Candidates should open the top side of the seal of this Booklet and take out the OMR Answer Sheet placed between page no. 2 and 3.

Test Booklet No.:

Test Booklet Series : 23

A3-R5: Programming and Problem Solving Through Python

Time Allowed : 2 Hours	Maximum Marks : 100
Roll No. :	Answer Sheet No. :

Read the following instructions carefully before you begin to answer the questions.

INSTRUCTIONS TO THE CANDIDATES

- Before you start to answer the questions you must check this booklet and ensure that it contains all the pages (12) and see
 that no page or portion thereof is missing or repeated. If you find any defect in this Booklet, you must get it replaced
 immediately.
- 2. OMR Answer-Sheet is within the Question Booklet. Please ensure OMR Answer-Sheet number and Test Booklet No. of Question Paper are same. Read the instructions printed on OMR Answer-Sheet carefully before filling the information on the OMR Answer-Sheet. You must complete and code all the details on the OMR answer sheet correctly, failing which your answer sheet may not be evaluated. You must also put your signature on the OMR Answer-Sheet at the prescribed place before you start answering the questions. These instructions must be fully complied with, failing which, your OMR Answer-Sheet may not be evaluated.
- 3. This booklet consists of 100 Multiple Choice Questions and are printed in English language only. Each question has 4 (four) alternatives (A), (B), (C) and (D). In case if you find more than one correct answer, then choose the most appropriate single option and darken the appropriate circle in the answer sheet against the related question.
- 4. For each correct answer One mark will be given and no negative marking for incorrect answer.
- **5.** Use Black/Blue ball point Pen to darken the circle. Answer once darkened is not allowed to be erased or altered. Against any question if more than one circle is darkened, machine will allot **zero mark** for that question.
- 6. Do not fold answer sheet in any case.
- 7. No rough work should be done on the Answer-Sheet. Space for rough work has been provided in this booklet.
- 8. Mobile phones and wireless communication devices are completely banned in the examination hall/rooms. Candidates are advised not to keep mobile phones/any other wireless communication devices with them even in switched off mode, in their own interest. Failing to comply with this provision will be considered as using unfair means in the examination and action will be taken against them including cancellation of their candidature.
- 9. Candidate should not leave the examination hall/room without handing over his/her Answer-Sheet to the invigilator and without signing on the attendance sheet at proper place against your roll number. Further candidate should also ensure that booklet no., booklet series and OMR Answer-Sheet No. are correctly written on attendance sheet before signing on it, failing in doing so, may lead to disqualification/ no evaluation of OMR Answer-Sheet will be done.

DO NOT OPEN THE QUESTION BOOKLET UNTIL YOU ARE TOLD TO DO SO.

Name of Candidate :	Signature of Candidate :

Page	ge 2/23 SPACE FOR					H WC	ORK	· · ·	A3-R5/01-23
	(C)	f.read()	(D)	f.line()		(C)	С	(D)	D
	(A)	f.readlines()	(B)	f.readline()		(A)	A C	(B)	В
6.		ch statement wil		n one line from a			else: print('D')	
	(C)	hel	(D)	HELLO			print('C')	
	(A)	hello	(B)	['h', 'e', 'l', 'l', 'o']			else:	•	
	-	t([i.lower() for i		-,			print('B')		Trac and Trac.
	-	pet ? t([ilovvor() for i	in "LIT	ELLO")			print('A' elif False and I	•	True and True:
5.		-	of the	e following code			if False and Tr		alse:
						if Tr	rue or True:		
	(C)	1	(D)	8	11.		nt will following	code s	egment print?
	(A)	4	(B)	0					
		Print a - b	,			(C)	PHP	(D)	All of the above
		$b = b \mod (b - 1)$,			(A)	Java	(B)	C
		a = a mod (a -			10.	Pyth	non is written ir	1	
		Set a = 10, b =	5			(~)		(2)	_ 22221011
	-	ger a, b				(A) (C)	Processing	(D)	Decision
4.		nt will be the or	utput	of the following		whi			ool in a flow chart Terminal
	(C)	0	(D)	error	9.	For	performing the a	dditior	n of two numbers,
	(A)	3	(B)	3.3		(-)	· ·	(D)	none
	>>>	print(5*(2//3))				(A) (C)	0	(D)	none
3.	Wha	-	t of fo	llowing Python	8.		.count('l') ?	ello" W (B)	That is the output
	(C)	Assembler	(D)	None of these		(-)		-	
	(A)	Compiler	(B)	Interpreter		(D)	None of the ab	ove	
2.	lang	uage into machi	ne lang			(A) (B) (C)	{3, 4, 5} {3, 4, 5} 3 4 5 Syntax Error	5} {3, 4,	5}
	(-)	1/10 010 01 1110	(2)	1		prin	` '		_,
	(C)	Mode of file	(D)	File Handling		for l	c in d:		
	(A)	oen("Data.txt", " File Name	r) (B)	File Handle		-	{3, 4, 5}		
1.		it is 'f' in the foll	O	statement ?	7.		at will be the out _] pet ?	out of t	he following code
1	T A 71			-1-1 1.2	l 	T A 71			L - C-11. 1

