

**PERIODIC TEST - I**  
**CLASS – XI**  
**SUBJECT - COMPUTER SCIENCE**

**Time : 1 Hrs 30 Mins**

**Max marks : 50**

**Note : All questions are compulsory.**

- Q1. (a) What are the features of Python? Write any four. 2
- (b) What are the two ways to use Python interpreter? 2
- (c) Write any four basic numeric data types used in Python. 2
- (d) Write a program that asks two people for their names; stores the names in variables called Name1 and Name2; says hello to both of them 2
- (e) What are the rules for naming an identifier. 2
- Q2. (a) What is comment? Which operator is used to write comment in Python? Give example. 2
- (b) Write the difference between for loop and while loop. Give syntax and example for each. 2
- (c) What are different arithmetic operators used in Python? 2
- (d) Write the precedence of operators used in Python. 4
- Q3. (a) Write following arithmetic expressions using operators in Python: 4
- (i)  $c = \frac{a+b}{2a}$  (ii)  $x = a^3 + b^3 + c^3$
- (iii)  $A = \pi r(r + h)^2$  (iv)  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
- (b) Evaluate the following expression with precedence of operator: 2
- $X = (6*5)/3//2+10*20-4$
- (c) Explain if...else statement with the help of an example. 3
- (d) Write statement in Python to find absolute value of -25123.45 1
- Q4. (a) Write a program to find maximum of 3 numbers using nested if..else statement. 3
- (b) Write a program to input values for Principle, rate and Time and calculate compound interest. 3
- (c) Write a program to input age of a person and print message "Eligible to Vote" if age is more than 18 otherwise print message "not eligible to Vote". 2
- (d) Write a program to calculate sum of natural numbers from 1 to 10 2
- Q5. (a) Find the output : 2

```
x, y = 10, 15
```

```
if (x <= y):
```

```
    z = x * y
```

```
else:
```

```
    z = y/x
```

```
z=z-10
```

```
print "result =", z
```

(b) Rewrite the following program after finding and correcting syntactical errors and underlining it. 2

```
x,y = 0
```

```
if (x > y)
```

```
    x+y = z
```

```
Print z
```

(c) What will be the output of the following code: 2

```
A = 10
```

```
B = 8*2
```

```
C = 9.0/4.0
```

```
D = "all the best " * 3
```

```
print ("Value are :", A, B, C, D)
```

(d) Write a program that takes name of student, marks (out of 100) of 3 subjects from user and

calculate total marks, percentage and grade as per the following criteria:

4

percentage	Grade
------------	-------

>=75	A
------	---

>=60 and <75	B
--------------	---

<60	C
-----	---

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PERIODIC TEST - 1

CLASS – XI

SUBJECT - COMPUTER SCIENCE (Answer Key)

Note : All the answers are suggestive, Examiner may give marks for all other alternative answers.

Q1. (a) Write any four features of Python. 2

Ans: 1. It is platform independent

2. Used as both scientific and non-scientific programming language

3. It is open source language.

4. It is extensible language.

5. It has very vast library of add-on modules.

(1/2 marks for each correct feature for any four features)

(b) What are the two ways to use Python interpreter? 2

Ans : 1. Interactive mode

2. Script mode

(1 mark for each correct way)

(c) Write any four basic numeric data types used in Python. 2

Ans: 1. Int 2. float 3. Complex number 4. Boolean

(1/2 marks for each correct data type)

(d) Write a program that asks two people for their names; stores the names in variables called 2

Name1 and Name2; says hello to both of them

```
Name1 = raw_input("Enter First Name : ")
```

```
Name2 = raw_input("Enter Second Name : ")
```

```
print "Hello ", Name1, " and ", Name2
```

(1/2 marks for each input statement and 1 mark for correct print statement. Print statement syntax may differ for different python versions)

(e) What are the rules for naming an identifier. 2

Ans: 1. Identifiers may have letters A-Z, a-z, numbers 0-9 and \_ (underscore).

2. Must begin with a letter or underscore but not with digit.

3. keyword can not be used as identifier.

4. it is case sensitive i.e. upper case letters and lower case letters are different

(1/2 marks for each correct rule any four rules)

Q2. (a) What is comment? Which operator is used to write comment in Python? Give example. 2

Ans: Comment are statements which are not processed by compiler or interpreter.

It is usually added with the purpose for making the source code easy to understand.

# is used to add single line comment

""" to used block comment or multiline comment"""

(1 mark for correct definition and 1 mark for correct)

(b) For loop is a counting loop that works on a range given by the range() function and while loop is a conditional loop in which the loop runs till the condition specified is true. (1 mark for difference)

Syntax and example.(1/2 mark for correct example and syntax for each)

(c) What are different arithmetic operators used in Python? 2

Ans: Arithmetic Operators

- 1. + - Addition
- - subtraction
- \* - multiplication
- / - division
- \*\* - Exponentiation
- % - Modulus
- // - integer division (floor value)

(2 marks for correct answer)

(d) Write the precedence of operators used in Python. 4

Precedence of operator - Listed from high precedence to low precedence.

