

CUCBCSS
QUESTION BANK (MULTIPLE CHOICE)
BSc. DEGREE PROGRAMME
MATHEMATICS (ELECTIVE COURSE)
SIXTH SEMESTER
MAT6B13(E04): INFORMATICS AND MATHEMATICAL SOFTWARES

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Module I Introduction to Computers (12 hrs): The questions 1 – 42 are from this module almost equally distributed from the chapres 1 to 10 of Peter Norton: Introduction to Computers, 6th ed., McGraw Hill.

Module II Preliminaries of Python Programming (21 hrs): The questions 43 – 110 are from this module almost equally distributed from the chapres 1 to 7 of Python Tutorial Release 2.6.1 by Guido van Rossum, Fred L. Drake, Jr., editor. Chaper 2(43-45), Chaper 3(46-72), Chaper 4(73-86), Chaper 5(87-101), Chaper 6(102-103), Chaper 7(104-110).

Module III Advanced Python Programming (21 hrs): The questions 111 – are from this module almost equally distributed from the chapres 8 to 11 of Python Tutorial Release 2.6.1 by Guido van Rossum, Fred L. Drake, Jr., editor. Chaper 8(111-112), Chaper 9(113-114), Chaper 10(115-125), Chaper 11(126-131).

1. A computer converts data into this
 - A. Information
 - B. Charts
 - C. Software
 - D. Input/output
2. Which of the following devices stores instructions that help the computer startup
 - A. Joystick
 - B. RAM
 - C. ROM
 - D. Monitor
3. Which of the following units represents largest amount of data
 - A. Kilobyte
 - B. Terabyte
 - C. Gigabyte
 - D. Megabyte
4. Which of the following software is used for creating slide shows
 - A. Web design software
 - B. Presentation software
 - C. Word-processing software
 - D. spread sheet software
5. The common keyboard arrangement is called the _____ layout
 - A. QWERTY
 - B. QEWTYR

- C. QYWERT
 - D. QWERYT
6. This type of mouse uses reflected light to measure its movements
- A. Optical
 - B. Laser
 - C. Mechanical
 - D. Wheel
7. Which type of software can translate scanned text into text that can edit?
- A. OCS
 - B. ORC
 - C. OCR
 - D. ORS
8. The cathode ray tube related with
- A. Mouse
 - B. Keyboard
 - C. CPU
 - D. Monitor
9. A dot matrix printer's print head contains a cluster of _____.
- A. Pins
 - B. Dots
 - C. Hammers
 - D. Characters
10. The term dots per inch (dpi) refers to printers _____.
- A. Resolution
 - B. Speed
 - C. Output
 - D. Colours
11. The _____ standard promises to provide enough characters to cover all the world's language.
- A. ASCII
 - B. Unicode
 - C. RAM
 - D. EBCDIC
12. The phone line is connected to the _____ on your computer.
- A. PS2
 - B. USB
 - C. Modem
 - D. Network
13. The green audio port is used to connect your _____.

- A. Microphone
 - B. Speaker
 - C. Stereo
 - D. Guitar
14. The _____ of a hard disk contains a small program that runs when you start the computer.
- A. Boot sector
 - B. File allocation table
 - C. File system
 - D. File cluster
15. A magnetic disk's tracks are divided into smaller parts, called _____.
- A. Clusters
 - B. Sectors
 - C. Bytes
 - D. Slices
16. To read CDROM we uses _____.
- A. Laser beam
 - B. Pointer
 - C. Magnetic field
 - D. Track
17. Standard DVD-ROM disc can hold up to _____ of data.
- A. 700 MB
 - B. 140 GB
 - C. 17 GB
 - D. 4.7 GB
18. To remove a program from your computer, you can _____ it.
- A. Erase
 - B. Delete
 - C. Uninstall
 - D. Transfer
19. Which must you do to return compressed files to their uncompressed state?
- A. Delete them
 - B. Extract them
 - C. Archive them
 - D. Zip them
20. DOS and some versions of UNIX are examples of _____ interfaces.
- A. Command-line
 - B. GUI
 - C. Old-type
 - D. Parallel