12.	expression?	utput of the following	18.	keyv	word of pytho	n langua		a
	x = 14			(A)	val	(B)	raise	
	print(x>>2)			(C)	try	(D)	with	
	(A) 14	(B) 1						
	(C) 3	(D) 2	19.		it will be the o pet ?	utput of tl	he following cod	le
13.		owing declarations is		num	abers = (4, 7, 1)	19, 2, 89,	45, 72, 22)	
	incorrect ?			sorte	ed_numbers =	sorted(n	umbers)	
	` '	(B) $x = 3$		odd	numbers = [x	for x in s	orted_numbers	if
	$(C) \underline{xyz} = 5$	(D) None of these			2!= 0]		_	
				prin	t(odd_numbe	rs)		
14.		d as a flowline to connect		(A)	[7, 19, 45, 89	9]		
	two blocks in a flow			` '	[2, 4, 22, 72]	_		
	(A) arrow	(B) circle		` '	[4, 7, 19, 2,		. 221	
	(C) box	(D) parallelogram		` '	[2, 4, 7, 19,		-	
15.	When we open file i	in append mode the file						
	pointer is at the		20.	Wha	it is the outpu	it of the fo	ollowing code?	
	(A) anywhere in b			def s	s(n1):			
	(B) end				print(n1)			
	(C) beginning			-	n1 = n1 + 2			
	(D) second line of	the file		n2=				
	()			s(n2				
16.	What will be the o	utput of the following		,	•			
		ere & represent ANd		_	t(n2)	(D)	1 6	
	operation ?	_		` '	6 4	(B)	4 6	
	Integer a, b, c			(C)	4 4	(D)	6 6	
	Set $b = 5$, $a = 1$							
	c = a & b		21.			used to w	rite data in binaı	y
	Print c			mod		(D)		
	(A) 1	(B) 3		(A)	write	(B)	writelines	
	(C) 5	(D) 7		(C)	dump	(D)	pickle	
17.	What will be the o Python code?	utput of the following	22.		which of the nanently ?	following	g, data is store	d
	example = "helle"			(A)	Variable			
	example.rfind("e")			(B)	File			
	· · · · · · · · · · · · · · · · · · ·		ı	\ /				

(A) 1

(C) 4

(B)

(D) 5

2

(C)

Both of the above

None of the above

Page	4/23 SPACE FOR R	OUGI	H WORK A3-R5/01-23
	(D) none of the above		(C) String Error (D) Run Time Error
	(C) both (A) and (B)		(A) Syntax Error (B) Type Error
	(B) include		>>> f.write(345)
	(A) import		>>> f = open("test.txt","w")
26.	To use a module in another module, you must import it using an statement.	32.	Which of the following error is returned by the given code?
			(C) seed() (D) sqrt()
	(C) 23-33 (D) 23-3-3.3		(A) factorial() (B) print()
	(A) 2 3 -3 3.3 (B) 3 4 -3 3	31.	Which of the following functions is a built-in function in python?
	<pre>print(int(a), floor(b), ceil(c), fabs(c))</pre>		
	c = -3.30		(D) Provides a means of testing individual parts of the program
	b = 3.9999999		of the program
	a = 2.19		(B) Provides a means of dividing up tasks(C) Provides a means of reducing the size
	from math import *		code
25.	What will be the output of the following code snippet?	30.	Which of the following is not an advantage of using modules? (A) Provides a means of reuse of program
	(D) del(dic.["tiger"])	20	7471 · 1 · C · 1 · C · 1 · · · · · · · · ·
	(C) delete(dic.["tiger"])		(C) 1 (D) 3
	(B) dic["tiger"].delete()		print(sum(1,2,3)) (A) Error (B) 6
	(A) del dic["tiger"]	29.	What will be the output of the following?
	<pre>dic={"lion":"wild","tiger":"wild","cat":"domestic",</pre>		(C) 4 (D) 3
24.	Which of the following will delete key-value pair for key="tiger" in dictionary ?	20.	Python code? len(["hello",2, 4, 6]) (A) Error (B) 6
		28.	What will be the output of the following

27.

What is the output of the following code?

(B) 2

(D) 0

import numpy as np
a = np.array([1,2,3])

print(a.ndim)

(A) 1

(C) 3

Which of the following software is required to run the hardware?

Task Manager

Device Driver

Program Manager

Task Bar

23.

(A)

(B)

(C)

33.	The	brain of compute	er syst	em is	40.		rarchy in a pseu	ıdo-co	de can be shown
	(A)	RAM	(B)	CPU		by:			
	(C)	ROM	(D)	Control Unit		(A) (C)	Curly Braces Indentation	(B) (D)	Round Brackets Semicolon
34.	Wha	nt is the output o	f the fo	ollowing?	41.	Tho	soguence logic	will n	ot be used while
		t(max([1, 2, 3, 4]			41.	1116	sequence logic	WIII II	ot be used wrine
	(A)	[4, 5, 6]	(B)	[7]		(A)	Subtracting tw	o num	bers
	(C)	[1, 2, 3, 4]	(D)	7		(B)	Comparing tw		
35.	Wha	nt is the value o	f the f	ollowing Python		(C)	Providing outp	out to t	he user
	code			0 3		(D)	Adding two in	umbers	•
	>>>	print(36 / 4)			42.	Whi	ich of the follo	wing	are valid string
	(A)	9	(B)	4	12.		ipulation function	_	U
	(C)	9.0	(D)	4.0		(A)	-	(B)	-
						(C)	strip()	(D)	All of the above
36.	Wha	nt does readlines	() metł	nod return ?					
	(A)	Dictionary	(B)	String	43.			_	used to define a
	(C)	Tuple	(D)	List			k of code in Pytl		0
						(A)	try	(B)	Brackets
37.				s used when a tically but you do		(C)	Indentation	(D)	Catch
	not	want any code to	o exect	ıte.	44.			utput	of the following
	(A)	break	(B)	pass		•	non code ?		
	(C)	continue	(D)	none of these			n math import fa		
						-	t(math.factorial	(5))	
38.	Recu	ırsive function i	s	·		(A)	120	. 1	
	(A)	A function that	t calls	itself		(B)	Nothing is prin		1.1 /
	(B)	A function that	t calls	other functions		(C)	math module	ractori	al doesn't exist in
	(C)	Both (A) and (В)			(D)		ateme	nt should be :
	(D)	None of the ab	ove			(2)	print(factorial(iii siiouru se .
39.		ch mode creates a	a new	file if the file does	45.	Wha (3, 3		is : arı	· = [(1, 1), (2, 2),
	(A)	write mode				(A)	List of tuples		
	(B)	read mode				(B)	Tuples of lists		
	(C)	append mode				(C)	Array of tuples	S	
	(D)	Both (A) and (C)			(D)	Invalid type		
Page	5/23	3		SPACE FOR R	OUG	H WC	ORK		A3-R5/01-23

46.	Cho Pyth	ose the correct option with respect to lon.
	(A)	Both tuples and lists are immutable
	(B)	Tuples are immutable while lists are mutable

- (C) Both tuples and lists are mutable
 (D) Tuples are mutable while lists
- (D) Tuples are mutable while lists are immutable
- **47.** What will be the output of following? Y=[2,5],6

Y.sort()

- (A) [2,6,5J]
- (B) [5J,2,6]
- (C) Error
- (D) [6,5J,2]
- **48.** Which of the following is a valid arithmetic operator in Python?
 - (A) //
- (B) 3
- (C) <
- (D) and
- **49.** What will be output for the following code? import numpy as np

a = np.array([2, 3, 4, 5])
print(a.dtype)

- (A) int 32
- (B) int
- (C) float
- (D) None of these
- **50.** What will be the output of the following Python code?

>>>list1 = [1, 3]

>>>list2 = list1

>>>list1[0] = 4

>>>print(list2)

- (A) [1, 4]
- (B) [1, 3, 4]
- (C) [4, 3]
- (D) [1, 3]

51. What is the output of the following? y = 'klmn'

for i in range(len(y)):

print(y)

- (A) klmn klmn klmn
- (B) k
- (C) k k k
- (D) None of the option
- **52.** What will be the output of the following Python code?

tuple1=(5,1,7,6,2)

tuple1.pop(2)

print(tuple1)

- (A) (5,1,6,2)
- (B) (5,1,7,6)
- (C) (5,1,7,6,2)
- (D) Error
- **53.** What will be the output of following statement?

>>>"m"+"nl"

- (A) 'm+nl'
- (B) 'mnl'
- (C) 'm nl'
- (D) 'm'
- **54.** The contents inside the "for loop" are separated by :
 - (A) colon
- (B) comma
- (C) semicolon
- (D) hyphen
- 55. The correct extension of the Python file is
 - (A) .py
- (B) .pyth
- (C) .python
- (D) None of these
- **56.** Which of the following symbols is used to represent output in a flow chart?
 - (A) Square
- (B) Circle
- (C) Parallelogram
- (D) Triangle

57.	. Which statement is correct to import all modules from the package ?			62.	1 0						
	(A)	from package	C			m = 0 while $m < 5$:					
	(B)	from package	-			print(m)					
	(C)	from package	include	all				m += 1			
	(D)	from package						if m == 3:			
	()	1 0						break			
58.	Wha	nt is the datatyp	e of x?					else:			
		ort numpy as n					print(
	-	p.array([1,2,3,4	_			(A)	0120	(B)	0 1 2		
	_	tolist()	1/			(C)	00102	(D)	error		
	(A)	int	(B)	array		` '		()			
	(C)	tuple	(D)	list	63.	 posi	funct tion of file po		ns the current		
						(A)	get()	(B)	tell()		
59.	we t		_	is returned when rite mode which		(C)	seek()	(D)	cur()		
	(A)	File Found Er	ror		64.	4. What will be output for the following					
	(B)	File Not Exist	Error			import numpy as np					
	(C)	File Not Foun	d Error			a = np.array([1,2,3,5,8])					
	(D)	None of the al	bove			prin	t (a.ndim)				
						(A)	0	(B)	1		
60.	Deb	ugging is the	-	ess of fixing a		(C)	2	(D)	3		
	(A)	procedure	(B)	function	65.	Wha	nt is the outp	at of the fo	ollowing code?		
	(C)	bug	(D)	None of these		imp	ort numpy as	np			
						a =	np.array([1,2	.,3,5,8])			
61.	Flov	v charts and A	algorith	ms are used for		b =	np.array([0,3	,4,2,1])			
		·	C			c = a	a + b				
	(A)	Better Program	nming			c = c	c*a				
	(B)	Optimized Co	oding			prin	t (c[2])				
	(C)	Systematic tes	sting			(A)	10	(B)	21		
	(D)	All the above				(C)	12	(D)	28		

Pictorial representation of an algorithm is 66. 70. What will be the output of the following Python code? called as Statement (B) Program (A) def display(b, n): (C) Flow chart (D) All the above while n>0: print(b, end="") 67. Kite/diamond symbol in flow chart is used n=n-1for __ display('z', 3)(A) Execution (B) Decision (A) zzz (D) All of the above (C) Statement (B) ZZ(C) Infinite loop In which format Binary file contains information? An exception is thrown (D) (A) Quick response code Same format in which the data is held 71. What will be the output of the following in memory algorithm for a=5, b=8, c=6? ASCII format (C) Step 1: Start Unicode format (D) Step 2: Declare variables a, b and c. Step 3: Read variables a, b and c. 69. What will be the output of the following Step 4: If a < bPython code? def func(a, b=5, c=10): If a < cprint('a is', a, 'and b is', b, 'and c is', c) Display a is the smallest number. func(13, 17) Else func(a=2, c=4)Display c is the smallest number. func(5,7,9)Else (A) a is 13 and b is 15 and c is 10 If b < ca is 2 and b is 5 and c is 4 Display b is the smallest number. a is 5 and b is 7 and c is 9 Else (B) a is 13 and b is 17 and c is 10 Display c is the smallest number. a is 2 and b is 4 and c is 4 Step 5: Stop a is 5 and b is 9 and c is 7 (A) a is the smallest number (C) a is 13 and b is 17 and c is 10 b is the smallest number

a is 2 and b is 5 and c is 4 a is 5 and b is 7 and c is 9

(D) None of the above

c is the smallest number

stop

Page	9/23	3		SPACE FOR R	OUG	H WC)RK		A3-R5/01	-23
	(A) (C)	a B C D error	(B) (D)	abcd ABCD		(D)	None of the a	above		
	(print(i.upper)		abad			98			
	for i	in x:	/			(C)	567			
		abcd'								
76.	Pyth	on code ?	output (of the following		(B)	9 27			
7 6	` '		, ,	(1 (1)						
	(C)	Decision	(D)	None of these		(A)	212 32			
		Loop	(B)	Process						
75.		.ch of the foll cture ?	owing i	is not a control		-	t (power(3,3))		
	. ,		_				t (power(3))			
	(C)	4 3 2	(D)	None of these			ırn r			
	` /	5 4 3 1 0	(B)	4 3 1 0			i in range(y): =r*x			
	prin	t(n)				r=1				
	cont	inue				_	power(x, y=2)):		
	if n	==2:					on code ?	r		.0
	n-=1	_		80.	Wha	nt will be the	e output	of the follow:	inø	
	whil	e n>0:				(C)	micro	(D)	union	
	n=5	1		J		(A)	stack	(B)	macro	
74.	What is the output of the following?				79.		etailed flow cl		ed as	<u></u> .
	(D)	None of the a	bove			(-)	K 1	(D)	Λ 1	
	(C)	To make a M		n first fow U		(A) (C)	k^1 k^^1	(B) (D)	k^*1 k ^ *1	
	(C)	element 0	۰ نسلم	In final marie 0		-	power 1 ? k ^ l	(D)	k**l	
	(B)		Aatrix w	rith all diagonal	'0.	oper	ators is the co	~	on for raising l	_
	(A)			h all element 0	78.	In n	ython langua	go which	of the follow	ina
73.		nt is the use of npy array in py		ros() function in		(D)	def fun1(*d	ata)		
						(C)	No, it is not	,	n Python	
	(D)	list1.addelem	ent(5)			(A) (B)	def fun1(**ldef fun1(arg	0 ,		
	(C)	list1.append(5)				(10, 20)	(Turanca)		
	(B)	list1.add(5)					(25, 75, 55)			
	(A)	list1.sum(5)				two	function calls	s successfu	ılly.	Ü
72.		ch function is u e list list1 ?	ised to a	dd an element (5)	77.				on declaration ute the follow	
73	TA71a:	ah funation is u	and to a	dd an alamant (5)	l 77	Cha	aca tha camma	at function	m dealaration	. ~£

