1) Help him in writing **SQL query** for the following purpose:

- i. Display the Training_Id of 'Cyber Security' who does not belong to 'New Delhi'.
- ii. Show average Fee from the table .
- iii. Give Name , Email_Id where Name ending with 'n' .
- iv. To count how many female candidates will be attending the training.
- v. To display list of free trainings.
- vi. To display all the cities where Cyber Security training is scheduled along with its fee.
- vii. To add a column feedback with suitable data type.
- viii. To remove the column Fee from the above table.

(2) Observe the table named "Training" given above carefully and predict the output of the following queries:

- i. select City from training where Topic = 'Cyber Security';
- ii. select count(Training_Id) from training where Email_Id like '%gmail% ';
- iii. select AVG (Fee) from training where Topic = 'Cyber Security';
- iv. select Name from training where Fee between 12500 and 14500;

Q7. Answer the following using SQL multi table / Mongo DB :
[4x1+1x2+1x4=10]

1. What are the key features of mongodb?
2. What is sharding?
3. What kind of NoSQL database MongoDB is?
4. What is the use of limit() method?
5. Write SQL command for to create the table “Books“ with the following structure:

Field	Type	Constraint
Book_Id	Varchar(6)	Primary Key
Book_Name	Varchar(25)	Not Null
Author_Name	Varchar(30)	
Publisher	Varchar(20)	
Price	Integer	<1000
Type	Char(15)	

6. Consider the following tables VEHICLE & CUSTOMER:

Table : VEHICLE

Vcode	VehicleName	Make	Color	Capacity	Price
501	A-Star	Suzuki	Red	3	4
503	Indigo	Tata	Silver	3	4
502	Innova	Toyota	White	7	15
509	SX4	Suzuki	Silver	4	14
510	C Class	Mercedes	Red	4	35

Table :CUSTOMER

Ccode	Vcode	CName	City
1001	501	Hemant Sahu	Chandigarh
1001	509	Raj Lal	Amritsar
1002	503	Feroza	Shah Banglore
1003	503	Ketan	Dhal Delhi
1003	509	BM Rai	Amritsar

- i. Identify the primary key and foreign key in customer table.
- ii. Write SQL command to display the Vcode, CName and City of those customers who have purchased Indigo Or A-Star.
- iii. Write a query to show the VehicleName and City of the Vcode 509
- iv. Write a query to show the highest and lowest Price of each Make.

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