

Marks Scored:

KATHMANDU UNIVERSITY
End Semester Examination [C]
June, 2018

Level : B.E.
Year : IV

Course : GEOM 411
Semester : I

Exam Roll No. :

Time: 30 mins.

F. M. : 10

Registration No.:

Date JUN 14 2018

SECTION "A"
[20 Q. × 0.5 = 10 marks]

Choose the most appropriate answer among the given alternatives.

- Which of these is not a core datatype?
a. Lists b. Dictionary c. Tuples d. Class
- Following set of commands are executed in shell, what will be the output?

```
>>> s = "Kathmandu University"  
>>> s[8::-1]
```


a. 'UudnamhtaK' b. 'UK'
c. 'udnamhtaK' d. 'ytisrevinUudnamhtaK'
- Which of the following will run without errors?
a. round(6352.898,2,5) b. round(45.8)
c. round() d. round(7463.123,2,1)
- What is the return type of math.trunc()?
a. float b. bool c. dict d. int
- Carefully observe the code and give the answer.

```
def example(a):  
    a = a + '2'  
    a = a*2  
    return a  
  
>>>example("hello")
```


a. hello2
b. hello2hello2
c. Indentation Error
d. Cannot perform mathematical operation on strings
- The result of the expression (4¹²) is:
a. 2 b. 4 c. 8 d. 12
- What is the output of the code snippet shown below?

```
x="hi"  
print("%05d"%x)
```


a. 00000hi b. 000hi c. hi000 d. error

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

```
for i in range(10):
    if i == 5:
        break
    else:
        print(i)
else:
    print("Here")
```

- a. 0 1 2 3 4 Here b. 0 1 2 3 4 5 Here c. 0 1 2 3 4 d. 1 2 3 4 5

9. Which of the following function convert a String to a list in python?

- a. list(s) b. repr(x) c. eval(str) d. tuple(s)

10. Which of the following function returns a random float r, such that 0 is less than or equal to r and r is less than 1?

- a. choice(seq) b. random()
c. randrange ([start,] stop [,step]) d. seed([x])

11. Python was released publicly in

- a. 1941 b. 1971 c. 1981 d. 1991

12. Who created python?

- a. Guido Van Rossum b. James Gosling
c. Denis Ritchie d. Tom Cruise

13. Which function is used to open the file for reading in python?

- a. fopen(filename, mode) b. open(filename, mode)
c. openfile(filename, mode) d. open_file(filename, mode)

14. What is the output of the following?

```
print('abcdefcdghcd'.split('cd', 2))
```

- a. ['ab', 'ef', 'ghcd'] b. ('ab', 'ef', 'ghcd')
c. ['ab', 'efcdghcd'] d. ['abcdef', 'ghcd']

15. What is the output of the following code?

```
a=[[[]]]*3
a[1].append(7)
print(a)
```

- a. Syntax error b. [[7], [7], [7]] c. [[7], [], []] d. [[], 7, [], []]

