

B.Tech.- 3rd

Programming in Python

Full Marks : 50

Time : $2\frac{1}{2}$ hours

Answer **all** questions

The figures in the right-hand margin indicate marks

Symbols carry usual meaning

Any supplementary materials to be provided

1. Answer *all* questions : 2 × 5

(a) Explain about rules for creating a variable in python with example.

(b) What is Built-in Modules in python ? List out any 4 Built-In modules.

(c) What is Lambda function ? Discuss with an example.

(Turn Over)

- (d) What is class ? How it is different from object ? Explain with example.
- (e) What is String Formatting ? Explain with an example.
2. (a) Write a python program to check whether a number is prime number or not. 4
- (b) Write a python program to write Fibonacci series of a number. 4
- Or
- (a) Write a program to check whether a year is leap year or not. 4
- (b) Explain various features of python. 4
3. (a) What is math module ? Write a program to find GCD and LCM of two numbers. 4

- (b) Write difference between map() and filter() method. Write the code to display 5th element in A=[1,2,3,[4,5],6]. 4

Or

- (a) Write a python program to find greatest among three numbers using nested if and user defined function. 4

(b) A=[10,20,30,[40,50],60], B=[-10,-20,0]

(i) add A to B and print the length of the final list.

(ii) Print element 50 of the 1st list

(iii) Explain about packages and datetime module. Write code to show the current date time. 4

4. (a) Differentiate among tuple, set and dictionary with suitable examples. 4

(4)

- (b) What is recursion? Write a python program to find factorial of a number using recursion. 4

Or

- (a) Write a Python script to check whether a given key is already exist in the dictionary or not. 4

- (b) Write a python function about credit card reminder of a customer to pay the dues before the due date having parameters like customer_name, due_amount, due_date. 4

5. (a) Write a Python program to create a calculator class including member function for basic arithmetic operations. 4

- (b) Write a Python program to create a Employee class. Include attributes like name, id, age and salary, which has child class Auditor having special attribute qualification using Dunder Init Method. 4

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(Continued)

(5)

Or

- (a) Write a Python program to create a class representing a bank. Include methods for managing customer accounts and transactions. 4

- (b) Write a Python program to handle a Zero Division Error exception when dividing a number by zero. 4

6. (a) Write a Python program to match given string that has followed by zero or more b's. 4

- (b) Write a Python program to count the number of lines in a text file. 4

Or

- (a) Write a Python program to read an entire text file and add new line to that file. 4

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(b) Write a Python program to check that a string contains only a certain set of characters like a to z, A to Z and 0 to 9. 4

s = input().strip()
a = list(s)
for elem in a:
 if not elem.isalnum():
 print('Invalid')
 else:
 print('Valid')

27/11/21