21. To remove data from one document and place it in another, you can use the _____ and _____ commands.
- A. Remove, place
 - B. Delete, paste
 - C. Copy paste
 - D. Cut, paste
22. The acronym DOS stands for _____.
- A. Distributed operating system
 - B. Driver operating system
 - C. Diskless operating system
 - D. Disk operating system
23. _____ is a free operating system.
- A. Windows
 - B. GNU/Linux
 - C. Mac OS
 - D. Apple OS
24. The word “Free” in the “Free software” means _____.
- A. Freedom to use, modify and distribute
 - B. Only Freedom to use
 - C. Only Freedom to use and distribute
 - D. only Free of cost
25. The term modem is short for _____.
- A. Modulate data
 - B. Network interface card
 - C. Modulate/Demodulate data
 - D. Internet connectivity
26. The abbreviation of *bps* stands for _____.
- A. Bytes per second
 - B. Bits per second
 - C. Bandwidth per second
 - D. Baudrate per second
27. To share the documents we use _____.
- A. IP/TCP
 - B. Web server
 - C. Share data
 - D. FTP
28. _____ pin used to connect data cable to computer.
- A. RJ15 jack
 - B. RJ5 jack

- C. RJ45 jack
 - D. RJ10 jack
29. The expression *Mbps* stands for _____.
- A. Megabits per second
 - B. Microbytes per second
 - C. Microbits per second
 - D. Megabytes per second
30. The internet is open to _____.
- A. Members
 - B. Government agencies
 - C. University researchers
 - D. Anybody
31. A collection of related Web pages is called a _____.
- A. Web book
 - B. Web site
 - C. Web directory
 - D. Web engine
32. Every Web page has a unique address, called a _____.
- A. Hyperlink
 - B. Uniform resources locator
 - C. HTTP
 - D. Map
33. Before you launch your browser and view a web page, you may need to _____.
- A. Get permission
 - B. Connect to internet
 - C. Call your ISP
 - D. Launch a helper application
34. E-mail is a system for exchanging messages through a _____.
- A. Program
 - B. Backbone
 - C. Client
 - D. Network
35. The character @ is typically called the _____ symbol.
- A. at
 - B. approximate
 - C. address
 - D. about
36. When you receive a e-mail mesage, you can _____ it to someone else.

- A. serve
 - B. forward
 - C. store
 - D. copy
37. High-speed internet connections are sometimes called _____ connections.
- A. Broadband
 - B. Highband
 - C. Bigband
 - D. Wideband
38. In a spreadsheet program, a _____ is a set of worksheets in the same file.
- A. Formula
 - B. Label
 - C. Workbook
 - D. Value
39. In a worksheet, a _____ is the intersection of a row and a column.
- A. Cell
 - B. Formula bar
 - C. Ruler
 - D. Frame
40. A _____ image is defined as a grid whose cells are filled with colour.
- A. Raster
 - B. Vector
 - C. Bitmap
 - D. Complex
41. A _____ image consists of mathematical equations describing the size, shape, thickness, position, colour, and fill of lines or closed graphical shapes.
- A. Raster
 - B. Vector
 - C. Bitmap
 - D. Complex
42. A _____ can convert a printed image to digital format.
- A. Photocopier
 - B. Digital camera
 - C. Computer
 - D. Scanner
43. In Unix shell python can be started using the command _____.
- A. python
 - B. start python
 - C. python shell

- D. pyhon start
44. In UNIX _____ key-combination is used to quit the python shell.
- A. Control-z
 - B. Control-v
 - C. Control-d
 - D. Control-c
45. Python shell prompt is _____.
- A. <<<
 - B. >>
 - C. >
 - D. >>>
46. Output of $3 - 1 - 1 * 2$ is _____.
- A. 4
 - B. 2
 - C. 0
 - D. -1
47. Output of $50 - 2 * 4 / 2$ is _____.
- A. 96
 - B. 45
 - C. 46
 - D. 94
48. Output of $2 * * 5$ is _____.
- A. 10
 - B. 0
 - C. 3
 - D. 32
49. Output of $27 \% 6 + 5$ is _____.
- A. 8
 - B. 5
 - C. 38
 - D. 6
50. Output of $77 / 6 + 9$ is _____.
- A. 5.13
 - B. 21
 - C. 21.83
 - D. 5
51. What is the output of the python program

```
z=2-7j
print z.real,z.imag
```

