

Marks scored:

KATHMANDU UNIVERSITY  
End Semester Examination  
February/March, 2019

Level : B. E.  
Year : IV

Course : GEOM 411  
Semester : I

Exam Roll No. :

Time: 30 mins.

F. M. : 10

Registration No.:

Date

FEB 25 2019

SECTION "A"

[20 Q. × 0.5 = 10 marks]

Choose the most appropriate answer from the given alternatives.

- What is the output of the following?  

```
print('ab,12'.isalnum())
```

a) True                      b) False                      c) None                      d) Error
- What is the output of the following?  

```
i = 1  
while True:  
    if i%2 == 0:  
        break  
    print(i)  
    i += 2
```

a) 1                      b) 1 2                      c) 1 2 3 4 5 6 ...                      d) 1 3 5 7 9 11 ...
- What is the output of the following program?  

```
a) 8                      b) 16                      c) Indentation Error                      d) Runtime Error
```
- What is the output of the following code?  

```
L = ['a', 'b', 'c', 'd']  
print "".join(L)
```

a) Error                      b) ('a', 'b', 'c', 'd')                      c) abcd                      d) ['a', 'b', 'c', 'd']
- Suppose list1 is [3, 4, 5, 20, 5, 25, 1, 3], what is list1 after list1.pop(1)?  

a) [3, 4, 5, 20, 5, 25, 1, 3]                      b) [1, 3, 3, 4, 5, 5, 20, 25]  
c) [1, 3, 4, 5, 20, 5, 25]                      d) [3, 5, 20, 5, 25, 1, 3]
- time.time() returns \_\_\_\_\_.  

a) the current time in milliseconds  
b) the current time in milliseconds since midnight  
c) the current time in milliseconds since midnight, January 1, 1970  
d) the current time in milliseconds since midnight, January 1, 1970 GMT (the Unix time)
- Given a function that does not return any value, what value is shown when executed at the shell?  

a) int                      b) bool                      c) void                      d) None
- What is the output of the following program?  

```
print 0.1 + 0.2 == 0.3
```

a) True                      b) False  
c) Machine dependent                      d) Error
- Which of the following is not a complex number?  

a)  $k = 2 + 3j$                       b)  $k = \text{complex}(2, 3)$                       c)  $k = 2 + 3i$                       d)  $k = 2 + 3J$
- To start Python from the command prompt, use the command \_\_\_\_\_.  

a) execute python                      b) go python                      c) python                      d) run python

11. Select the valid option for the output shown in Figure 1.
- Canvas.Create\_text(text= "Hello! ")
  - Canvas.Create\_text(30 , 40, text= "Hello! ", filled= "green ")
  - Canvas.Create\_text(text= "Hello! ", textcolor= "Green")
  - Canvas.Create\_text(30 , 40, text= "Hello!")

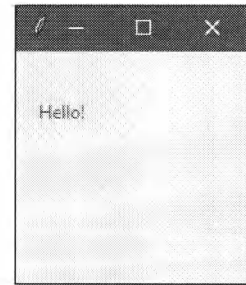


Figure 1

12. We can create an image in canvas. Select the option to do so?
- Image = PhotoImage(imagefilename)
  - Canvas.create\_image(filename)
  - Image = Photoimage(file=imagefilename)
  - Image = Photoimage(imagefilename)

13. Which of the following function inserts an object at given index in a list?
- list.index(obj)
  - list.insert(index, obj)
  - list.pop(obj=list[-1])
  - list.remove(obj)

14. Let a = [ 1,2,3,4,5] then which of the following is correct?
- print(a[:]) => [1,2,3,4]
  - print(a[0:]) => [2,3,4,5]
  - print(a[:100]) => [1,2,3,4,5]
  - print(a[-1:]) => [1,2]

15. To open a file c:\scores.txt for writing, we use
- outfile = open("c:\scores.txt", "r")
  - outfile = open("c:\\scores.txt", "w")
  - outfile = open(file = "c:\scores.txt", "r")
  - outfile = open(file = "c:\\scores.txt", "o")

16. What will be the output of the following code?

```
def main():
    d = {}
    d["ram"] = 22
    d["sita"] = 27
    d["hari"] = 53
    d["radha"] = 87
    return len(d)
```

- print(main())
- 3
  - 44
  - 4
  - 8

17. Which of the following keyword is a valid placeholder for body of the function?
- break
  - continue
  - body
  - pass

18. \_\_\_\_\_ needs to be imported for sending Plain-text Email.
- smtplib
  - MIMEText
  - MIMEMultipart
  - MIMEBase

19. Which of the following is used to get Vector driver?
- ogr.GetDriver()
  - ogr.GetDriver(i). getName()
  - ogr.GetDriverByName()
  - ogr.getDriverByName()

20. Which of the following is used to retrieve Spatial Analyst extension license from the License Manager in arcpy?

- arcpy.CheckOutExtension("Spatial")
- arcpy.CheckOutExtension("Spatial Analyst")
- arcpy.CheckInExtension("Spatial")
- arcpy.CheckInExtension("Spatial Analyst")

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SECTION "B"

[6 Q. × 4 = 24 marks]

Attempt *ANY SIX* questions.

1. Write a python function to compute square roots is Newton's method. Also test the square root algorithm you implemented and compare it with math.sqrt. The formula for calculating the square root is [4]

$$y = \frac{x + a/x}{2}$$

2. How can you generate random numbers in Python? Explain with necessary code snippet. [4]
3. What are negative indexes and how are they used? What is the difference between list and tuples? [2 + 2]
4. Briefly explain file reading functions with necessary example codes. [4]
5. How can variable-length argument can be passed to Python function? Explain with an example program. [4]
6. Describe Tkinter's Enter and Radio Button with appropriate code examples. [4]
7. Write a Python program to send a plain text email. The program must read all the information from the user. [4]

SECTION "C"

[2 Q. × 8 = 16 marks]

Attempt *ALL* questions. Assume data if necessary.

8. Write a Python program to display alphabetic list of OGR drivers. Can tuple be used as key of dictionary? Demonstrate with an example program. [4 + 4]
9. Write a Python program that creates contour lines from DEM. Your program must read the necessary information from the user. Write a Python program to insert records in a database table. [4 + 4]

