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18CS55

Fifth Semester B.E. Degree Examination, Feb./Mar. 2022

Application Development using Python

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Write a Python program to calculate the area and circumference of a circle Input the value of radius and print the results. (06 Marks)
- b. Explain with example code snippets, different syntax of range() function in Python. (06 Marks)
- c. Discuss local and global scope of variables in Python. Illustrate different scenarios, with an example. (08 Marks)

OR

- 2 a. Demonstrate the use of break and continue keywords using a code snippet. (06 Marks)
- b. List and define the use of comparison operators in Python. Write the output for the following expression in Python:
i) $2 * * 3$ ii) $20\% 6$ iii) $20//6$ (06 Marks)
- c. What is user defined function? Write a function to check if a given number is a prime or not. (08 Marks)

Module-2

- 3 a. What is a List? Explain the methods that are used to delete items from the list. (08 Marks)
- b. Write a program to take a sentence as input and display the longest word in the given sentence. (06 Marks)
- c. How is the dictionary different from list? Assume a dictionary containing city and population as key and value respectively. Write a program to traverse the dictionary and display most populous city. (06 Marks)

OR

- 4 a. Explain the following string methods with example:
i) join() ii) islower() iii) strip() iv) center(). (08 Marks)
- b. Write a program to create a list of number and display the count of even and odd numbers in the list. (06 Marks)
- c. If S = 'Hello World', explain and write the output of the following statements:
i) S[1:5] ii) S[:5] iii) S[3: - 1] iv) S[:] (06 Marks)

Module-3

- 5 a. What is a regular expression? Explain the process of finding patterns of text with regular expressions and associated methods in Python with an example. (08 Marks)
- b. Explain the following patterns matching capabilities in python with suitable program snippets:
i) Grouping with parentheses
ii) Matching multiple groups
iii) Matching one or more. (06 Marks)
- c. Explain the following file operations in Python with suitable examples:
i) Copying files and folders
ii) Moving files and folders
iii) Permanently deleting files and folders. (06 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. $42+8=50$, will be treated as malpractice.

OR

- 6 a. Explain with a suitable Python program how `findall()` is different from `search()` method. State the purpose of any four short hand character classes with examples. (08 Marks)
- b. What is the difference between `OS` and `OS.path` modules? Discuss the following four methods of `OS` module:
i) `chdir()` ii) `walk()` iii) `listdir()` iv) `getcwd()` (06 Marks)
- c. With code snippets, explain reading, extracting and creating ZIP files in Python. (06 Marks)

Module-4

- 7 a. What is class? How do we define class? How to instantiate the class and members are accessed? (08 Marks)
- b. Write a Python program to add and multiply two complex number objects using operator overloading concepts. (06 Marks)
- c. Discuss type-based dispatch in a Python. (06 Marks)

OR

- 8 a. Explain `__init__` and `__str__` methods, with an example. (08 Marks)
- b. What is pure function? Illustrate the same with an example. (06 Marks)
- c. Explain concept of polymorphism with suitable example. (06 Marks)

Module-5

- 9 a. What is Web Scraping? Explain the process of downloading the file from web and saving downloaded files. (08 Marks)
- b. Explain the process of reading cells from EXCEL sheets. (06 Marks)
- c. With a code snippet, discuss how to change the text style of .doc file using paragraph and run objects. (06 Marks)

OR

- 10 a. How do we extract, decrypt, copy and encrypt PDF files in Python. (08 Marks)
- b. Discuss the process of creating a beautiful soup object and finding an element from HTML. (06 Marks)
- c. With an example, illustrate the use of JASON module in Python. (06 Marks)

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