- A. 2.0 -7.0
- B. 2 7
- C. 2 -7
- D. 2.0 7.0

52. Output of $(1 + 2j)/(1 + 1j)$ is _____.

- A. $(1.5+2.5j)$
- B. $(1+2j)$
- C. $(1.5+0.5j)$
- D. $(1+1j)$

53. Output of $abs(2 - 3j)$ is _____.

- A. -1
- B. 3.61
- C. 5
- D. 13

54. Output of $4 ** (1/2) - 4 ** (0.5)$ is _____.

- A. 0
- B. -3.0
- C. -2
- D. -1.0

55. What is the output of the last line of the python program (Interactive mode)

```
>>>r=2.3
>>>r
2.3
>>> 5+_
```

- A. 5
- B. 2.3
- C. 3.3
- D. 7.3

56. Output of $round(2/3.0, 2)$ is _____.

- A. 0.667
- B. 0.6
- C. 0
- D. 0.666

57. What is the output of the python code **'maths'*3**

- A. t
- B. maths3
- C. 'mathsmathsmaths'

D. h

58. What is the output of the python code `'ma' 'ths'`

- A. ma ths
- B. 'maths'
- C. 'ma"ths'
- D. 'ma' 'ths'

59. What is the output of the last line of the python program (Interactive mode)

```
>>>word='maths'  
>>>word[2:4]
```

- A. 'at'
- B. 'aths'
- C. 'ths'
- D. 'th'

60. What is the output of the last line of the python program (Interactive mode)

```
>>>word='maths'  
>>>word[2:]
```

- A. 'ths'
- B. 'ma'
- C. 'mat'
- D. 'aths'

61. What is the output of the last line of the python program (Interactive mode)

```
>>>word='maths'  
>>>word[:3]+word[3:]
```

- A. 'th'
- B. 'maths'
- C. 'mahs'
- D. 'matths'

62. What is the output of the last line of the python program (Interactive mode)

```
>>>word='maths'  
>>>word[:-2]
```

- A. 'hs'
- B. 'ma'
- C. 'mat'
- D. 'math'

63. What is the string command used to get number of characters of a string.

- A. lenth
- B. size

- C. len
D. dim
64. In a *list* its elements are enclosed in _____.
- A. curved brackets
B. curl brackets
C. double quotes
D. square brackets
65. _____ can't be a member of a list.
- A. A picture
B. A number
C. A list
D. A string
66. If **x** is a list, then its 5th element can be accessed using the python command _____.
- A. x(5)
B. x[4]
C. x(4)
D. x[5]
67. If **x**=[1,2,3,'maths',5.2] is a list, then **x[3][1]** is _____.
- A. 'a'
B. 5
C. 3
D. 'maths'
68. What is the output of the last line of the python program (Interactive mode)
- ```
>>>x=['calculus',10,'algebra']
>>>x[1]=x[1]+5
>>>x
```
- A. '105'  
B. 15  
C. ['calculus',5,10,'algebra']  
D. ['calculus',15,'algebra']
69. What is the output of the last line of the python program (Interactive mode)
- ```
>>>x=[1,2,'cat','dog']
>>>x[0:2]=[]
>>>x
```
- A. [1,2,'cat','dog']
B. [1,2]
C. ['cat','dog']
D. []

70. What is the output of the last line of the python program (Interactive mode)

```
>>>x=[1,2,'cat','dog']  
>>>x[2:2]=[3,4,5]  
>>>x
```

- A. [3, 4, 5]
- B. [1, 2, 3, 4, 5, 'cat', 'dog']
- C. [1, 3, 4, 5, 'dog']
- D. [1, 2, 'cat', 'dog']

71. What is the output of the last line of the python program (Interactive mode)

```
>>>x=[1,2,3,4]  
>>>x.append(5)  
>>>x
```

- A. [1 ,2 ,3 ,4 ,5]
- B. []
- C. [5 ,1, 2, 3, 4]
- D. [6, 7, 8, 9]

72. The while loop statement loop start with the symbol _____.

- A. {
- B. ”
- C. ;
- D. :

