

2014

ROLL NUMBER				
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**INDIAN SCHOOL MUSCAT  
HALF YEARLY EXAMINATION 2022  
COMPUTER SCIENCE(CODE-083)**



CLASS : XI  
DATE: 21-11-2022

TIME ALLOTTED : 3 HRS.  
MAXIMUM MARKS : 70

**GENERAL INSTRUCTIONS:**

1. This question paper contains five sections, Section A to E.
2. All questions are compulsory.
3. Section A have 18 questions carrying 01 mark each.
4. Section B has 07 Very Short Answer type questions carrying 02 marks each.
5. Section C has 05 Short Answer type questions carrying 03 marks each.
6. Section D has 03 Long Answer type questions carrying 05 marks each.
7. Section E has 02 questions carrying 04 marks each.
8. All programming questions are to be answered using Python Language only.

Q.NO.	SECTION- A	Marks
1.	Which of the following is a valid string in python? (a) "Hello"                      (b) "Hello'                      (c) 'Hello"                      (d) [Hello]	1
2.	Fill in the blank: In python one can write a complete program with many lines of code and save in _____ mode. (a) Script                      (b) Interactive                      (c) GUI                      (d) CMD	1
3.	What is the size of the string constant "Ritha\'s"? (a) 8                      (b) 7                      (c) 6                      (d) 5	1
4.	The extension of Python file is (a) .pyth                      (b) .python                      (c) .py                      (d) .p	1
5.	Fill in the blank: A variable pointing to a value of a certain type, can be made to point to a value/object of different type is called _____. (a) dynamic typing                      (b) static typing                      (c) identifier                      (d) keyword	1
6.	Which of the following is/are character set?	1

*(Signature)*

- (a) Alphabets      (b) Digits      (c) White spaces      (d) All of these
7. These operators are used to make a decision on two conditions. 1  
 (a) Logical      (b) Arithmetic      (c) Relational      (d) Assignment
8. Fill in the blank: 1  
 The \_\_\_\_\_ operator is used to find the remainder of a division.  
 (a) /      (b) //      (c) %      (d) \*\*
9. Which function is used to generate a sequence of numbers overtime? 1  
 (a) len()      (b) range()      (c) lim()      (d) limit()
10. These statements enable a program with a cyclic flow of logic. 1  
 (a) Sequence      (b) Compound      (c) Single      (d) Iterative
11. Which index is used to represent last character of a string of length 5 characters? 1  
 (a) -1      (b) 1      (c) 0      (d) 3
12. 'while' loops are called as 1  
 (a) exit control loops      (b) entry control loops      (c) Both (a) and (b)      (d) None of these
13. Find the appropriate loop for the condition when a for loop is to be repeated 50 times. 1  
 (a) for i in range (0, 51,1) :      (b) for i in range (1, 50,1) :  
 (c) for i in range (0, 50,1) :      (d) for i in range (0, 1,50) :
14. Identify this working memory, right from the booting of computer till the computer is shutdown this memory is in use to store all the operation done by the computer. 1  
 (a) ROM      (b) RAM      (c) Hard disk      (d) EPROM
15. Which among the following is an important circuitry in a computer system that coordinates with the different units attached to computer system? 1  
 (a) Memory      (b) Input unit      (c) Control unit      (d) Output unit
16. Fill in the blank: 1  
 \_\_\_\_\_ is a program which acts as an interface between hardware and user.  
 (a) Operating System      (b) Packages      (c) Utilities      (d) Software libraries
- Q17 and 18 are ASSERTION AND REASONING based questions. Mark the correct choice as
- (a) Both A and R are true and R is the correct explanation for A  
 (b) Both A and R are true and R is not the correct explanation for A  
 (c) A is True but R is False  
 (d) A is false but R is True
17. Assertion (A):- Python has one special literal, which is None. 1  
 Reasoning (R):- None also indicates absence of value. In other languages it is known as NULL.

18. Assertion (A):- Keywords are the reserved words and have special meaning for python interpreter. 1  
Reasoning (R):- Keywords can be used as variable names.

