

International Islamic University Chittagong
Department of Electrical and Electronic Engineering

B.Sc. Engineering in EEE

Midterm Examination, Spring 2024

Course Code: CSE 1105

Course Title: Computer Programming I

Time: 1 hour 30 minutes

Full Marks: 30

- (i) Answer all the questions. The figures in the right-hand margin indicate full marks.
- (ii) Course Outcomes (COs) and Bloom's Levels (BL) are mentioned in additional Columns.

CO	CO Statements
CO1	Demonstrate an understanding of basic programming in C, Programming style, variables and data types.
CO2	Apply basic programming laws and rules to complex cases like; Logical expressions and control constructs: if-else, switch, arithmetic.
CO3	Analyze basic terms like: Sorting, Searching and Geometric.

Bloom's Levels (BL) of the Questions						
Letter Symbols	C1	C2	C3	C4	C5	C6
Meaning	Remember	Understand	Apply	Analyze	Evaluate	Create

- 1) a) Break down the fundamental structure and elements of a computer, providing a concise overview of its components and how they function together? CO1 C2 3+2

Inputs		Output
A	B	$A \oplus B$
0	0	0
0	1	1
1	0	1
1	1	0

Identify the truth table and draw the logic gate.

- 1) b) Perform the following conversion CO2 C3 5
- $45455_{10} = ?_2$
 - $6699_9 = ?_{16}$
 - $0111010111_2 = ?_{16}$
- 2) a) Explain the concept of an operator in the context of programming. Enumerate the various types of operators found in the C programming language along with illustrative examples. CO1 C2 3+2
- 2) b) Write a program that calculates and displays the area of a circle when provided with its radius. Utilize a symbolic constant to represent the value of π and assume an appropriate value for the radius. CO2 C4 5

3) a) i. The "value" of a variable expresses what? CO1 C2 2+3
 ii. Write a program to read a length in inch scale and convert it in the centimeter scale.

3) b) i. What is the significance of the main() function in a C program? CO3 C4 5
 ii. Find out the error of the following program and fixed it:

```
#include <stdio.h>
int main() {
    double n1, n2, n3;
    printf("Enter three different numbers: ");
    scanf("%lf %lf %d", &n1, &n, &n3");
    if (n1 >= n2 && n1 >= n3)
        printf("%.2f is the largest number.", n1)
    if (n2 >= n1 && n2 >= n3)
        printf("%.2f is the largest number." n2);
    if (n3 >= n1 && n3 >= n2)
        printf("%.2f is the largest number.", n3);
    return 0;
}
```

OR

3) a) Describe the contrast between employing an "if...else" statement and a "nested if" statement in flowcharts, accompanied by program examples. CO1 C2 2+3

3) b) Write a C program that will take input a mark of subject from the candidate and according to following condition you need to print Grade Corresponding given input mark. CO3 C4 5

1. If marks <50 then Grade is F
2. if marks >=50 <59 then Grade is C
3. if marks >=60 <69 then Grade is B
4. if marks >=70 <79 then Grade is A
5. if marks >=80 then Grade is A+