

Reg. No.

B.Tech. DEGREE EXAMINATION, NOVEMBER 2023

Sixth Semester

18ECS301J – APPLIED PROGRAMMING

(For the candidates admitted from the academic year 2020-2021 to 2021-2022)

Note:

- (i) **Part - A** should be answered in OMR sheet within first 40 minutes and OMR sheet should be handed over to hall invigilator at the end of 40th minute.
- (ii) **Part - B & Part - C** should be answered in answer booklet.

Time: 3 hours

Max. Marks: 100

PART – A (20 × 1 = 20 Marks)

Answer ALL Questions

Marks BL CO PO

1. What is the maximum length of Python code identifier?
 (A) 32 (B) 16
 (C) 128 (D) No fixed length is specified
 Marks: 1 BL: 1 CO: 1 PO: 1
2. Which one of the following is the correct extension of the Python file?
 (A) .py (B) .python
 (C) .p (D) .pl
 Marks: 1 BL: 1 CO: 1 PO: 1
3. How is a code block indicated in Python?
 (A) Brackets (B) Identification
 (C) Key (D) Square Brackets
 Marks: 1 BL: 1 CO: 1 PO: 1
4. What will be the output of the following code Snippet?

```
count = 0
while (True):
    if count % 3 == 0:
        print (count, end = " ")
    if * (count, >15):
        break;
    count+=1
```

 (A) 0 1 2 15 (B) Infinite loop
 (C) 0 3 6 9 12 15 (D) 0 3 6 9 12
 Marks: 1 BL: 2 CO: 1 PO: 5
5. Which of the following declaration is incorrect in Python Language?
 (A) xyzp = 5,000,000 (B) xyzp = 5000 6000 7000 8000
 (C) x,y,z,p = 5000, 6000, 7000, 8000 (D) x_y_z_p = 5,000,000
 Marks: 1 BL: 2 CO: 2 PO: 5
6. List, tuple and range are the _____ of data types
 (A) Sequence Type (B) Binary Type
 (C) Boolean Type (D) BCD Type
 Marks: 1 BL: 1 CO: 2 PO: 1
7. Which of the following statements are used in exception handling in Python?
 (A) Try (B) Except
 (C) Finally (D) All the above
 Marks: 1 BL: 1 CO: 2 PO: 1

8. Which of the following blocks will always be executed whether an exception is encountered or not in a program? 1 2 2 5
 (A) Try (B) Except
 (C) Finally (D) Misconception
9. What is the order of namespace in which Python looks for an identifier? 1 1 3 5
 (A) Python first searches the built-in namespace, then the global namespace and finally the local namespace (B) Python first searches the built-in namespace, then the local namespace and finally global namespace
 (C) Python first searches the local namespace, then the global namespace and finally the built-in namespace (D) Python first searches the global namespace, then the local namespace and finally the built-in namespace.
10. What will be the output of the following Python program? 1 2 3 5

```
def foo(x):
    x[0] = ['def']
    x[1] = ['abc']
    return id(x)
q = ['abc', 'def']
Print (id(q) == fod(q))
```

 (A) Error (B) None
 (C) False (D) True
11. The _____ function in the OS module removes the specified directory. 1 1 3 1
 (A) rmdir () (B) remove ()
 (C) rmdir () (D) remdic ()
12. The OS module that can be used for listing out all the directories are _____ 1 1 3 1
 (A) os.dict () (B) os.walk ()
 (C) dirpath () (D) dirnames ()
13. How does run () method is involved? 1 1 4 5
 (A) By Thread.run () (B) By Thread.start ()
 (C) By Thread.create () (D) By Thread ()
14. How many CPU's (or cores) will the Python "threading" library take advantage of simultaneously? 1 1 4 1
 (A) Four (B) One
 (C) All the available CPUs (D) Two
15. How is a function declared in Python? 1 1 4 5
 (A) def function function_name (): (B) declared function function_name ()
 (C) def function_name () (D) declare function_name ()
16. What is the process by which search engines retrieve webpages and build a search index called? 1 1 4 1
 (A) Scrape (B) Parse
 (C) Beautiful soup (D) Spider
17. Which methods are commonly used in server socket class? 1 1 5 5
 (A) Public output stream get output stream () (B) Public socket accept ()
 (C) Public synchronized void close () (D) Public void connect ()
18. Config () in Python Tkinter are used for _____ 1 1 5 1
 (A) Place the Widget (B) Destroy the Widget
 (C) Configure the Widget (D) Change the property of the Widget