### SECTION-B

19. Find the errors (if any) in the following code. Rewrite the correct code and underline the corrections made. 2  
`w = 90;  
while(w>60]  
Print(w)  
w = w - 50`
20. Write any 4 advantages of python language. 2  
OR  
What do you mean by user defined functions in python?
21. (a) Write the output of the following code: 1+1=2  
`x, x = 100,200  
y,y = x + 100, x +200  
print(x,y)`  
  
(b) Write the output of the following code:  
`x,y,z = 10,20,30  
z,y,x = x+1,z+10,y-10  
print(x,y,z)`
22. What do you mean by hardware? Give two examples. 2
23. Write the corresponding python expression for the following mathematical expressions. 1+1=2  
(a)  $\frac{-b+\sqrt{b^2-4ac}}{2a}$   
(b)  $10 - ye^{5y} + 25y$
24. What do you mean by utility software? Give two examples of utility software's. 2  
OR  
What is the difference between an interpreter and compiler?
25. Write a program in python to accept the radius of a circle and find its area and display the area. 2  
OR  
Write a program in python to accept the length and breadth of a rectangle find its area and display the area.

### SECTION-C

26. Explain about RAM and ROM. 3
27. Write a program in python to accept the two integers find its LCM and GCD and display it. 3  
OR

Write a program in python to input a year in 4-digit form and print whether it is a leap year or not.

28. Write the output of the following code:

3

```
str= "World Cup 2022"
print(str[0:6])
print(str[-1:-4])
print(str[-3:-1])
print(str[0::3])
print(str[::-1])
print(str[:-2])
```

29. What do you mean by syntax error, semantic error and logical error? Explain each with an example.

3

30. Explain about the string methods len( ), isalpha( ) and capitalize( ).

3

OR

What is the difference between a break and continue statements in python? Explain.

#### SECTION-D

31. (a) Write a program in python to print the first 10 numbers of the Fibonacci series.

2+3=5

- (b) Write a program to accept the value of 'x' and find the sum of the following series and display the sum.

$$\frac{x}{1!} - \frac{x^2}{2!} + \frac{x^3}{3!} - \frac{x^4}{4!}$$

32. (a) Write a program in python to accept a string and check and display whether it is palindrome or not.

2+3=5

- (b) Write a program to accept the value of 'x' and number to terms of the following series and find the sum and display it.

$$1 + x + x^2 + x^3 + x^4 + \dots$$

33. (a) Write a program in python to print the following pattern.

3+2=5

```
$
$ $
$ $ $
$ $ $ $
```

- (b) Write a program in python to accept an integer and check and display whether it is perfect number or not. Eg: 6 = 1+2+3(factors of the number other than the number itself)

OR

- (a) Write a program in python to print the following pattern.

```
A B C D
A B C
A B
A
```

(b) Write a program in python to accept an integer find its factorial and display it.

**SECTION-E**

34. Write a program in python to accept a string and count and display the number of vowels and consonants in the string. 4
35. Write a program in python to accept a number and check and display whether it is an Armstrong number or not. 4

**\*\*\*END OF THE QUESTION PAPER\*\*\***



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4. Section B has 07 Very Short Answer type questions carrying 02 marks each.
5. Section C has 05 Short Answer type questions carrying 03 marks each.
6. Section D has 03 Long Answer type questions carrying 05 marks each.
7. Section E has 02 questions carrying 04 marks each.
8. All programming questions are to be answered using Python Language only.

