KATHMANDU UNIVERSITY
End Semester Examination [C]
May/June, 2019

Marks scored:

Level : B. E.
Year : IV

Course : GEOM 411
Semester : I

Exam Roll No. :

Time: 30 mins.

F. M. : 10

Registration No.:

Date 06 JUN 2019

SECTION "A"
[20Q. × 0.5 = 10 marks]

Choose and encircle the most appropriate answer.

1. Given a function that does not return any value, what value is thrown by default when executed in shell?
   a. Int b. bool c. void d. none

2. Which of the following will run without errors?
   a. round(45.8) b. round(6352.898,2,5)
   c. round() d. round(7463.123,2,1)

3. In order to store values in terms of key and value we use _____ core data type.
   a. list b. tuple c. class d. dictionary

4. What is the output of the following?

```
x = 'abcd'
for i in range(len(x)):
    print(i.upper())
```

   a. a b c d b. 0 1 2 3 c. error d. 1 2 3 4

5. Which of the following statement prints *hello\example\test.txt*?
   a. print("hello\example\test.txt") b. print("hello\\example\\test.txt")
   c. print("hello\"example\"test.txt") d. print("hello"\example"\test.txt")

6. Suppose listExample is [3, 4, 5, 20, 5, 25, 1, 3], what is list1 after listExample.extend([34, 5])?
   a. [3, 4, 5, 20, 5, 25, 1, 3, 34, 5] b. [1, 3, 3, 4, 5, 5, 20, 25, 34, 5]
   c. [25, 20, 5, 5, 4, 3, 3, 1, 34, 5] d. [1, 3, 4, 5, 20, 5, 25, 3, 34, 5]

7. What is the output when the following code is executed?

   "Welcome to Python".split()

   a. ("Welcome", "to", "Python") b. {"Welcome", "to", "Python"}
   c. "Welcome", "to", "Python" d. ["Welcome", "to", "Python"]

8. If a = (1, 2, 3, 4), a[1:-1] is _____.
   a. Error, tuple slicing doesn't exist b. [2, 3]
   c. (2, 3, 4) d. (2, 3)

9. What is the output of the following code?

a = (1, 2, (4, 5))
b = (1, 2, (3, 4))
a < b

a. False
b. True
c. Error, < operator is not valid for tuples
d. Error, < operator is valid for tuples but not if there are sub-tuples

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

```
test = {1:'A', 2:'B', 3:'C'}
del test[1]
test[1] = 'D'
del test[2]
print(len(test))
```

a. 0
b. 2
c. 1
d. Error as the key-value pair of 1: 'A' is already deleted

11. What is the output of the following code?

```
a={}
a[2]=1
a[1]=[2,3,4]
print(a[1][1])
```

a. [2,3,4] b. 3 c. 2 d. An exception is thrown

12. What is the output of the function complex()?

a. 0j b. 0+0j c. 0 d. Error

13. What is the output of the following code?

```
def change(i = 1, j = 2):
    i = i + j
    j = j + 1
    print(i, j)
change(j = 1, i = 2)
```

a. An exception is thrown because of conflicting values
b. (1, 2)
c. (3, 3)
d. (3, 2)

14. Which of these is false about recursion?

a. Recursive function can be replaced by a non-recursive function
b. Recursive functions usually take more memory space than non-recursive function
c. Recursive functions run faster than non-recursive function
d. Recursion makes programs easier to understand

15. Which of the following mode will refer to binary data?

a. r b. w c. + d. b

16. _____ is used to select any number of options by displaying a number of options to a user as toggle buttons.
    a. CheckButton()
    b. checkButton()
    c. RadioButton()
    d. radioButton()

17. Which of the following is used to get number of features?
    a. GetCount()
    b. GetFeature()
    c. GetFeatureCount()
    d. getFeatureCount()

18. _____ is used to obtain raster metadata?
    a. GetMetadata()
    b. GetMetaData()
    c. getMetadata()
    d. getmetadata()

19. Which of the following is used to get list of arcpy analysis tools?
    a. analysis.ListTools()
    b. arcpy.analysis.ListTools()
    c. arcpy.ListTools("*_analysis")
    d. arcpy.ListAnalysisTools()

20. _____ returns the severity code for the specified message.
    a. GetReturnCode()
    b. GetMessage()
    c. GetMessageCount()
    c. GetMessages()

KATHMANDU UNIVERSITY
End Semester Examination [C]
May/June, 2019

06 JUN 2019

Level : B. E.
Year : IV
Time : 2 hrs. 30 mins.

Course : GEOM 411
Semester : I
F. M. : 40

SECTION "B"
[6Q. × 4 = 24 marks]

Attempt *ANY SIX* questions.

1. Write a Python function to display prime numbers in the range provided by user. Test your function with appropriate inputs and briefly describe your program. [4]

2. Briefly explain list slicing with appropriate examples. Compare append() and extend(). [2 + 2]

3. Write a Python program that copies non-numeric contents from an old file. Your program should have a user defined function to check individual character. [4]

4. How is dictionary useful? Given a *value*, how could you find *key* of a dictionary? Demonstrate with an example program. [1 + 3]

5. Write a Python program that uses GDAL/OGR methods for reading a shapefile and displaying the number of features in it. [4]

6. Describe Tkinter's check box with appropriate Python program. [4]

7. Write a Python program to obtain contour from DEM. User should provide all the inputs to the program/function. [4]

SECTION "C"
[2Q. × 8 = 16 marks]

Attempt *ALL* questions. Assume data if necessary.

8. Describe LineString() with an example program using OGR methods. Suppose you are given an image, write a Python program to display minimum and maximum DN values of each raster band. [3 + 5]

9. Explain glob() method. Write a Python program to send email. The program should have appropriate functionalities to read the sender's and receivers' email address as well as subject and the message body. [2 + 6]