Operator	Description
**	Exponentiation (raise to the power)
+, -	unary plus and minus
*, /, %, //	Multiply, divide, modulo and floor division
+, -	Addition and subtraction
<, <=, >, >=	Comparison operators
==, !=	Equality operators
%, /, =, //, =, - =, +, =, * =	Assignment operators

not and or	Logical operators
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(1/2 marks for each line of precedence)

Q3. (a) Write the following expressions using operators used in Python:

4

(i)  $c = \frac{a+b}{2a}$  (ii)  $x = a^3 + b^3 + c^3$

(iii)  $A = \pi r(r+h)^2$  (iv)  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

Answer: 1.  $c = (a + b) / (2 * a)$

2.  $x = a^{**3} + b^{**3} + c^{**3}$

3.  $A = \text{math.pi} * r * (r + h) ** 2$  or  $A = 3.14 * r * (r + h) ** 2$

4.  $x = (-b + \text{math.sqrt}(b*b - 4 * a * c)) / (2 * a)$

(1 marks for each correct expression)

(b) Evaluate the following expression with precedence of operator:

2

$X = 2 * 3 / 5 + 10 // 3 - 1$

Ans: 3

(2 marks for correct answer)

(c) Explain if...else statement with the help of an example.

3

Syntax:

if <condition> :

<true-Block>

else:

<false\_block>

In this conditional statement condition given with if is checked and if it is true then

<true\_block> gets executed otherwise <false\_block> gets executed.

Note : else: statement is optional

if 5 > 10:

    print "Hello"

else:

    print "Bye"

(2 marks for syntax and explanation and 1 for example)

(d) Write statement in Python to find absolute value of -100.

1

Ans: print abs (-100)

(1 marks for writing correct statement)

Q4. (a) Write a program to find maximum of 3 numbers using nested if..else statement.

3

Ans: a = input("Enter first number")

    b = input("Enter second number")

    c = input("Enter third number")

    if a > b:

        if a > c:

            max = a

        else:

            max = c

    else:

        if b > c :

            max = b

    else:

        max = c

    print "Maximum = ", max

( 1 mark for input, 1 ½ for correct if..else structure, ½ for printing result)

(b) Write a program to input values for Principle, rate and Time and calculate simple interest.

3

Also calculate the amount and display.

Ans: p = input("Enter Principle : ")

    r = input("Enter rate : ")

    t = input("Enter time : ")

```
Simple_interest = (p * r * t)/100
```

```
Amount=p+Simple_interest
```

```
print "Simple_interest = ", Simple_interest
```

```
print "Amount = ", Amount
```

( 1 mark for input, 1 for calculation, 1 for printing result)

(c) Write a program to input age of a person and print message "Eligible to Vote" if age is more than 18 otherwise print message "not eligible to Vote".

2

```
age = input ("Enter age : ")
```

```
if a> 18:
```

```
    print "You are eligible to vote "
```

```
else:
```

```
    print "You are not eligible to vote "
```

( ½ mark for input, 1 correct if..else structure, ½ for printing result)

(d) Write a program to check whether the entered number by user is even or odd.

2

```
for n in range(1,11):
```

```
    print ( "9 X " , n, " = ", 9*n)
```

OR

```
N=1
```

```
while N<=10:
```

```
    print ( "9 X " , N, " = ", 9*N)
```

```
    N=N+1 (or N+=1)
```

( 1 mark for correct loop statement, 1 for correct print statement)

Q5. (a) Find the output :

2

```
x, y =10, 15
```

```
if x >= y:
```

```
    z = x + y
```

```
else:
```

```
    z = x -y
```

```
z = z ** 2
```

```
print "result =", z
```

Ans : result = 25

(2 marks for correct output)

(b) Rewrite the following program after finding and correcting syntactical errors and underlining it.

2

```
a,b = 0
```

```
    if (a = b)
```

```
        a +b = c
```

```
    print z
```

Ans: Corrected code is as follows:

```
a,b = 0,0
```

```
    if (a ==b) :
```

```
c = a +b
```

```
    print c
```

( ½ mark for each corrected errors for maximum four errors)

(c) What will be the output of the following code:

2

```
A = 3 - 4 + 10
```

```
B = 5 * 6
```

```
C = 7.0/2.0
```

```
D = "Hello" * 3
```

```
print "Values are :", A, B, C, D
```

Ans: Values are : 9 30 3.5 HelloHelloHello

( ½ mark for each correct value)

(d) Write a program that takes name of student, marks (out of 100) of 3 subjects from user and

calculate total marks, percentage and grade as per the following criteria:

4

percentage	Grade
------------	-------

>=75	A
------	---

>=60 and <75	B
--------------	---

<60	C
-----	---

Ans:

```
Name = raw_input("Enter Name of student : ")
```

```
mark1 = input("Enter Marks for subject -1 : ")
```

```
mark2 = input("Enter Marks for subject -2 : ")
```

```
mark3 = input("Enter Marks for subject -3 : ")
```

```
total = mark1 + mark2 + mark3
```

```
per = total/3.0
```



```
        if per>=75:
            grade = "A"
elif per>=60:
    grade = "B"
else
    grade = "C"
print "Name : ", Name
print "Total Marks : ", total
print "Percentage : ", per
print "Grade : ", grade
```

(1 mark for input/output, 1 marks for calculating total and percentage, 2 marks for calculating grade)