Q.NO.	SECTION- A	Marks
1.	Fill in the blank: A variable pointing to a value of a certain type, can be made to point to a value/object of different type is called _____. (a) dynamic typing      (b) static typing      (c) identifier      (d) keyword	1
2.	The extension of Python file is (a) .pyth      (b) .python      (c) .py      (d) .p	1
3.	Which of the following is/are character set? (a) Alphabets      (b) Digits      (c) White spaces      (d) All of these	1
4.	Fill in the blank: In python one can write a complete program with many lines of code and save in _____ mode. (a) Script      (b) Interactive      (c) GUI      (d) CMD	1
5.	Which of the following is a valid string in python? (a) "Hello"      (b) "Hello'      (c) 'Hello"      (d) [Hello]	1
6.	What is the size of the string constant "Ritha\'s"? (a) 8      (b) 7      (c) 6      (d) 5	1

7. Which function is used to generate a sequence of numbers overtime? 1  
(a) len( ) (b) range( ) (c) lim( ) (d) limit( )
8. These statements enable a program with a cyclic flow of logic. 1  
(a) Sequence (b) Compound (c) Single (d) Iterative
9. These operators are used to make a decision on two conditions. 1  
(a) Logical (b) Arithmetic (c) Relational (d) Assignment
10. Fill in the blank: 1  
The \_\_\_\_\_ operator is used to find the remainder of a division.  
(a) / (b) // (c) % (d) \*\*
11. Find the appropriate loop for the condition when a for loop is to be repeated 50 times. 1  
(a) for i in range (0, 51,1) : (b) for i in range (1, 50,1) :  
(c) for i in range (0, 50,1) : (d) for i in range (0, 1,50) :
12. Identify this working memory, right from the booting of computer till the computer is shutdown this memory is in use to store all the operation done by the computer. 1  
(a) ROM (b) RAM (c) Hard disk (d) EPROM
13. Fill in the blank: 1  
\_\_\_\_\_ is a program which acts as an interface between hardware and user.  
(a) Operating System (b) Packages (c) Utilities (d) Software libraries
14. 'while' loops are called as 1  
(a) exit control loops (b) entry control loops (c) Both (a) and (b) (d) None of these
15. Which among the following is an important circuitry in a computer system that coordinates with the different units attached to computer system? 1  
(a) Memory (b) Input unit (c) Control unit (d) Output unit
16. Which index is used to represent last character of a string of length 5 characters? 1  
(a) -1 (b) 1 (c) 0 (d) 3

Q17 and 18 are ASSERTION AND REASONING based questions. Mark the correct choice as

- (a) Both A and R are true and R is the correct explanation for A
  - (b) Both A and R are true and R is not the correct explanation for A
  - (c) A is True but R is False
  - (d) A is false but R is True
17. Assertion (A):- Keywords are the reserved words and have special meaning for python interpreter. 1  
Reasoning (R):- Keywords can be used as variable names.

18. Assertion (A):- Python has one special literal, which is None. 1  
Reasoning (R):- None also indicates absence of value. In other languages it is known as NULL.

### SECTION-B

19. Write the corresponding python expression for the following mathematical expressions. 1+1=2

(a) 
$$\frac{-b + \sqrt{b^2 - 4ac}}{2a}$$

(b)  $10 - ye^{5y} + 25y$

20. What do you mean by hardware? Give two examples. 2

21. Write a program in python to accept the radius of a circle and find its area and display the area. 2

OR

Write a program in python to accept the length and breadth of a rectangle find its area and display the area.

22. Write any 4 advantages of python language. 2

OR

What do you mean by user defined functions in python?

23. Find the errors (if any) in the following code. Rewrite the correct code and underline the corrections made. 2

```
k = 500
For i range(1 : 5) :
    print(k, End = " ")
    k = k - 50
```

24. What do you mean by utility software? Give two examples of utility software's. 2

OR

What is the difference between an interpreter and compiler?

25. (a) Write the output of the following code: 1+1=2

```
x, x = 100, 200
y, y = x + 100, x + 200
print(x, y)
```

(b) Write the output of the following code:

```
x, y, z = 10, 20, 30
z, y, x = x + 1, z + 10, y - 10
print(x, y, z)
```

### SECTION-C

26. What do you mean by syntax error, semantic error and logical error? Explain each with an example. 3

27. Write a program in python to accept the two integers find its LCM and GCD and display it. 3

OR

Write a program in python to input a year in 4-digit form and print whether it is a leap year or not.

