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P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Fifth Semester, B.E. - Information Science and Engineering

Semester End Examination; February / March - 2022

Python Programming (Technical Skills - I)

Time: 2 hrs

Max. Marks: 50

Course Outcomes

The Students will be able to:

CO1: Understand and comprehend the basics of python programming.

CO2: Understand and implement modular approach using python

CO3: Learn and implement various data structures provided by python library including string, list, dictionary and its operations etc

CO4: Understands the usage of Numpy libraries and to develop various applications of utilizing Numpy.

CO5: Ability to implement computing descriptive statics using pandas.

Note: All questions are compulsory and each question carries TWO marks.

Q. No.	Questions	Marks	BLs	COs	POs
1.	Which of the following statement is correct regarding the object oriented programming concept in python a) classes are real-world entities while objects are not real b) Objects are real-world entities while classes are not real c) both objects and classes are real-world entities d) all of the above	2	L2	CO1	PO1
2.	Suppose a list with name, arr, contains 5 elements you can get the 2 nd element from the list using a) arr[-2] b) arr[2] c) arr [-1] d) arr [1]	2	L3	CO1	PO2
3.	Python converts the source code into a intermediate form called a) Ocla code b) byte code c) Deca code d) nano code	2	L2	CO1	PO1
4.	Which of the following statements are correct i) Python is a high level programming language ii) Python is an interpreted language iii) Python is a compiled language iv) Python program is compiled before it is interpreted a) i, ii b) i, iv c) ii, iii d) ii, iv	2	L2	CO1	PO1
5.	What is the output of the following program? Print ((1,2)+(3,4)) a) (1,2), (3,4) b) (4,6) c) (1, 2, 3, 4) d) Invalid syntax	2	L3	CO1	PO2
6.	What will be output of the following python code? Y=6 Z=lambda x:x*y Print z(8) a) 48 b) 14 c) 64 d) None of the above	2	L4	CO2	PO2

7. Which of the following is the use of function in Python
- Functions are reusable Pieces of program
 - Functions are not reusable piece of program
 - Functions don't provide better modularity for your application
 - None of the above.
- 2 L2 CO3 PO1
8. _____ is a string literal denoted by triple quotes for providing the specification of certain program elements.
- Interface
 - Client
 - Docstring
 - Modularity
- 2 L2 CO2 PO1
9. Fill in the line of the following python code for calculating the factorial of a number
- ```
def fact (num)
if num ==0
Return 1
Else
Retum.....
```
- Num\*fact (num-1)
  - (num-1)\*(num-2)
  - num\* (num-1)
  - fact(num) \*fact(num-1)
- 2 L4 CO2 PO2
10. Which of the following is false?
- string is immutable
  - capitalize ( )function in string is used to return a string by converting the whole given string into upper case.
  - lower ( ) function in string is used to return a string by converting the whole given string into lower case
  - None of these
- 2 L2 CO3 PO1
11. Suppose a list1 [2,3,4,5,6] what is list1[:-1]?
- [2,3,4,5]
  - [2,3,4,5,6]
  - [6,2,3,4,5]
  - Error
- 2 L3 CO3 PO2
12. To insert 6 to the third position in a list (say t), we use which command
- t.insert (3,6)
  - t.insert (2,6)
  - t.add ( 3,6)
  - t.append (3,6)
- 2 L3 CO3 PO2
13. What will be the output of following python code
- ```
list1= [3, 2, 5, 3, 6]
list 1.pop(3)
Print (list1)
```
- [3,2,5,7,3,6]
 - [2,5,7,3,6]
 - [2,5,7,6]
 - [3,2,5,7,3,6]
- 2 L4 CO3 PO2
14. Suppose t=(1,2,4,3) which of the following is incorrect?
- print (t[3])
 - t[3]=45
 - print (max(t))
 - print (len(t))
- 2 L3 CO3 PO2

15. Which of the following statement creates a dictionary
- `d= { }`
 - `d= { "Python" =1 "Java".2}`
 - `d = {1: "Python", 2: "Java"}`
 - All of the above
- 2 L3 CO3 PO2
16. The _____ functions return its argument with a modified shape ,
whereas the _____ method modifies the array itself.
- Reshape, Resize
 - Resize, Reshape
 - Lambda, Reshape
 - both a and b
- 2 L2 CO4 PO1
17. Which of the following function stacks 1D arrays as column into a 2D array
- row-stack
 - column stack
 - Con stack
 - All of the above
- 2 L3 CO4 PO1
18. ndarray is also known as
- alias array
 - array.array
 - numpy. Array
 - all of the mentioned.
- 2 L3 CO4 PO1
19. Which of the following will generate random number in the range 1-100(both inclusive)
- `rand () %100`
 - `rand () %101`
 - `(rand () %(101))`
 - `(rand () % (100))+1`
- 2 L3 CO4 PO2
20. What is the use of the zeros () function in Numpy array in Python?
- To make a matrix with all element 0
 - To make a matrix with all diagonal element 0
 - To make a matrix with first row 0
 - None of the above
- 2 L2 CO4 PO1
21. Which of the following is correct features of data frame?
- Potentially columns are of different types
 - can perform arithmetic operation on rows & columns
 - labeled axes (rows & columns)
 - All of the above.
- 2 L2 CO5 PO1
2,3
22. All pandas data structure are _____mutable, but not always _____ mutable
- size, value
 - semantic, size
 - Value, size
 - value, semantic
- 2 L2 CO5 PO1

23. What will be the output for the following code?

```
import pandas as pd
```

```
S=pd. Series ([1,2,3,4], index='a','b','c','d')
```

```
Print (s['a'])
```

- a) 1 b) 2 c) 3 d) 4

2 L1 CO5 PO2

24. What is the output of the following code:

```
l=[-2,4]
```

```
m= map(lambda x =x*2,l)
```

```
Print (m)
```

- a) [-4,16]
b) address of m
c) error
d) -4,16

2 L3 CO5 PO2

25. In Pandas, index values must be

- a) Unique
b) Hashable
c) Both a & b
d) None of the above

2 L2 CO5 PO1

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