73. The statement used to read a string quantity as an input from keyboard is _____.

- A. input
- B. read
- C. raw_input
- D. scanf

74. The **else if** option in the **if** loop is possible by using the python statement _____.

- A. elseif
- B. elif
- C. elseif{
- D. else

75. The **for** loop does not runs through a _____.

- A. string
- B. array
- C. list
- D. integer

76. The output of the following program will display _____.

```
>>>a=[1,2,3,4,5]
>>>for x in a:
... print x,
...
```

- A. numbers from 1 to 5 line by line
 - B. numbers from 1 to 5 in a line separated by a space
 - C. the list a
 - D. numbers from 1 to 5 in a line separated by a comma
77. The **range(5)** will give _____.
- A. [0, 1, 2, 3, 4]
 - B. [1, 2, 3, 4, 5]
 - C. 1, 2, 3, 4, 5
 - D. 0, 1, 2, 3, 4
78. The **range(3,7)** will give _____.
- A. [4, 5, 6, 7]
 - B. [3, 4, 5, 6, 7]
 - C. [3, 4, 5, 6]
 - D. 3, 4, 5, 6
79. The **range(-10, -100, -30)** will give _____.
- A. [-10, -40, -70, -100]
 - B. [-40, -70]
 - C. [-10, -40, -70]
 - D. [-40, -70, -100]
80. The python _____ statement, like in C, breaks out of the smallest enclosing for or while loop.
- A. break
 - B. halt
 - C. stop
 - D. close
81. The python _____ statement, like in C, continues with the next iteration of the loop.
- A. next
 - B. proceed
 - C. do
 - D. continue
82. The python statement _____ can be used when a statement is required syntactically but the program requires no action.
- A. go
 - B. pass
 - C. skip
 - D. next

83. Defining a function in python, the statement starts with _____.

- A. def
- B. define
- C. function
- D. function{

84. What is the output of the last line of the python statement (interactive mode).

```
>>>args = [1,4,2]
>>>range(*args)
```

- A. [1, 4]
- B. [1, 4, 2]
- C. [1, 3]
- D. [1, 2]

85. `x = {"a": "1", "b": "2", "c": "3"}`, then `x` is a _____.

- A. dictionary
- B. list
- C. set
- D. array

86. What is the output of the last line of the python statement (interactive mode).

```
>>>x=5
>>>x*=2
>>>x
```

- A. 12
- B. 2*
- C. 25
- D. 10

87. If `a` is a list, `append(3)` is equivalent to _____.

- A. `a.3`
- B. `a+3`
- C. `a[len(a):] = [3]`
- D. `[a,3]`

88. If `a` is a list, extend this list by appending all the items in the list `L` is done by using _____.

- A. `a.L`
- B. `a.extend(L)`
- C. `a*L`
- D. `a.append(L)`

89. If `a` is a list, inserting the element `x` at position `i` is done by using _____.

- A. `a[i].insert(x)`
- B. `put(a, i, x)`

- C. `insert(a, i, x)`
 - D. `a.insert(i, x)`
90. What is the output of `a.remove(x)`, where `a` is a list and `x` is an element.
- A. Remove all the items from the list whose value is `x`.
 - B. Remove the item whose value is `x` and among its first appearance in the list.
 - C. Remove the last item from the list whose value is `x`.
 - D. Remove all the items from the list.
91. What is the python expression used to remove the item from a list at the given position in the list, and return it.
- A. `remove`
 - B. `removeitem`
 - C. `pop`
 - D. `delete`
92. What is the python expression used to return the index in the list `L` of the first item whose value is `x`.
- A. `L.position(x)`
 - B. `index(L,x)`
 - C. `position(L,x)`
 - D. `L.index(x)`
93. What is the python expression used to return the number of times `x` appears in the list `L`.
- A. `L.count(x)`
 - B. `L.times(x)`
 - C. `L.len(x)`
 - D. `count(L,x)`
94. What is the python expression used to sort the items of the list `L`, in place.
- A. `L.arrange(x)`
 - B. `L.sort()`
 - C. `sort(L)`
 - D. `arrange(L,x)`
95. What is the python expression used to reverse the elements of the list `L`, in place.
- A. `reverse(L)`
 - B. `L.back()`
 - C. `back(L)`
 - D. `L.reverse()`
96. Using the symbol _____ we comment the line in python coding.
- A. `#`
 - B. `%`
 - C. `!`
 - D. `?`
97. If `L` is a list, what the output of `del L[2:5]`.