- | | |
|---|------------------------|
| 19. Which of the following command are used to install the Tkinter? | 1 1 5 1 |
| (A) pip install Tkinter Python (B) pip install Tkinter | |
| (C) pip install Python Tkinter (D) Pip Tkinter | |
| 20. What we use to change the background color of any Widget? | 1 2 5 5 |
| (A) bg (B) fg | |
| (C) bground (D) background | |

PART – B (5 × 4 = 20 Marks)

Answer ANY FIVE Questions

- | | Marks | BL | CO | PO |
|--|-------|----|----|----|
| 21. Specify the difference between set and dictionary. Give examples. | 4 | 2 | 1 | 1 |
| 22. Use Python iterator on the string "Fruits" and print the sequence of character in the string. | 4 | 2 | 2 | 5 |
| 23. Use Python OS module and directory traversal tools for the following
SRMST → ECE
→ EKE → Saurabh
→ Riya | 4 | 3 | 3 | 5 |

Write a Python program to list out all the sub – directories and files.

- | | | | | |
|---|---|---|---|---|
| 24. Define the types of Sockets used. | 4 | 1 | 4 | 1 |
| 25. Give a step by step explanation of the following Python code. What will be output of the code?
import sqlite3
conn = sqlite.connect ('pythonDB.db')
c= conn.cursor ()
def create_table () :
c.execute ('Create Table if
not exists Record one
(Number Real, Name Text)
create_tab()
c.close ()
conn.close () | 4 | 4 | 5 | 5 |
| 26. Explain the following list methods with an example.
Sort(), extend(), remove(), index() | 4 | 2 | 2 | 5 |
| 27. Make a thread that prints numbers from 1-10 and waits a second between each print. | 4 | 3 | 3 | 5 |

PART – C (5 × 12 = 60 Marks)

Answer ALL Questions

- | | | | | |
|--|---|---|---|---|
| 28. a.i. What is the need for tuples? | 4 | 1 | 1 | 1 |
| ii. Make a Python program for the mathematical function $y(t) = V_0 t - \frac{1}{2} g t^2$ and visualize its output. | 8 | 2 | 1 | 5 |

(OR)

- | | | | | |
|--|---|---|---|---|
| b.i. What is output of the following Python code>
def yfunc (t):
print '1. Local t inside yfunc:',t
g = 9.81
t = 0.1
print '2.local t inside yfunc:',t
return V0*t-0.5*g*t**2
t=0.6 | 3 | 2 | 1 | 5 |
|--|---|---|---|---|

```

V0 = 2
print yfunc (t)
print '1. Global t : ', t
print yfunc (0.3)
print '2.global t:', t

```

ii. What are the six main reasons that people choose to use Python?	2	1	1	1
iii. What can you do with Python? Why does "spam" show up in so many Python examples in books and on the web?	7	1	1	1
29. a.i. Define: A queue? List and describe the methods, which are commonly used to perform the operation in Queue.	6	2	3	1
ii. Differentiate between user level threads and Kernel level threads.	6	2	3	1
(OR)				
b.i. How the operator overloading feature in Python is useful?	6	3	2	5
ii. Write a Python code to overload "///", "-" and "%" operators by providing the methods <code>_add_</code> , <code>_sub_</code> and <code>_mul_</code> .	6	3	2	5
30. a. Define: Thread and differentiate between single threaded and multithreaded process. Explain in detail about Thread Control Block (TCB)	12	2	3	1
(OR)				
b.i. Define: A Queue. How queue improve in communication between processes.	4	2	3	1
ii. Differentiate between a Queue and Pipe.	4	2	3	1
iii. Mention the advantages and disadvantages of Kernel level threads.	4	2	3	1
31. a.i. Differentiate between TCP and UDP protocols?	6	3	4	1
ii. Explain the need for sockets and how it is implemented in UDP	6	3	4	1
(OR)				
b.i. Why multithreading is beneficial?	6	3	4	1
ii. List the features and uses of the <code>urllib</code> functions.	6	3	4	1
32. a. How are widgets useful in Python GUI? Describe in detail the syntax and features of the list box widget with an example.	12	3	5	1
(OR)				
b. How do we connect to SQLite 3 database using Python? Explain with Pythonic Code	12	4	5	5

* * * * *