A **Reg. No. :** | | | | | | | | | | | | |

Question Paper Code: U2806

B.E./B.Tech. DEGREE EXAMINATION, APRIL 2024

Second Semester

Computer Science and Engineering

21UIT206 - PROGRAMMING FUNDAMENTALS USING PYTHON

(Regulations 2021)

(Common to Information technology, CSD & CSE(AI&ML))

Duration: Three hours Maximum: 100 Marks

Answer All Questions

PART A - (10 x 1 = 10 Marks)

1. Which line of code produces an error? CO1-App

(a) “one” + ”2” (b) ‘5’ + 6 (c) 3 + 4 (d) “7” + ‘eight’

2. How many times "executed" will be printed in the output? CO1-App

```
for variable_1 in range(1,5,-1):
print("executed")
```

(a) 0 (b) 5 (c) 1 (d) 4

3. What will be the output of the following Python function? CO2-App

```
s=len(["hello",2, 4, 6])
print(s)
```

(a) 6 (b) 4 (c) 3 (d) Error

4. Which of the following is not a core data type in Python Programming? CO1-U

(a) List (b) Tuple (c) Dictionary (d) Class

5. What is the output of the following program? CO3-App

```
z = lambda x : x * x
print(z(6))
```

(a) 6 (b) 36 (c) 0 (d) Error

6. What is the output of the following program? CO3-App

```
odd=lambda x: bool(x%2)
numbers=[n for n in range(10)]
print(numbers) n=list()
for i in numbers:
if odd(i):
```

continue
else:
break

(a) [1, 3, 5, 7, 9] (b)[0, 2, 4, 6, 8, 10] (c)[0, 1, 2, 3, 4, 5, 6, 7, 8, 9] (d) None

7. Both the functions randint and uniform accept _____ parameters CO4-App

(a) 0 (b) 1 (c) 3 (d) 2

8. What will be the output of the following Python code? CO4-App

random.randrange(0,91,5)

(a) 10 (b) 18 (c) 79 (d) 95

9. Which symbol is used for append mode? CO5-U

(a)ap (b) a (c) w (d) app

10. Is seek ( ) method is used for random access to the file? CO5-U

(a) True (b) False (c) 0 (d) 1

PART – B (5 x 2= 10Marks)

11. Write a python program to calculate the distance between two points. CO1-U

12. Write a Python program to swap two values using tuple assignment. CO2-App

13. A person need to compute addition and subtraction of two given numbers using a function in which both added and subtracted values are returned in a single statement. CO2-App

14. Write a python program to print the current date and time using module? CO4-App

15. Differentiate between file modes rb+ and w+ with respect to Python. CO5-U

PART – C (5 x 16= 80Marks)

16. (a) (i) Write short notes on data types in python. CO2-App (8)

(ii) Describe the features of python. CO2-App (8)

Or

(b) (i) Briefly explain the operators in python with suitable examples. CO2-App (8)

(ii) Write short notes on operator precedence and associativity. CO2-App (8)

17. (a) (i) Write a python program to demonstrate the use of del statement and clear() function on dictionary. CO2-App (8)

(ii) Write a python program that has a dictionary of your friends name(as keys) and their birthdays. Print the items in the dictionary in a sorted order. Prompt the user to enter a name and check if it is present in the dictionary. If the name does not exist, then ask the user to enter DOB and get it updated in the dictionary. CO2-App (8)

Or

	(b)	(i) Write a Python program that takes a non-empty list of integers and returns a list [pos,neg], where pos is the sum of squares of all the positive numbers in l and neg is the sum of cubes of all the negative numbers in l.	CO2-App	(8)
		(ii) Write a program that creates two sets of even and composite numbers separately in the range 1-20. Demonstrate the use of all(), issupersset(),len(), and sum() functions on the sets.	CO2-App	(8)
18.	(a)	(i) Develop a Python program using functions that will compute and print the area of any four geometric shapes. Write a main function to get the input and invoke the function using conditional statement.	CO2-App	(8)
		(ii) Bala interested in developing a user defined function in python program to calculate the length of a string without using a built-in function	CO2-App	(8)

Or

	(b)	(i) Take an unknown number of positive integers as input. Assume that the first number is always smaller than the second, all numbers are unique and the input consists of at least three integers. Print the second smallest integer.	CO2-App	(8)
		(ii) Develop a Python program to find maximum of given three numbers using parameter passing.	CO2-App	(8)
19.	(a)	Build a Number Guessing Game using the following criteria: (10) a) Prompt the user selects the range b) Make the system to give to chances to guess the number c) If the guess is correct as the number predicted then print you won the game d) If the number is greater print your number is high and if the number is smaller your number is too small. e) If the chance exceeds Print the number and print Better Luck Next Time Explain about the Modules used in the program (3+3)	CO4-App	(16)

Or

(b) A Student is instructed to write Assignment using Strings. He names the variable as text and assigns the value as " Hello world". He wishes to perform various operations as given below. Write a python program to perform various operations given below? CO2-App (16)

a) To convert the first character of string to capital letter and count the letters of the letter 'l' present in the string?

b) To center the value of the string as #####Hello World####? and to center the value as ' Hello world '?

c) To join the value of the string as H*e*l*l*o* *w*o*r*l*d and partition the value of string as ('Hello ', 'world', '')

d) To replace the string of l by a and to fill the value of string as '000000000Hello world'?

20. (a) Write a Python program that takes a text file as input and returns the number of words of a given text file CO5-U (16)

Note: Some words can be separated by a comma with no space.

words.txt:

Write a Python program that accept some words and count the number of distinct words. Print the number of distinct words.

Or

(b) Write the file mode that will be used for opening the following files. Also, write the Python statements to open the following files: CO5-U (16)

a) a text file "example.txt" in both read and write mode

b) a binary file "bfile.dat" in write mode

c) a text file "try.txt" in append and read mode

d) a binary file "btry.dat" in read only mode.