28. Explain about the string methods `index()`, `isalnum()` and `title()`. 3

OR

What do you mean by Loop.. else statement? Explain.

29. Write the output of the following code: 3

```
str= "World Cup 2022"
```

```
print(str[0:6])
```

```
print(str[-1:-4])
```

```
print(str[-3:-1])
```

```
print(str[0::3])
```

```
print(str[::-1])
```

```
print(str[:-2])
```

30. Explain about RAM and ROM. 3

#### SECTION-D

31. (a) Write a program in python to print the first 10 numbers of the Fibonacci series. 2+3=5

(b) Write a program to accept the value of 'x' and find the sum of the following series and display the sum.

$$\frac{x}{1!} - \frac{x^2}{2!} + \frac{x^3}{3!} - \frac{x^4}{4!}$$

32. (a) Write a program in python to accept a string and check and display whether it is palindrome or not. 2+3=5

(b) Write a program to accept the value of 'x' and number to terms of the following series and find the sum and display it.

$$1 + x + x^2 + x^3 + x^4 + \dots$$

33. (a) Write a program in python to print the following pattern. 3+2=5

A

B C

D E F

G H I J

(b) Write a program in python to accept an integer and find the sum of the factors of that integer and display it Eg: Factors of 4 are 1,2 and 4(sum=7).

OR

(a) Write a program in python to print the following pattern.

1 2 3 4

1 2 3

1 2

1

- (b) Write a program in python to accept three integers and find and display the largest of the three.

**SECTION-E**

34. Write a program in python to accept a number and check and display whether it is an Armstrong number or not. 4
35. Write a program in python to accept a string and count and display the number of upper case and lower case letters in it. 4

**\*\*\*\*END OF THE QUESTION PAPER\*\*\*\***



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NUMBER

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Q.NO.	SECTION- A	Marks
1.	Which index is used to represent last character of a string of length 5 characters? (a) -1                      (b) 1                      (c) 0                      (d) 3	1
2.	Which among the following is an important circuitry in a computer system that coordinates with the different units attached to computer system? (a) Memory                      (b) Input unit                      (c) Control unit                      (d) Output unit	1
3.	'while' loops are called as (a) exit control loops                      (b) entry control loops                      (c) Both (a) and (b)                      (d) None of these	1
4.	Fill in the blank: _____ is a program which acts as an interface between hardware and user. (a) Operating System                      (b) Packages                      (c) Utilities                      (d) Software libraries	1
5.	Identify this working memory, right from the booting of computer till the computer is shutdown this memory is in use to store all the operation done by the computer. (a) ROM                      (b) RAM                      (c) Hard disk                      (d) EPROM	1
6.	Find the appropriate loop for the condition when a for loop is to be repeated 50 times. (a) for i in range (0, 51,1) :                      (b) for i in range (1, 50,1) : (c) for i in range (0, 50,1) :                      (d) for i in range (0, 1,50) :	1

7. What is the size of the string constant "Ritha's"? 1  
 (a) 8 (b) 7 (c) 6 (d) 5
8. These operators are used to make a decision on two conditions. 1  
 (a) Logical (b) Arithmetic (c) Relational (d) Assignment
9. These statements enable a program with a cyclic flow of logic. 1  
 (a) Sequence (b) Compound (c) Single (d) Iterative
10. Fill in the blank: 1  
 The \_\_\_\_\_ operator is used to find the remainder of a division.  
 (a) / (b) // (c) % (d) \*\*
11. Which function is used to generate a sequence of numbers overtime? 1  
 (a) len( ) (b) range( ) (c) lim( ) (d) limit( )
12. Which of the following is a valid string in python? 1  
 (a) "Hello" (b) "Hello' (c) 'Hello" (d) [Hello]
13. Fill in the blank: 1  
 In python one can write a complete program with many lines of code and save in \_\_\_\_\_ mode.  
 (a) Script (b) Interactive (c) GUI (d) CMD
14. Which of the following is/are character set? 1  
 (a) Alphabets (b) Digits (c) White spaces (d) All of these
15. The extension of Python file is 1  
 (a) .pyth (b) .python (c) .py (d) .p
16. Fill in the blank: 1  
 A variable pointing to a value of a certain type, can be made to point to a value/object of different type is called \_\_\_\_\_.  
 (a) dynamic typing (b) static typing (c) identifier (d) keyword

