

MODEL TEST PAPER - II
Class XI
Computer Science with Python

Max. Marks: 70

Time: 3 hrs.

Do as directed:

1.(a) Convert the decimal number $(26)_{10}$ to binary. (1)

(b) Convert $(1100111)_2$ to decimal. (1)

(c) Convert $(473)_8$ to binary. (1)

(d) Convert 110111110_2 to octal. (1)

(e) Convert $(BE)_{16}$ to binary. (1)

2.(a) How statement differs from expression? (1)

(b) What is indentation of a program? (2)

(c) Which of the following are valid names and why? (1)

i. Paid Interest ii. s-num iii. Percent iv. while

(d) Write a program to find area of a circle. (2)

3.(a) Using detailed explanation predict the output of the following program :- (2)

```
i=1
```

```
while(j<10):
```

```
print(i, end=' ')
```

```
i=i*2
```

(b) What is the difference between interactive mode and script mode in Python? (2)

(c) What is the output of the following program: (2)

```
def f(a, L=[]):
```

L.append(a)

return L

print f(4)

print f("Punctuality")

(d) def calculate(x,y=250):

(4)

temp=x+y

x+=temp

if(y!=200):

print(temp,x,y)

def main(): (4)

a=50

b=20

calculate(b)

print(a,b)

calculate(a,b)

print(a,b)

main()

(e) Find out the syntactical errors in the following program:

(1)

X=[2,3,4,5,6]

Z[2,6,7,9,10]

for i in range(0,5)

```
x[i]=i
```

```
z[i]=i+3
```

```
y=z
```

```
x=y
```

```
print(x[i])
```

```
print(z[i])
```

4.(a) Differentiate between local variable and global variable. (2)

(b) Write a function to find the sum of natural numbers upto 'N'. (2)

(c) Write a program to find transpose of a matrix using tuple. (4)

(d) What will be the output of following program code? (2)

Consider a function with following header:

```
def info(object, spacing=20, collapse=4):
```

Here are some function calls given below. Find out which of these are correct

and which of these are incorrect stating reasons:

a. info(obj2)

b. info(spacing=40,collapse=2)

5.(a) If value = (5,4,3,2,1,0) evaluate the following expressions: (2)

```
print(value[0])
```

```
print (value[value[0]])
```

```
print(value[value[-2]])
```

```
print(value[value[value[value[2]+1]]])
```

(b) Predict the output for the following code:-

```
t=(1,2,"A","B")

L=["HELLO","I","AM", "GOING","TO","ACHIEVE"]

print("Before unpacking the list is")

print(L)

L[0],L[1],L[2],L[3]=t

print("After unpacking the list is")

print(L)
```

(c) Write down any four string functions. (2)

(d) Find the output for the following code:- (3)

```
L={'be truthful':"hopeful","obedient":"follow","achieve":"goal"}

print(L.pop("achieve"))

print(L)

del L["obedient"]

print(L)
```

(e) Write a program to create a dictionary containing names of students as keys and number of marks as values. (3)

(f) Trace the flow of execution and find output for following programs:- (3)

```
def power1(p,q):
```

```
    r=p**q
```

```
    return(r)
```

```
def squ(a):
```

```
    a=power1(a,2)
```

```
    return(a)
```

```
n=9
```

```
r=squ(n)
```

```
print(r)
```

7.(a) What is the role of comments and indentation in a program? (2)

(b) What do you mean by syntax errors and semantics errors? (2)

(c) Draw a flowchart to find sum of odd or even numbers. (2)

(d) How does the efficiency of a program depend upon the algorithm? (2)

(e) Write an algorithm to find out whether the given number is divisible by 3 or not? (2)