HALF YEARLY EXAMINATION (2018-19)
CLASS- XI
SUBJECT: COMPUTER SCIENCE (083)

Time: 03 Hrs. **Max Mark: 70**

Instructions:

(i) All questions are compulsory.
(ii) Programming Language: Python
(iii) For output based questions ignore errors (if any)

1	A	Name any four primitive data type in Python Numbers, String, List, Tuple, Dictionary etc.	1
	B	Which of the following variable names are valid/invalid (i) _main_ (ii) sum of square (i) valid (ii) invalid	1
	C	What will be output of following statement: (i) >>> 2<3 (ii) >>> True+4 (i)True (ii) 5	1
	D	Python is an interpreted language. Justify In C C++ program source code in converted into binary code through compiler, and while run time the linker/loader s/w copies the program from hdd to memory and start running it. Where as in python does not need the compilation & linking/loading process, Python prpgram can be directly run from source code. Python internally convert source code into byte code and translate into native language.	2

	E	Explain the concept of R-value & L-value with example
		
		In an normal expression, the variable refers to L-value because it resides in memory and addressable, and expression is an R-value, i.e. not an L-value.
		X=1 #x is an L-value
		Y=20 # Y is an L-value
			2

		Z=X+Y # X+Y is an R-value	
	F	Write a program to enter the sides of rectangle and print area & perimeter. Area=l*b Perimeter=2*(l+b)	3
2	A	What is difference between / & % operator? Explain with example / is division, and % is modulus 4/2=2, 4%2 = 0	1
	B	What will be output of following expression: (5<10) AND (10<5) OR (3<18) AND NOT 8<18 FALSE	1
	C	What will be output of following code: A,B,C,D=9.2, 2.0, 4, 21 print(A/4) print(A//4) print(B**C) print(A%C) 2.3 2.0 16.0 1.2	2

	D	What will be output of following program segment: A,B,C=9,12,3 X=A-B/3+C*2-1 Y=A-B/(3+C)*(2-1) Z=A- (B/(3+C)*2)-1 print("X=",X) print("Y=",Y) print("Z=",Z) X=10.0 Y=7.0 Z=4.0	3

	E	Write a program to find the simple interest of an investment amount. SI=(PTR)/100 P=principal amount, T=Time in years, R=Rate of interest	3

3	A	Write two different forms of IF statements with example
		
		If (condition):
		  Statement
		
		IF(condition):
		  Statement
		ELSE:
		  Statement
			1

	B	What will be error in following code (correct it): A=input("enter value for a") B=int(input("enter value for b")) if (A>B) print("A") else: print("B")	1

	C	Construct logical expression to represent the following condition: (i) Weight is greater than of equal to 115 but less than 125 (ii) Donation is in range 4000-5000 or guest is 1 (i) if Weight>=115 and Weight <125 (ii) if donation>4000 and donation<5000 or guest ==1	1
	D	Write a program to test the divisibility of a number with another number n1=int(input("enter number1")) n2= int(input("enter number2")) rem=n1%n2 if rem==0: print(n1,"is divisible by",n2) else: print(n1,"is not divisible by",n2)	2
	E	Write a program to find the largest among three numbers. X=INT(INPUT("ENTER NUMBER1")) Y=INT(INPUT("ENTER NUMBER1"))	2

		Z=INT(INPUT("ENTER NUMBER1")) IF (X>Y AND X>Z): PRINT(X,"IS LARGE") IF (Y>Z AND Y>X): PRINT(Y,"IS LARGE") IF (Z>X AND Z>Y): PRINT(Z,"IS LARGE")	

	F	Write program to read two numbers and an arithmetic operator and display the computed result. X=FLOAT(INPUT(“ENTER NUMBER1”)) Y=FLOAT(INPUT(“ENTER NUMBER2”)) OP=INPUT(“ENTER OPERATOR:+/-/*//”) RESULT=0 IF OP==“+“: RESULT=X+Y ELIF OP=“-„: RESULT=X-Y ELIF OP=“*„: RESULT=X*Y ELIF OP=“/„: RESULT=X/Y ELSE: PRINT(“ENTER VALID OPERATOR”) PRINT(X,OP,Y,“=“,RESULT)	3
4	A	Pseudocode is an informal high-level description of the operating principle of a computer program or other algorithm. It uses the structural conventions of a normal programming language, but is intended for human reading rather than machine reading. if attendance is greater than or equal to 75 display ”eligible to appear in exam” else display ”not eligible to appear in exam”	2
	B	(i)0,1,2,3,4,5 (iii)5,9,13,17 (ii)7,8,9 (iv)12,10,8,6,4,2	2
	C	The continue statement in Python returns the control to the beginning of the while loop. The continue statement rejects all the remaining statements in the current iteration of the loop and moves the control back to the top of the loop any example of break and continue (Two marks for definition and One mark for example)	3

