Scholarship Exam - Python Questions

1. **Assume, you are given two lists:** **Mark:1**

   a = [1,2,3,4,5]

   b = [6,7,8,9]

   The task is to create a list which has all the elements of a and b in one dimension.

   Output:

   a = [1,2,3,4,5,6,7,8,9]

   Which of the following option would you choose?

   A) a.append(b)

   B) a.extend(b)

   C) Any of the above

   D) None of these

2. What does this code output: **Mark:1**

```
def f(x,l=[]):
for i in range(x):
l.append(i*i)
print(l)

f(2)
f(3,[3,2,1])
```

   Note: Assume syntax is correct.

   Solution:

   [0, 1]

   [3, 2, 1, 0, 1, 4]

3. **What is the output of print str[2:] if str = 'Hello World!'?** **Mark:1**

   A - llo World!

   B - H

   C - llo

   D - None of the above.

4. Which of the following function convert an integer to a character in python? **Mark:1**

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A - set(x)

B - dict(d)

C - frozenset(s)

D - chr(x)

5. What is the output of L[1:] if L = [1,2,3]? **Mark:1**

A - 2,3

B - 2

C - 3

D - None of the above.

6. Which of the following operator in python performs exponential (power) calculation on operands? **Mark:1**

A - **

B - //

C - is

D - not in

7. What is the output of print tuple[1:3] if tuple = ('abcd', 786 , 2.23, 'john', 70.2)? **Mark:1**

A - ('abcd', 786 , 2.23, 'john', 70.2)

B - abcd

C - (786, 2.23)

D - None of the above.

8. What is the output of len([1, 2, 3])? **Mark:1**

A - 1

B - 2

C - 3

D - 4

9. Which of the following data types is not supported in python? **Mark:1**

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A - Tuple

B - Dictionary

C - Generics

D - List

10. Which of the following is correct about Python? **Mark:1**

A - It supports functional and structured programming methods as well as OOP.

B - It can be used as a scripting language or can be compiled to byte-code for building large applications.

C - It provides very high-level dynamic data types and supports dynamic type checking.

D - All of the above.

11. Which of the following is correct about dictionaries in python? **Mark:1**

A - Python's dictionaries are kind of hash table type.

B - They work like associative arrays or hashes found in Perl and consist of key-value pairs.

C - A dictionary key can be almost any Python type, but are usually numbers or strings. Values, on the other hand, can be any arbitrary Python object.

D - All of the above.

12. Write a lambda function to find sum of n natural number? **Mark:2**

13. Is python a case sensitive language? **Mark:1**

A - true

B - false

14. def multiply2(x):

```
    return x * 2

map(multiply2, [1, 2, 3, 4])  # Output [2, 4, 6, 8]
```

Rewrite the following function using lambda function?

Mark:2

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15.

```
dict_a = [{'name': 'python', 'points': 10}, {'name': 'java', 'points': 8}]

filter(lambda x : x['name'] == 'python', dict_a)
```

Output of the following? **Mark:1**

16. The _____ function returns its argument with a modified shape, whereas the _____ method modifies the array itself. **Mark:1**

a) reshape,resize
b) resize,reshape
c) reshape2,resize
d) all of the Mentioned

17. To create sequences of numbers, NumPy provides a function _____ analogous to range that returns arrays instead of lists.

Mark:1

a)arange
b)aspace
c)aline
d)alloftheMentioned

18. create a 4x4 matrix with values ranging from 0 to 15. **Mark:1**

19.

```
import numpy as np

a = np.array([10, 40, 80, 50, 100])
print(a[a>50])
```

Mark:1

20. **Mark:1**

```
import numpy as np

a = np.array([[1,2,3],[3,4,5],[4,5,6]])

# slice items starting from index

print 'Now we will slice the array from the index a[1:]'

print a[1:,:2]
```