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Question Paper Code : 80173

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2019.

First Semester

Civil Engineering

GE 8151 — PROBLEM SOLVING AND PYTHON PROGRAMMING

(Common to all Branches)

(Regulation 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. List the symbols used in drawing the flowchart.
2. Give the Python code to find the minimum among the list of 10 numbers.
3. Outline the logic to swap the contents of two identifiers without using third variable.
4. State about Logical operators available in python language with example.
5. Comment with an example on the use of local and global variable with the same identifier name.
6. Define recursive function.
7. How to create a list in python? Illustrate the use of negative indexing of list with example.
8. Demonstrate with simple code to draw the histogram in python.
9. Categorise the different types of errors arises during programming. Interpret the following python code

```
>>> import os  
>>> cwd = os.getcwd()  
>>> print cwd  
/home/dinsdale
```
10. What is command line argument?

PART B — (5 × 16 = 80 marks)

11. (a) Mention the different types of iterative structure allowed in Python. Explain the use of continue and break statements with an example. (16)

Or

- (b) (i) What is an algorithm? Summarise the characteristics of a good algorithm. (8)
(ii) Outline the algorithm for displaying the first n odd numbers. (8)
12. (a) Describe about the concept of precedence and associativity of operators with example. (16)

Or

- (b) (i) Mention the list of keywords available in Python. Compare it with variable name. (8)
(ii) What are statements? How are they constructed from variable and expressions in Python? (8)
13. (a) (i) Analyse string slicing. Illustrate how it is done in Python with example. (8)
(ii) Write a Python code to search a string in the given list. (8)

Or

- (b) (i) Outline about function definition and call with example. (10)
(ii) Why are functions needed? (6)
14. (a) Demonstrate with code the various operations that can be performed on tuples. (16)

Or

- (b) Outline the algorithm and write a Python program to sort the numbers in ascending order using merge sort. (16)
15. (a) Explain about the file reading and writing operations using format operator with Python code. (16)

Or

- (b) (i) Explain about how exceptions are handled with example. (8)
(ii) Design a Python code to count the number of words in a Python file. (8)