

SH-III/Com. Sc.-305/SEC-1/(PR)/19

B.Sc. 3rd Semester (Honours) Practical Examination, 2019-20**COMPUTER SCIENCE****Course ID : 31525****Course Code : SH-CSC-305/SEC-1**

Course Title: Programming in Python

Time: 2 Hours**Full Marks: 15**

*The figures in the right hand side margin indicate marks.
Candidates are required to give their answers in their own words
as far as practicable.*

The questions are of equal value.

Attempt *any one* of the following:

1. Using for loop, print a table of Celsius/Fahrenheit equivalences. Let c be the Celsius temperatures ranging from 0 to 100, for each value of c, print the corresponding Fahrenheit temperature.
2. Using while loop, produce a table of sines, cosines and tangents. Make a variable x in range from 0 to 10 in steps of 0.2. For each value of x, print the value of sin(x), cos(x) and tan(x).
3. Write a program that takes a positive integer n and then produces n lines of output shown as follows. For example enter a size: 5

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* *
*  *
*   *
*    *
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4. Write a function that takes an integer n as input and calculates the value of $1 + 1/1! + 1/2! + 1/3! + \dots + 1/n!$.
5. Write a function that takes a string input and checks if it's a palindrome or not.
6. Write a list function to convert a string into a list, as in list ("abc") gives [a, b, c].
7. Write a program to generate Fibonacci series.
8. Write a program to compare three numbers and print the largest one.
9. Write a program to point prime factors of a given number.
10. Write a method to calculate LCM of two numbers.

B.Sc. 3rd Semester (Honours) Practical Examination, 2019-20

COMPUTER SCIENCE

Course ID : 31525

Course Code : SH-CSC-305/SEC-1

Course Title: Unix/Linux Programming

Time: 2 Hours

Full Marks: 15

*The figures in the right hand side margin indicate marks.
Candidates are required to give their answers in their own words
as far as practicable.*

The questions are of equal value.

Answer *any one* of the following:

1. Write a shell script to check if the number entered at the command lines is prime or not.
 2. Write a shell script to display the multiplication table of any given number.
 3. Write a shell script to find the sum of digits of a given number.
 4. Write a shell script to find the LCD (least common divisor) of two numbers.
 5. Write a shell script to perform the tasks of basic calculator.
 6. Write a shell script to find the power of a given number.
 7. Write a shell script to find the binominal coefficient $C(n, x)$.
 8. Write a shell script to find the permutation $P(n, x)$.
 9. Write a shell script to check whether the number is Armstrong or not.
 10. Write a shell script to check whether the file have all the permissions or not.
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