

B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV / DEC 2024

Second Semester

Computer Science and Engineering

(Common to Information Technology, Artificial Intelligence and Data Science & Computer Science and Engineering (AIML))

20ESIT202 - PYTHON PROGRAMMING

Regulations - 2020

Duration: 3 Hours

Max. Marks: 100

PART - A (MCQ) (20 × 1 = 20 Marks)

Answer ALL Questions

	<i>Marks</i>	<i>K- Level</i>	<i>CO</i>
1. Which of the following are valid string manipulation functions in python? (a) count() (b) upper() (c) strip() (d) all of the above	1	K1	CO1
2. Which of the following concept is not a part of python? (a) pointers (b) loops (c) dynamic typing (d) all of the above	1	K1	CO1
3. What will be the result of the following expression in python 2**3+5**2 (a) 65536 (b) 33 (c) 169 (d) none of these	1	K1	CO1
4. Which of the following is not a valid set operation in python? (a) union (b) intersection (c) difference (d) none of the above	1	K1	CO2
5. How can you exit a loop prematurely in python? (a) using the break statement (b) using the continue statement (c) using the pass statement (d) using the exit function	1	K1	CO2
6. How can you skip the current iteration of loop and continue with the next iteration? (a) using the skip statement (b) using the pass statement (c) using the break statement (d) using the continue statement	1	K1	CO2
7. What is a python module? (a) A built in function (b) A collection of python functions and global variables (c) Type of python data structure (d) A programming language	1	K1	CO3
8. Which keyword is used to import a module in python? (a) use (b) require (c) import (d) include	1	K1	CO3
9. Which of the following statement is true about packages in python? (a) packages are collection of modules (b) packages are used for mathematical operations (c) packages are collection of functions (d) packages are used for string manipulation	1	K1	CO3
10. Which keyword is used in python to raise exceptions? (a) raise (b) try (c) goto (d) except	1	K1	CO4
11. Which keyword is used to catch exceptions in python? (a) try (b) catch (c) except (d) handle	1	K1	CO4
12. Which of the following is not a standard python exception? (a) keyError (b) ValueError (c) IndexError (d) TypeError	1	K1	CO4
13. What is the standard way to import matplotlib's pyplot in python? (a) import matplotlib.pyplot as plt (b) import matplotlib as plt (c) from matplotlib import pyplot as plt (d) import matplotlib pyplot as plt	1	K1	CO5
14. What is the full form of csv ? (a) comma separated values (b) comma separated vertex (c) comma separated variables (d) comma separate value	1	K1	CO5

15. The character that separates values in csv files is called the _____ 1 K1 CO5
 (a) delimiter (b) delimit (c) delimited (d) delimits
16. Which library is used for analyzing data? 1 K1 CO5
 (a) Math (b) Random (c) pandas (d) None of the above
17. What will be the output of the following code? 1 K1 CO6
`a=(1==True)`
`b=(1==False)`
`print("a is",a)`
`print("b is",b)`
 (a) a is True b is False (b) a is True b is True
 (c) a is False b is False (d) a is False b is True
18. What will be the output of the following code? 1 K1 CO6
`def check(a):`
`print("Even" if a%2==0 else "odd")`
`check(12)`
 (a) Even (b) odd (c) Error (d) None of the above
19. What does the range(3) function return? 1 K1 CO6
 (a) [0,1,2] (b) [1,2,3] (c) [0,1,2,3] (d) [3,2,1]
20. What will be the output of the following code? 1 K1 CO6
`Print(2**3+(5+6)**(1+1))`
 (a) 129 (b) 8 (c) 121 (d) None of the above

PART - B (10 × 2 = 20 Marks)

Answer ALL Questions

21. Summarize the features of the Python programming language. 2 K2 CO1
22. Interpret the values of Boolean data type in Python. 2 K2 CO1
23. Compare the advantages of tuple over list in Python. 2 K2 CO2
24. Explain about set data structure in python. 2 K2 CO2
25. Illustrate built in Modules in Python. 2 K2 CO3
26. Infer the different kinds of arguments. 2 K2 CO3
27. Explain in detail Python Class and Object. 2 K2 CO4
28. Compare and contrast between Constructor and Destructor. 2 K2 CO4
29. Write the code to create an array of 10 Zeroes ,10 Ones and 10 Fives using Numpy. 2 K2 CO5
30. Write the program to find the sum of the digits of a number. 2 K2 CO6

PART - C (6 × 10 = 60 Marks)

Answer ALL Questions

31. a) Explain in detail about the string and its functions in Python with an example. 10 K2 CO1
- OR**
- b) Explain in detail about the different types of operators in python. 10 K2 CO1
32. a) Explain Conditional if, alternative if, and chained conditional statements with an example. 10 K2 CO2
- OR**
- b) Explain in detail about list operations and methods. 10 K2 CO2
33. a) Explain the concept of packages in python. 10 K2 CO3
- OR**
- b) Explain the function and recursive function in python with example. 10 K2 CO3

34. a) Illustrate the exception handling methods available in python. 10 K2 CO4
- OR**
- b) Write the following content in a file names as “sample.txt” using file processing. 10 K2 CO4
“python has simple syntax similar to the English language. It allows developers to write programs with fewer lines than other programming languages”
Develop a python program to count the number of words in “sample.txt”
35. a) Explain in detail about Broadcasting and Array Indexing in Numpy. 10 K2 CO5
- OR**
- b) Explain in detail about Scipy with example program. 10 K2 CO5
36. a) i) Write a python program for solving linear system of equations. 5 K2 CO6
ii) Write a python program to open CSV files using pandas. 5 K2 CO6
- OR**
- b) i) Write a python program to implement Linear Search. 5 K2 CO6
ii) Write a python program to implement Binary Search. 5 K2 CO6