16. Is the following line of code valid?

```
>>>a,b=1,2,3
```

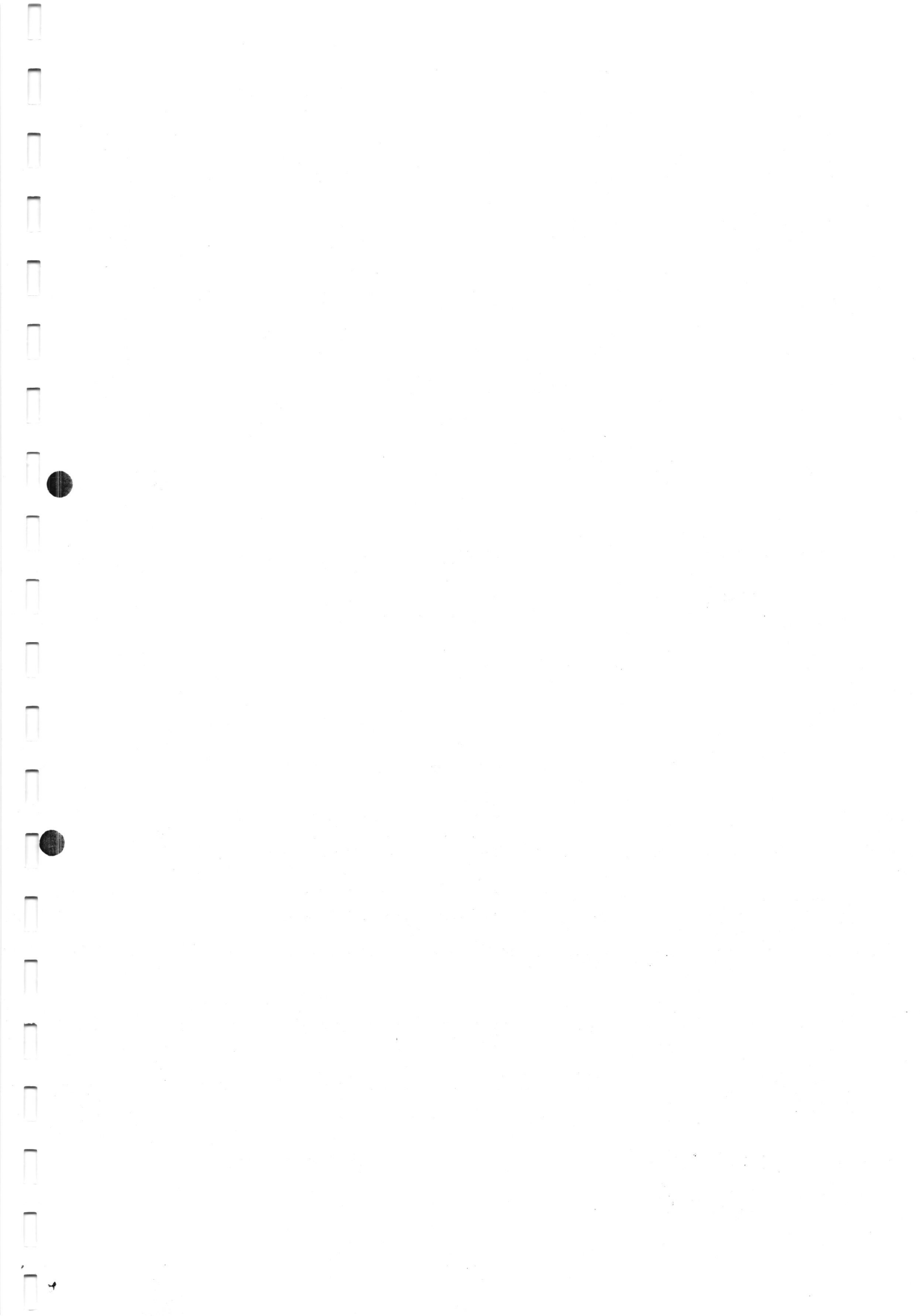
- a. Yes, this is an example of tuple unpacking. a=1 and b=2
b. Yes, this is an example of tuple unpacking. a=(1,2) and b=3
c. No, too many values to unpack
d. Yes, this is an example of tuple unpacking. a=1 and b=(2,3)

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

```
>>> a={1:"A",2:"B",3:"C"}  
>>> del a
```

- a. method del doesn't exist for the dictionary
 - b. deletes the entire dictionary
 - c. deletes the values in the dictionary
 - d. deletes the keys in the dictionary
18. Which of the following is not a 'option' value for w = Radiobutton (master, option, ...)?
- a. af
 - b. fg
 - c. cursor
 - d. borderwidth
19. Which of the following returns the number of parameter values for a specified tool?
- a. GetParameterCount ()
 - b. GetArgumentsCount ()
 - c. GetParameterAsText ()
 - d. GetParameterValue()
20. Pick the correct function that returns number of points in a geometry.
- a. GetPoint()
 - b. PointCount()
 - c. GetPointCount()
 - d. GetPointCountGeometry



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

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

SECTION "B"
[6 Q. × 4 = 24 marks]

Attempt *ALL* questions. Each question carries equal marks. Assume data if necessary.

1. Write a python function to find out LCM. Test your function with appropriate inputs and briefly describe your program.
2. Can list be used as key of a dictionary? Justify your answer. Explain zip() function with example code snippet.
3. Write a Python program that copies the contents of an old file, convert it to UPPERCASE equivalent and write to new file. Your program should have a user defined function to convert the text to its equivalent UPPERCASE.
4. Write a program to list all polygon shapefiles in a directory. Briefly explain your program.
5. Describe a function that can be used to prepare contours from DEM with example code snippet.
6. Write a program that demonstrates the use of Radio button for selecting image classification technique. Briefly describe the differences between Radio button and Checkbox.

OR

How is image displayed in a label? Explain with Python code snippet. Briefly explain list slicing.

SECTION "C"
[2 Q. × 8 = 16 marks]

Attempt *ANY TWO* questions. Each question carries equal marks. Assume data if necessary.

7. Write a Python program using GDAL library to display number of band as well as minimum and maximum pixel values of each band. Explain your code briefly. You are recommended to write robust program.
8. a. Write a program that connects to a PostGreSQL/PostGIS database, makes query to Population table. The table contains population for every former VDCs of Nepal along with district and Province name. Write a program that displays total population of each Province.
b. Briefly explain AsShape() and GetInstallInfo () arcpy functions with examples.
9. Write a Python program to send email with attachment using SMTP. The program should have appropriate GUI (Buttons, labels, text box etc.)

