National University
of computer and emerging sciences

Course Name:	**COAL**	**Course Code**	**CS2006**
Degree Program:	**BSCS**	**Semester:**	**Fall 2024**
Exam Duration:	**90 Minutes**	**Total Marks:**	**30**
Paper Date:	**16-October-2024**	**Weightage:**	**35 %**
Section:	**3D**	**Exam Type:**	**MidTerm**

Instructions:

- Understanding the question statement is also part of the exam, so do not ask for clarification.
- You must ensure proper code submission following the file naming instructions (Q1_Rollno).
- Empty Submission means ZERO marks. You are not allowed to recover your files after the exam's commencement.
- Do not submit zip files
- Students will receive ZERO marks if the answers are plagiarized.
- Use of ANY helping material/code, cell phones, INTERNET, and flash drives are strictly prohibited

Question 01 (20 Marks)

Polynomial Evaluation Subroutine with Array

Write a subroutine PolyFunc that evaluates a polynomial of the form:

P(x) = a0 + a1 * x* a2 * x^2 + ….. + an * x^n

Pass the coefficients {a0, a1,….,an}, the value of x, and the degree n of the polynomial via the stack. Use a loop to evaluate the polynomial and store the result in memory.

Input:

Coefficients dw: 3,4,5 ;(P(x) = 3+ 4x + 5x^2)

X dw:2

N dw:2

Return the result of P(x) for x = 2

Output: result = 31

Question 02 (10 Marks)

Write an assembly program that prints a (+)sign using asterisks (*) on the screen. The length of the plus sign must be provided by the user and passed as a parameter to a subroutine. The subroutine should handle the logic for printing the plus sign based on the length.

Horizontal line should start from row 9th and the vertical line from column 10th.

The length of the horizontal line is 40 and the vertical line is 20.

Example: