A3-R5 : Programming and Problem Solving Through Python

Test Booklet Series : **22**

Time Allowed : 2 Hours

Maximum Marks : 100

Roll No. :

Answer Sheet No. :

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

Name of Candidate : _____ Signature of Candidate : _____

1. Which statement will move file pointer 10 bytes backward from current position ?
   (A) f.seek(-10, 0)
   (B) f.seek(10, 0)
   (C) f.seek(-10, 1)
   (D) none of the above

2. Debugging is the process of fixing a _____ in the software.
   (A) procedure   (B) function
   (C) bug   (D) None of these

3. For performing the addition of two numbers, which of the following symbol in a flow chart are used ?
   (A) Control flow   (B) Terminal
   (C) Processing   (D) Decision

4. What will be the output of the following Python code ?
   ```
   def power(x, y=2):
    r=1
    for i in range(y):
      r=r*x
    return r
   print (power(3))
   print (power(3,3))
   ```

   (A) 212
       32

   (B) 9
       27

   (C) 567
       98

   (D) None of the above

5. Structured program can be broken into _____ to assign to more than one developer.
   (A) Segments   (B) Modules
   (C) Units   (D) All the above

6. Which of the following functions is a built-in function in python ?
   (A) factorial()   (B) print()
   (C) seed()   (D) sqrt()

7. What will be the output of the following ?
   print(sum(1,2,3))
   (A) Error   (B) 6
   (C) 1   (D) 3

8. What is the output of the following ?
   y = 'klmn'
   for i in range(len(y)):
   print(y)
   (A) klmn klmn klmn klmn
   (B) k
   (C) k k k
   (D) None of the option

9. Choose the correct function declaration of fun1() so that we can execute the following two function calls successfully.
   fun1(25, 75, 55)
   fun1(10, 20)
   (A) def fun1(**kwargs)
   (B) def fun1(args*)
   (C) No, it is not possible in Python
   (D) def fun1(*data)

10. Kite/diamond symbol in flow chart is used for _____.
    (A) Execution   (B) Decision
    (C) Statement   (D) All of the above

11. In python language, which of the following operators is the correct option for raising k to the power l ?

(A) k ^ l   (B) k**l

(C) k ^ ^ l   (D) k ^ *l

12. Which of the following are valid string manipulation functions in Python ?

(A) count()   (B) upper()

(C) strip()   (D) All of the above

13. What will be the output of the following expression ?

x = 14

print(x>>2)

(A) 14   (B) 1

(C) 3   (D) 2

14. What will be the output of the following Python code ?

def func(a, b=5, c=10):

print('a is', a, 'and b is', b, 'and c is', c)

func(13, 17)

func(a=2, c=4)

func(5,7,9)

(A) a is 13 and b is 15 and c is 10

     a is 2 and b is 5 and c is 4

     a is 5 and b is 7 and c is 9

(B) a is 13 and b is 17 and c is 10

     a is 2 and b is 4 and c is 4

     a is 5 and b is 9 and c is 7

(C) a is 13 and b is 17 and c is 10

     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

15. What will be the output of the following code snippet ?

d = {3, 4, 5}

for k in d:

print(k)

(A) {3, 4, 5} {3, 4, 5} {3, 4, 5}

(B) 3 4 5

(C) Syntax Error

(D) None of the above

16. Choose the correct option with respect to Python.

(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 are immutable

17. Which of the following is used to define a block of code in Python language ?

(A) try   (B) Brackets

(C) Indentation   (D) Catch

18. In which format Binary file contains information ?

(A) Quick response code

(B) Same format in which the data is held in memory

(C) ASCII format

(D) Unicode format

19. What will be the output of the following Python code ?

d1={"abc":5,"def":6,"ghi":7}

 print(d1[0])

(A) abc   (B) 5

(C) {"abc":5}   (D) Error

20. A _____ statement is used when a statement is required syntactically but you do not want any code to execute.

(A) break   (B) pass

(C) continue   (D) none of these

21. Python supports the creation of anonymous functions at runtime, using a construct called _____.

(A) pi

(B) anonymous

(C) lambda

(D) none of the above

22. In python language, which of the following cannot be defined as variable ?

(A) _val   (B) val

(C) try   (D) _try_

23. What will be the output of the following Python code ?

from math import *

floor(11.7)

(A) 12   (B) 11

(C) 11.0   (D) None of these

24. Which of the following will delete key-value pair for key="tiger" in dictionary ?

dic={"lion":"wild","tiger":"wild","cat":"domestic", "dog"."domestic"}

(A) del dic["tiger"]

(B) dic["tiger"].delete()

(C) delete(dic.["tiger"])

(D) del(dic.["tiger"])

25. Which statement is correct to import all modules from the package ?

(A) from package import all

(B) from package import *

(C) from package include all

(D) from package include *

26. In which of the following, data is stored permanently ?

(A) Variable

(B) File

(C) Both of the above

(D) None of the above

27. The sequence logic will not be used while _____.

(A) Subtracting two numbers

(B) Comparing two data values

(C) Providing output to the user

(D) Adding two numbers

28. What is the output of the following ?

    x=123

    for i in x:

    print(i)

(A) 1 2 3   (B) 123

(C) Error   (D) None of these

29. 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]

30. What is the datatype of x ?

import numpy as np

a=np.array([1,2,3,4])

x= a.tolist()

(A) int   (B) array

(C) tuple   (D) list

31. Which translator is used to convert assembly language into machine language ?

(A) Compiler   (B) Interpreter

(C) Assembler   (D) None of these

32. What will be the output of the following Python code ?

x = 'abcd'

for i in x:

      print(i.upper())

(A) a B C D   (B) a b c d

(C) error   (D) A B C D

33. Which symbol is used as a flowline to connect two blocks in a flow chart ?

(A) arrow   (B) circle

(C) box   (D) parallelogram

34. Python is written in _____.

(A) Java   (B) C

(C) PHP   (D) All of the above

35. What will be the output of the following pseudo code ?

Integer a, b

    Set a = 10, b = 5

    a = a mod (a - 6)

    b = b mod (b - 2)

    Print a - b

(A) 4   (B) 0

(C) 1   (D) 8

36. Which function is used to add an element (5) in the list list1 ?

(A) list1.sum(5)

(B) list1.add(5)

(C) list1.append(5)

(D) list1.addelement(5)

37. What is the output of the following code ?

M=['b' * x for x in range(4)]

 print(M)

(A) [' ', 'b', 'bb', 'bbb']

(B) ['b', 'bb', 'bbb', 'bbbb']

(C) ['b', 'bb', 'bbb']

(D) None of these

38. The contents inside the "for loop" are separated by :

(A) colon   (B) comma

(C) semicolon   (D) hyphen

39. What will be the output of the following Python code ?

len(["hello",2, 4, 6])

(A) Error   (B) 6

(C) 4   (D) 3

40. What is the output of the following code ?

import numpy as np

a = np.array([1,2,3,5,8])

b = np.array([0,3,4,2,1])

c = a + b

c = c*a

print (c[2])

(A) 10   (B) 21

(C) 12   (D) 28

41. What will be the output of following statement ?
>>>"m"+"nl"
(A) 'm+nl'   (B) 'mnl'
(C) 'm nl'   (D) 'm'

42. Which one of the following is immutable data type ?
(A) list   (B) set
(C) tuple   (D) dict

43. What will be the output of following ?
Y=[2,5J,6]
Y.sort()
(A) [2,6,5J]   (B) [5J,2,6]
(C) Error   (D) [6,5J,2]

44. Which of the following declarations is incorrect ?
(A) _x = 2   (B) x = 3
(C) __xyz__ = 5   (D) None of these

45. What will be the output of the following algorithm for a=5, b=8, c=6 ?
Step 1 : Start
Step 2 : Declare variables a, b and c.
Step 3 : Read variables a, b and c.
Step 4 : If a < b
    If a < c
    Display a is the smallest number.
    Else
    Display c is the smallest number.
Else
    If b < c
    Display b is the smallest number.
    Else
    Display c is the smallest number.
Step 5 : Stop
(A) a is the smallest number
(B) b is the smallest number
(C) c is the smallest number
(D) stop

46. Which of the following will read entire content of file (file object 'f') ?
(A) f.reads( )   (B) f.read( )
(C) f.read(all)   (D) f.read(*)

47. Which statement will return one line from a file (file object is 'f') ?
(A) f.readlines( )   (B) f.readline( )
(C) f.read( )   (D) f.line( )

48. Which of the following words is not a keyword of python language ?
(A) val   (B) raise
(C) try   (D) with

49. What will be the output of the following pseudo code, where & represent ANd operation ?
Integer a, b, c
Set b = 5, a = 1
c = a & b
Print c
(A) 1   (B) 3
(C) 5   (D) 7

50. 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

51. Flow charts and Algorithms are used for _____.
(A) Better Programming
(B) Optimized Coding
(C) Systematic testing
(D) All the above

52. The brain of computer system is _____.

(A) RAM   (B) CPU

(C) ROM   (D) Control Unit

53. Given a string x="hello" What is the output of x.count('l') ?

(A) 2   (B) 1

(C) 0   (D) none

54. Which of the following symbols is used to represent output in a flow chart ?

(A) Square   (B) Circle

(C) Parallelogram   (D) Triangle

55. What type of data is : arr = [(1, 1), (2, 2), (3, 3)] ?

(A) List of tuples

(B) Tuples of lists

(C) Array of tuples

(D) Invalid type

56. What is the output of following Python code ?

```
>>>print(5*(2//3))
```

(A) 3   (B) 3.3

(C) 0   (D) error

57. What is the output of the following code snippet ?

```
print([i.lower() for i in "HELLO"])
```

(A) hello   (B) ['h','e','l','l','o']

(C) hel   (D) HELLO

58. What will be output for the following code ?

```
import numpy as np
ary = np.array([1,2,3,5,8])
ary = ary + 1
print (ary[1])
```

(A) 0   (B) 1

(C) 2   (D) 3

59. NumPY stands for :

(A) Numbering Python

(B) Number In Python

(C) Numerical Python

(D) None of the above

60. What will be the output of the following code snippet ?

```
from math import *
a = 2.19
b = 3.999999
c = -3.30
print(int(a), floor(b), ceil(c), fabs(c))
```

(A) 2 3 -3 3.3   (B) 3 4 -3 3

(C) 2 3 -3 3   (D) 2 3 -3 -3.3

61. What is the output of the following code ?

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

(A) 1   (B) 2

(C) 3   (D) 0

62. A detailed flow chart is called as _____.

(A) stack   (B) macro

(C) micro   (D) union

63. The correct extension of the Python file is _____.

(A) .py   (B) .pyth

(C) .python   (D) None of these

64. To use a module in another module, you must import it using an _____ statement.

(A) import

(B) include

(C) both (A) and (B)

(D) none of the above

65. What will be the output of the following Python code ?

from math import factorial

print(math.factorial(5))

(A) 120

(B) Nothing is printed

(C) Error, method factorial doesn't exist in math module

(D) Error, the statement should be : print(factorial(5))

66. What will following code segment print ?

if True or True:
        if False and True or False:
            print('A')
        elif False and False or True and True:
            print('B')
        else:
            print('C')
        else:
            print('D')

(A) A   (B) B

(C) C   (D) D

67. _____ function returns the current position of file pointer.

(A) get( )   (B) tell( )

(C) seek( )   (D) cur( )

68. What is the output of the following ?

n=5

while n>0:

n-=1

if n ==2:

continue

print(n)

(A) 5 4 3 1 0   (B) 4 3 1 0

(C) 4 3 2   (D) None of these

69. Which of the following is a valid arithmetic operator in Python ?

(A) //   (B) ?

(C) <   (D) and

70. What is the output of the following code ?

a = set('abc')

b = set('cdef')

print(a&b)

(A) {'c'}

(B) {'a','b','c','d','e','f'}

(C) {c}

(D) None of these

71. What is the output of the following code ?

```
def s(n1):
    print(n1)
    n1 = n1 +2
n2=4
s(n2)
print(n2)
```

(A) 6 4   (B) 4 6

(C) 4 4   (D) 6 6

72. Which of the following is not a control structure ?

(A) Loop   (B) Process

(C) Decision   (D) None of these

73. What will be the output of the following Python code ?

```
example = "helle"
example.rfind("e")
```

(A) 1   (B) 2

(C) 4   (D) 5

74. Which of the following error is returned by the given code ?

```
>>> f = open("test.txt","w")
>>> f.write(345)
```

(A) Syntax Error   (B) Type Error

(C) String Error   (D) Run Time Error

75. Which of the following error is returned when we try to open a file in write mode which does not exist ?

(A) File Found Error

(B) File Not Exist Error

(C) File Not Found Error

(D) None of the above

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

(A) Task Manager

(B) Task Bar

(C) Program Manager

(D) Device Driver

77. Which of the following is not an advantage of using modules ?

(A) Provides a means of reuse of program code

(B) Provides a means of dividing up tasks

(C) Provides a means of reducing the size of the program

(D) Provides a means of testing individual parts of the program

78. A _____ stores information in the form of a stream of ASCII or unicode characters i.e. human readable.

(A) Text file   (B) Binary file

(C) Both (A) and (B) (D) None of these

79. What is the output of the following ?

```
print(max([1, 2, 3, 4], [4, 5, 6], [7]))
```

(A) [4, 5, 6]   (B) [7]

(C) [1, 2, 3, 4]   (D) 7

80. Pictorial representation of an algorithm is called as _____.

(A) Statement   (B) Program

(C) Flow chart   (D) All the above

81. In which software development phase quality of software is documented ?

(A) Testing   (B) Delivery

(C) Idea   (D) Development

82. What will be output for the following code ?

```
import numpy as np
a = np.array([[1,2,3],[0,1,4]])
print (a.size)
```

(A)   1   (B)   5

(C)   6   (D)   4

83. What is a variable defined outside a function referred to as ?

(A)   A static variable

(B)   A global variable

(C)   A local variable

(D)   An automatic variable

84. What will be the output of following ?

```
import numpy as np
a = np.array([[1,2,3],[4,5,6]])
print(a.shape)
```

(A)   (2, 3)   (B)   (3, 2)

(C)   (1, 1)   (D)   None of these

85. What will be output for the following code ?

```
import numpy as np
a = np.array([1,2,3,5,8])
print (a.ndim)
```

(A)   0   (B)   1

(C)   2   (D)   3

86. What is 'f' in the following statement ?

```
f=open("Data.txt", "r")
```

(A)   File Name   (B)   File Handle

(C)   Mode of file   (D)   File Handling

87. What is the use of the zeros() function in Numpy array in python ?

(A)   To make a Matrix with all element 0

(B)   To make a Matrix with all diagonal element 0

(C)   To make a Matrix with first row 0

(D)   None of the above

88. What does readlines() method return ?

(A)   Dictionary   (B)   String

(C)   Tuple   (D)   List

89. What will be the output of the following code snippet ?

```
numbers = (4, 7, 19, 2, 89, 45, 72, 22)
sorted_numbers = sorted(numbers)
odd_numbers = [x for x in sorted_numbers if x % 2 != 0]
print(odd_numbers)
```

(A)   [7, 19, 45, 89]

(B)   [2, 4, 22, 72]

(C)   [4, 7, 19, 2, 89, 45, 72, 22]

(D)   [2, 4, 7, 19, 22, 45, 72, 89]

90. Recursive function is _____.

(A)   A function that calls itself

(B)   A function that calls other functions

(C)   Both (A) and (B)

(D)   None of the above

91. 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

92. What is the output of the following ?

```
m = 0
    while m < 5:
        print(m)
        m += 1
        if m == 3:
        break
        else:
        print(0)
```

(A) 0 1 2 0   (B) 0 1 2

(C) 0 0 1 0 2   (D) error

93. f.read(5) will read _____ from a file (file object 'f').

(A) 5 characters

(B) 5 words

(C) 5 lines

(D) None of the above

94. What will be the output of the following Python code ?

```
def display(b, n):
        while n>0:
print(b, end="")
n=n-1
 display('z', 3)
```

(A) zzz

(B) zz

(C) Infinite loop

(D) An exception is thrown

95. Which function is used to write data in binary mode ?

(A) write   (B) writelines

(C) dump   (D) pickle

96. Hierarchy in a pseudo-code can be shown by :

(A) Curly Braces   (B) Round Brackets

(C) Indentation   (D) Semicolon

97. The connector symbol for flow chart is _____.

(A) Circle   (B) Parallelogram

(C) Diamond   (D) All the above

98. Which mode creates a new file if the file does not exist ?

(A) write mode

(B) read mode

(C) append mode

(D) Both (A) and (C)

99. When we open file in append mode the file pointer is at the _____ of the file.

(A) anywhere in between the file

(B) end

(C) beginning

(D) second line of the file

100. What is the value of the following Python code ?

>>>print(36 / 4)

(A) 9   (B) 4

(C) 9.0   (D) 4.0

- o 0 o -

SPACE FOR ROUGH WORK