Q17 and 18 are ASSERTION AND REASONING based questions. Mark the correct choice as

- (a) Both A and R are true and R is the correct explanation for A  
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18. Assertion (A):- Python has one special literal, which is None. 1  
Reasoning (R):- None also indicates absence of value. In other languages it is known as NULL.

### SECTION-B

19. (a) Write the output of the following code: 1+1=2  
`x, x = 100, 200`  
`y, y = x + 100, x + 200`  
`print(x, y)`  
  
(b) Write the output of the following code:  
`x, y, z = 10, 20, 30`  
`z, y, x = x + 1, z + 10, y - 10`  
`print(x, y, z)`
20. What do you mean by utility software? Give two examples of utility software's. 2  
OR  
What is the difference between an interpreter and compiler?
21. Find the errors (if any) in the following code. Rewrite the correct code and underline the corrections made. 2  
`k = 500`  
`For i range(1 : 5) :`  
`print(k, End = " ")`  
`k = k - 50`
22. Write any 4 advantages of python language. 2  
OR  
What do you mean by user defined functions in python?
23. Write a program in python to accept the radius of a circle and find its area and display the area. 2  
OR  
Write a program in python to accept the length and breadth of a rectangle find its area and display the area.
24. What do you mean by application software? Give two examples of customized software. 2
25. Write the corresponding python expression for the following mathematical expressions. 1+1=2  
(a)  $\frac{-b + \sqrt{b^2 - 4ac}}{2a}$   
(b)  $10 - ye^{5y} + 25y$

### SECTION-C

26. Explain about the string methods `index()`, `isalnum()` and `title()`. 3  
OR  
What do you mean by Loop.. else statement? Explain.

27. Explain about disk defragmenter and backup utility software's. 3
28. What do you mean by syntax error, semantic error and logical error? Explain each with an example. 3
29. Write the output of the following code: 3  
`str= "World Cup 2022"`  
`print(str[0:6])`  
`print(str[-1:-4])`  
`print(str[-3:-1])`  
`print(str[0::3])`  
`print(str[::-1])`  
`print(str[: -2])`
30. Write a program in python to accept the two integers find its LCM and GCD and display it. 3  
 OR  
 Write a program in python to input a year in 4-digit form and print whether it is a leap year or not.

#### SECTION-D

31. (a) Write a program in python to accept a string and check and display whether it is palindrome or not. 2+3=5  
 (b) Write a program to accept the value of 'x' and number to terms of the following series and find the sum and display it.  
 $1 + x + x^2 + x^3 + x^4 + \dots$
32. (a) Write a program in python to print the first 10 numbers of the Fibonacci series. 2+3=5  
 (b) Write a program to accept the value of 'x' and find the sum of the following series and display the sum.  

$$\frac{x}{1!} - \frac{x^2}{2!} + \frac{x^3}{3!} - \frac{x^4}{4!}$$
33. (a) Write a program in python to print the following pattern. 3+2=5  
 A  
 B B  
 C C C  
 D D D D  
 (b) Write a program in python to accept an integer and check and display whether it is a prime number or not and display.  
 OR  
 (a) Write a program in python to print the following pattern.  
 \* \* \* \*  
 \* \* \*  
 \* \*  
 \*

- (b) Write a program in python to accept an integer and check and display whether the number is divisible by 5 and 11 or not.

**SECTION-E**

34. Write a program in python to accept a number and check and display whether it is an Armstrong number or not. 4
35. Write a program in python to accept a string and count and display the number of digits and lower case letters in it. 4

**\*\*\*END OF THE QUESTION PAPER\*\*\***