- A. It gives an error
 - B. It returns list which splits at position 2 and 5.
 - C. It returns the list in which the the elements from position 2 to position 4 are removed.
 - D. It returns the list with position 2 to 5 are empty.
98. Tuples consists of a number of values separated by _____.
- A. semicolon
 - B. space
 - C. comma.
 - D. colon
99. If **a** = **set('mathematics')**, then **a** is _____.
- A. set('mathematics')
 - B. set(['a', 'c', 'e', 'i', 'h', 'm', 's', 't'])
 - C. set(['m', 'a', 't', 'h', 'e', 'm', 'a', 't', 'i', 'c', 's'])
 - D. set('matheics')
100. If **a** = **set('1', '2', '3')** and **b** = **set('1', '3')**, then **a-b** is _____.
- A. empty set
 - B. set(['1', '3'])
 - C. set(['1', '2', '3'])
 - D. set(['2'])
101. What is the output of the this python statement (interactive mode).
- ```
>>> for i in reversed(xrange(1,10,2)):
... print i+1,
...
```
- A. 10 8 6 4 2
  - B. 1 3 5 7 9
  - C. 1, 10, 2
  - D. 9 7 5 3 1
102. **sys** is a \_\_\_\_\_.
- A. python variable
  - B. python system
  - C. python module
  - D. system
103. **numpy** is a python module. What is the command to use all the functions available in this module.
- A. numpy import
  - B. from numpy import \*
  - C. use numpy
  - D. call numpy
104. **rjust** is used for \_\_\_\_\_.

- A. reading
- B. calculation
- C. a format for print output
- D. arithmetic

There is another method, , which

105. \_\_\_\_\_ pads a numeric string on the left with zeros.
- A. padleft()
  - B. zfill()
  - C. left()
  - D. zeroleft()
106. If  $x=1/6.$ , then output of `print '{0:.3f}'.format(x)` is \_\_\_\_\_.
- A. 0
  - B. 1/6.
  - C. 0:.3f1/6
  - D. 0.167
107. What is the propose of the expression `f = open('eg.data', 'w')`.
- A. opening the file 'eg.data' for writing purpose.
  - B. open the data 'eg.data'
  - C. open the variables 'eg.data' and 'w'
  - D. open the strings 'eg.data' and 'w'
108. If `f` is a file, then `y=f.read(10)` will \_\_\_\_\_.
- A. read the the number 10 in the file and store in y
  - B. search for 10 in the file and store in y
  - C. read first 10 characters of the file and store in y
  - D. read the variable and store in y
109. If `f` is a file to read the first line in the file we use \_\_\_\_\_.
- A. `f.read(1L)`
  - B. `f.lineread`
  - C. `f.readline()`
  - D. `f.read()`
110. If `f` is a file, to quit this file we use the command \_\_\_\_\_.
- A. `f.remove()`
  - B. `f.exit()`
  - C. `f.quit()`
  - D. `f.close()`
111. Even if a statement or expression is syntactically correct, it may cause an error when an attempt is made to execute it. Errors detected during execution are called \_\_\_\_\_.
- A. syntax error
  - B. simple error

- C. error
- D. exceptions

112. A **try** statement connected with \_\_\_\_\_.

- A. error and exceptions
- B. loop
- C. special function
- D. modules

113. A **class** definition statement starts with \_\_\_\_\_.

- A. def class
- B. define
- C. class
- D. def

114. \_\_\_\_\_ are a simple and powerful tool for creating iterators.