	D	n=1 for a in range(5): print(n) n=n*10+1 ½ marks for input ½ for output and 2 marks for logic	3

5	A	(i)syntax error (ii)Semantics error	1
	B	(i)p =print for variable value (ii) h=for help	1
	C	for any one correct reason one marks	1
	D	A run-time error typically generates an exception or otherwise terminates program e.g. dividing by zero. The program is doing something that is undefined. A logical error is simply that the programmer is doing something wrong in their algorithm	2
	E	An Error "indicates serious problems that a reasonable application should not try to catch." An Exception "indicates conditions that a reasonable application might want to catch." Error along with Runtime Exception & their subclasses are unchecked exceptions. All other Exception classes are checked exceptions	2
	F	(i)Type error: raised when an operation or function receives in appropriate value. (ii)Index error: raised when a sequence out of range (iii)Name Error: raised when identifier name not found	3
6	A	Define a list. Why it is a dynamic mutable type: A list is an ordered collection of items which can be of any type. It is dynamic mutable mean we can add or delete the items from the list at any time.	1
	B	Define a Dictionary. How we can access the data from it? Dictionary are group of key value pairs. The elements in a dictionary are indexed by keys. Keys should be unique. we can access the data from dictionary by using keys	1
	C	Write a statement for following: (i) Sum of all elements in a list([1,2,3,…100]) (ii) sum of all odd numbers in a list ([1,2,3,….100]) (i) Sum (range(101))	1
		(ii) sum(range(1,101,2))	

	D	What will be output of following: (i) >>>[4]*4 (ii) >>>num=[17,123] >>>num[-1] (i) [4,4,4,4] (ii) 123	2

	E	Rewrite the following after removing all syntax errors. Underline each correction
		
		for name in [amar,shveta,parag]
		IF name[0] =“S“:
		print(name)
		
		for name in [„amar“,“shveta“,“parag“]:
		if name[0] ==“S“:
		print(name)
			2

	F	Write a program to perform linear search on given list [10,51,2,18,4,31,13,5,23,64,29] num=[10,51,2,18,4,31,13,5,23,64,29] print(“list element s are:”,end=” “) for i in num: print(i,end=” “) print() find=int(input(“”enter element to search)) flag=0 for i in num: if(i===find): flag=1 break if flag==1: print(“element found) else: print(“element not found)	3
7	A	What will be output of following statements: (i) >>> “2”+3	1

		(ii) >>> “2”*3 (i) Error (ii) 222	
	B	What will be output of following: word=“AMAZING“ print(word[0:3]) print(word[-5:-1]) AMA AZIN	1
	C	Write a program to count total number of characters in an input string str=input(“Enter any string:”) count=0 for ctr in str: count+=1 print(“Total number of characters are:”,count)	2
	D	Write a program to check number of „H“ present in a string: HEALPS HEALS WITHOUT HURTING the out will be displayed as: Total number of „H“ is: 4 strn=“ HEALPS HEALS WITHOUT HURTING“ count=0 for ch in strn: if(ch==“H“)” count+=1 print(”Total number of „%c“ is:%d” %(„H“,count))	3
	E	Write a program to arrange a list on integer elements in ascending order using bubble sort technique. 10 51 2 18 4 31 13 5 23 64 29 num=[10, 51, 2, 18, 4, 31, 13, 5, 23, 64, 29] ctr=i=0 n=len(num) print(“the list is:”) for i in range(0,n): print(num[i], end=” ”) #bubble sort for i in range(n): for j in range (n-1):	3

		if(num[j]>num[j+1]): ctr+=1 tmp=num[j] num[j]=num[j+1] num[j+1]=tmp print(“the sorted list:”) for i in range(0,n) print(num[i],end=” ”)	

++ All the Best ++