Reg. No. : | E | N | G | G | T | R | E | E | . | C | O | M |

Question Paper Code : 70115

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2022.

First Semester

Civil Engineering

GE 3151 — PROBLEM SOLVING AND PYTHON PROGRAMMING

(Common to All Branches)

(Regulations 2021)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. How does flow of control work?

2. Explain Towers of Hanoi problem.

3. Write a snippet to display "Hello World" in python interpreter.

4. Illustrate the use of * and + operators in string with example.

5. Comment with an example on the use of local and global variable with the same identifier name.

6. Define Fruitful Function.

7. Relate String and List.

8. Let list= ['a', 'b', 'c', 'd', 'e', 'f']. Find the following
    (a) List [1:3]
    (b) t[:4]
    (c) t[3:].

9. How does try and execute work?

10. How do you handle the exception inside a program when you try to open a non-existent file?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Compare and contrast machine language, assembly language and high-level language in detail.

   (ii) Give the difference between recursion and iteration.

Or

   (b) Explain in detail about the Notation of Algorithm.

12. (a) What is the role of an interpreter? Give a detailed note on python interpreter and interactive mode of operation. Explain how Python works in interactive mode and script mode with examples.

Or

   (b) Explain in detail about precedence of python operators and the associativity of python operators.

13. (a) Write a Python program to find the square root of a number without using inbuilt function and explain the same.

Or

   (b) Write a Python program for linear search and binary search and explain its implementation in detail.

14. (a) Demonstrate with Python code the various operations that can be performed on tuples.

Or

   (b) Define Dictionary in python. Do the following operations on dictionaries.

   (i) Initialize two dictionaries with key and value pairs.

   (ii) Compare two dictionaries with master key list and print missing keys.

   (iii) Find keys that are in first and not in second dictionary.

   (iv) Find same keys in two dictionaries.

   (v) Merge two dictionaries and create a new dictionary using a single expression.

15. (a) Explain about the file reading and writing operations using format operator with python code.

Or

   (b) Write a Python program to dump objects to a file using pickle.

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