- A. Iterator
- B. Generators
- C. Iter
- D. Counter

The os

115. The \_\_\_\_\_ module provides dozens of functions for interacting with the operating system.

- A. os
- B. sys
- C. system
- D. interact

116. The \_\_\_\_\_ module provides a higher level interface for daily file and directory management tasks.

- A. file
- B. tasks
- C. interact
- D. shutil

117. The \_\_\_\_\_ module provides a function for making file lists from directory wildcard searches.

- A. search
- B. manage
- C. glob
- D. wildcard

The re module :

118. The \_\_\_\_\_ module provides regular expression tools for advanced string processing.

- A. re
- B. se

- C. string
  - D. stringexpress
119. The \_\_\_\_\_ module gives access to the underlying C library functions for floating point mathematics.
- A. maths
  - B. math
  - C. calc
  - D. none of the above
120. The \_\_\_\_\_ module provides tools for making random selections.
- A. randomnumber
  - B. rand
  - C. random
  - D. none of the above
121. The number  $\pi$  from math module used as \_\_\_\_\_
- A. pie(n)
  - B. pi
  - C. pie
  - D. none of the above
122. The \_\_\_\_\_ module used for retrieving data from urls.
- A. urllib2
  - B. url
  - C. internet
  - D. httplib
123. The \_\_\_\_\_ module used for sending mail.
- A. mail
  - B. send
  - C. sendmail
  - D. smtplib
124. The \_\_\_\_\_ module supplies classes for manipulating dates and times in both simple and complex ways.
- A. date
  - B. time
  - C. datetime
  - D. now
125. The \_\_\_\_\_ is not a module handling data archiving and compression formats
- A. bz2
  - B. zip
  - C. tarfile
  - D. zlib

126. The \_\_\_\_\_ module provides a customized for abbreviated displays of large or deeply nested containers.
- A. display
  - B. repr
  - C. nested
  - D. non of the above
127. The \_\_\_\_\_ module offers more sophisticated control over printing both built-in and user defined objects in a way that is readable by the interpreter.
- A. print
  - B. ppr
  - C. printf
  - D. pprint
128. The \_\_\_\_\_ module formats paragraphs of text to fit a given screen width.
- A. paragraph
  - B. width
  - C. textwrap
  - D. non of the above
129. The \_\_\_\_\_ module provides an array of object that is like a list that stores only homogeneous data and stores it more compactly.
- A. array
  - B. arraylist
  - C. homogeneous
  - D. sequence
130. The \_\_\_\_\_ module with functions for manipulating sorted lists.
- A. sort
  - B. largelist
  - C. array
  - D. bisect
131. The \_\_\_\_\_ module offers a Decimal datatype for decimal floating point arithmetic.
- A. decimalpoint
  - B. decimal
  - C. float
  - D. deci

## Answer key

|      |      |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|
| 1A   | 2C   | 3B   | 4B   | 5A   | 6A   | 7C   | 8D   | 9A   | 10A  |
| 11B  | 12C  | 13B  | 14A  | 15B  | 16A  | 17D  | 18C  | 19B  | 20A  |
| 21D  | 22D  | 23B  | 24A  | 25C  | 26B  | 27D  | 28C  | 29A  | 30D  |
| 31B  | 32C  | 33B  | 34D  | 35A  | 36B  | 37A  | 38C  | 39A  | 40C  |
| 41B  | 42D  | 43A  | 44C  | 45D  | 46C  | 47C  | 48D  | 49A  | 50B  |
| 51A  | 52C  | 53B  | 54D  | 55D  | 56A  | 57C  | 58B  | 59D  | 60A  |
| 61B  | 62C  | 63C  | 64D  | 65A  | 66B  | 67A  | 68D  | 69C  | 70B  |
| 71A  | 72D  | 73C  | 74B  | 75D  | 76B  | 77A  | 78C  | 79C  | 80A  |
| 81D  | 82B  | 83A  | 84C  | 85A  | 86D  | 87C  | 88B  | 89D  | 90B  |
| 91C  | 92D  | 93A  | 94B  | 95D  | 96A  | 97C  | 98C  | 99B  | 100D |
| 101A | 102D | 103B | 104C | 105B | 106D | 107A | 108C | 109C | 110D |
| 111D | 112A | 113C | 114B | 115A | 116D | 117C | 118A | 119B | 120C |
| 121B | 122A | 123D | 124C | 125B | 126B | 127D | 128C | 129A | 130D |
| 131B |      |      |      |      |      |      |      |      |      |