81.	NumPY stands for :	86.	Which one of the following is immutable data type?			
	(A) Numbering Python		(A) list (B) set			
	(B) Number In Python		(C) tuple (D) dict			
	(C) Numerical Python		(b) tuple (b) thet			
	(D) None of the above	87.	In which software development phase quality of software is documented?			
82.	What is the output of the following code?		(A) Testing (B) Delivery			
	a = set('abc')		(C) Idea (D) Development			
	b = set('cdef')		· , , , , , , , , , , , , , , , , , , ,			
	print(a&b)	88.	What will be output for the following code?			
	(A) {'c'}		import numpy as np			
	(B) {'a','b','c','d','e','f'}		a = np.array([[1,2,3],[0,1,4]])			
	(C) {c}		print (a.size)			
	(D) None of these		(A) 1 (B) 5			
			(C) 6 (D) 4			
83.	The connector symbol for flow chart is					
	·	89.	A stores information in the form of a stream of ASCII or unicode			
	(A) Circle (B) Parallelogram		characters i.e. human readable.			
	(C) Diamond (D) All the above		(A) Text file (B) Binary file			
			(C) Both (A) and (B) (D) None of these			
84.	What will be output for the following code?					
	import numpy as np	90.	What is the output of the following code ?			
	ary = np.array([1,2,3,5,8])		M=['b' * x for x in range(4)]			
	ary = ary + 1		print(M)			
	print (ary[1])		(A) ['', 'b', 'bb', 'bbb']			
	(A) 0 (B) 1		(B) ['b', 'bb', 'bbb', 'bbbb']			
	(C) 2 (D) 3		(C) ['b', 'bb', 'bbb']			
			(D) None of these			
85.	Python supports the creation of anonymous functions at runtime, using a construct called	91.	Which statement will move file pointer 10 bytes backward from current position?			
	(A) pi		(A) f.seek(-10, 0)			
	(B) anonymous		(B) f.seek(10, 0)			
	(C) lambda		(C) f.seek(-10, 1)			

(D) none of the above

(D) none of the above

92.	Wha	t will be the out	put of	following?	97.		ich of the followent of file (file ob	_	
	impo	ort numpy as np					· ·		,
	a = :	np.array([[1,2,3]	,[4,5,6]])		(A)	f.reads()	(B)	f.read()
	prin	t(a.shape)				(C)	f.read(all)	(D)	f.read(*)
	(A)	(2, 3)	(B)	(3, 2)		T A 71		. 1	1 . 6
	(C)	(1, 1)	(D)	None of these	98.		nt is a variable def rred to as ?	ined c	outside a functior
						(A)	A static variable	9	
93.			utput	of the following		(B)	A global variabl	le	
	Pyth	on code ?				(C)	A local variable		
	d1={	["abc":5,"def":6,	"ghi":	7}		(D)	An automatic v	ariabl	e
	prir	nt(d1[0])							
	(A)	abc	(B)	5	99.	Wha	at is the output of	the fo	ollowing?
	(C)	{"abc":5}	(D)	Error			x=123		
							for i in x:		
94.	Wha	it will be the oi	utput	of the following			print(i)		
	Pyth	on code ?	•	9		(A)	1 2 3	(B)	123
	from	math import *				(C)	Error	(D)	None of these
	floor	(11.7)							
	(A)	12	(B)	11	100.	Stru	ictured program	n can	be broken into
	(C)	11.0	(D)	None of these		deve	to assignleloper.	gn to	more than one
						(A)	Segments	(B)	Modules
95.		d(5) will read ct 'f').		from a file (file		(C)	Units	(D)	All the above
	(A)	5 characters							
	(B)	5 words					- o 0 o		
	(C)	5 lines					-000	_	
	(D)	None of the abo	ove						
96.		ython language, oot be defined as		of the following ble ?					
	(A)	_val	(B)	val					
	(C)	try	(D)	_try_					

SPACE FOR ROUGH WORK

Page 12/23 A3-R5/01-23