University of Engineering & Management, Kolkata

Odd Semester Examination, February, 2021

Course: B. Tech Semester: 1st

Paper Name: Computer Programming and Problem Solving using Python and C - I

Paper Code: ESC181

Full Marks: 100 **Time: 3 Hours**

Instructions:

1. Students need to answer all questions of the allotted Set.
2. The answers should be written in white papers (preferably A4, but not mandatory).
3. The First page of the answer script must have Students Name, Section, Class Roll, Enrolment Number and Registration Number written at the top.
4. Subsequent pages must have Section and Roll Number written at the top.
5. The entire answer script is needed to be scanned and a single PDF file should be submitted.
6. The file name should be "Section_Roll.pdf" (e.g. A_100.pdf)

Set - 11

1. Write a C program to read 'n' numbers from user into an array (x) where 'n' is user given. Find the average (a) of the numbers. Use the average value to find the variance of the numbers using the following formula:

$$Variance = \frac{1}{n}\sum_{i=1}^{n}(x_i - a)^2$$

2. Write a C program to take two one-dimensional integer array of size 'n' as input from user where 'n' is user given. Read user given numbers to store in the arrays. Declare another array of same size (n) and store the element wise addition of previously taken array into the new one.
3. A number is said to be an Armstrong number if the sum of the cubes of the digits of that number is equal to that number itself. Write a C program to print all Armstrong numbers within a user given limit (a, b). If no Armstrong number is found, then print "No Armstrong Number Found".
4. Write a C program to read a date of birth from user in the form "dd-mm-yyyy". Calculate the age of that person as on 01.01.2021 in the same format. Consider that 30 days a month and 365 days a year.