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18EC646

Sixth Semester B.E. Degree Examination, July/August 2022

Python Application Programming

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. Explain Conditional Execution Alternative execution , Chained conditionals and Nested conditionals with examples. (08 Marks)
- b. Explain the rules of precedence used by Python to evaluate an expression. (04 Marks)
- c. Write a Python Program to prompt the user for hours and rate per hour for pay computation with time and a half for overtime. To give the employee 1.5 time the hourly rate for hours worked above 40 hours. (08 Marks)

OR

- 2 a. List the features of Python Programming Language (at least FIVE). (05 Marks)
- b. What are User defined functions? How can we pass parameters in user defined functions? Explain with suitable example. (06 Marks)
- c. Write a program to prompt for a score between 0.0 and 1.0. if the score is out of range print an error manage and exit. If the score is between 0.0 and 1.0 print a grade using the following table :

Score	≥ 0.9	≥ 0.8	≥ 0.7	≥ 0.6	< 0.6
Grade	A	B	C	D	F

Module-2

- 3 a. With Syntax, explain the finite and infinite looping constructs in Python. What is the need for break and continue statements? Explain with examples. (08 Marks)
- b. What are String Slices? Explain the Slicing Operator in Python with examples. (05 Marks)
- c. Write a Python program to accept a file name from the user :
- i) Display the number of characters in the file.
- ii) Find the frequency of occurrence of the lines which started with a word 'From'. (07 Marks)

OR

- 4 a. List and explain any four built in string manipulation functions supported by Python with examples. (06 Marks)
- b. Explain file open , file close , file read and file write concepts in Python with examples. (08 Marks)
- c. Write a Python program to find the largest value from the given set of accepted values. (06 Marks)

Module-3

- 5 a. Lists are mutable. Justify the statement with examples. Discuss the list handling functions in Python with examples. (08 Marks)
- b. Differentiate between List and Dictionary. (04 Marks)
- c. Write a Python program to search lines that start with the word 'from' and a character followed by a two digit number between 00 and 99 followed : Print the number if it greater than zero. Assume any input file. (08 Marks)

OR

- 6 a. Compare and contrast tuples with lists. Explain the following operation in tuples with examples : i) Sum of two tuples , ii) Slicing operations
iii) Compression of two tuples iv) Assignment to variables. (10 Marks)
- b. Write a Python program that accept a sentence and build dictionary with LETTERS , DIGITS , UPPERCASE , LOWERCASE as key values and their count in sentence as values. (06 Marks)
- c. Explain the need of Regular expression in Python language, with an example. (04 Marks)

Module-4

- 7 a. Explain Classes and Attributes in Python language with examples. (06 Marks)
- b. What is the difference between Method and Function? Explain the working of init method with suitable code. (06 Marks)
- c. Write a function named move – rectangle that takes a Rectangle and two numbers named dx and dy. It should change the location of the rectangle by adding dx to the x co-ordinate of corner and adding dy to the y co-ordinate of corner. (08 Marks)

OR

- 8 a. Show using a Python code how `__str__` method is invoked when you print an object. Explain its working. (06 Marks)
- b. Illustrate the concept of Pure function and Modifier with examples. (06 Marks)
- c. What is Operator Overloading? Write Python code to overload “+” , “-” and “*” operator by providing the methods `__add__` , `__sub__` and `__mul__` . (08 Marks)

Module-5

- 9 a. Define Socket. Explain how socket connection can be established to the internet using Python code over the TCP/IP connection and the http protocol to get the web document. (08 Marks)
- b. Compare and Contrast the Javascript Object Notation (JSON) and XML. Explain parsing of XML with example. (06 Marks)
- c. Define Cursor. Explain Connect, Execute and Close command of databases with a snippet code. (06 Marks)

OR

- 10 a. What is Embedded SQL? Explain the importance of SQLite data base. (04 Marks)
- b. Write a note on Google Geo coding Web service. Using Python supported libraries demonstrate with a snippet code. (08 Marks)
- c. Write a Python code to read the file from web using urllib and retrieve the data of the file. Also compute the frequency of each word in the file. (08 Marks)
