International Islamic University Chittagong

Department of Electrical and Electronic Engineering

B. Sc. Engineering in EEE

Final Exam, Spring 2022

Course Code: **CSE 1105** Course Title: **Computer Programming-I**

Time: 2 hours 30 minutes Full Marks: 50

(i) The figures in the right-hand margin indicate full marks

(ii) Course Outcomes and Bloom's Levels are mentioned in additional Columns

Course Outcomes (COs) of the Questions	
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 of the Questions						
Letter Symbols	R	U	App	An	E	C
Meaning	Remember	Understand	Apply	Analyze	Evaluate	Create

Part A

[Answer the questions from the followings]

1. a) What does the do-while statement accomplish? What distinguishes it from the while statement? CO1 R, A 4

1. b) (i). What does the following program produce as a result? CO2 R, A 3+3

```
#include<stdio.h>

main()
{
  char *s = "EEE";

  while(*s!=NULL)
  printf("%c", *++s);
}
```

(ii). Convert the for loop in the following program to a do loop.

```
int i, b = 100;
for (i=0; i<b; i++)
  {
```

```
printf ("EEE.\n");
printf ("%d\n",i);
printf ("IIUC.\n");    }
```

2.	a)	What happens when an array is used? Specify an array's initialization.	CO2	U,An	5
2.	b)	Write a program to initialize one dimensional array of size 8 and display the sum and average of array elements	CO2	R,An	5

Or,

2.	a)	Discuss recursion. Write a program to display Fibonacci series using recursion.	CO2	R, An	4
2.	b)	(i). Define goto statement. Draw the flowchart of goto and continue statement.	CO1	R,Un	3+3
		(ii). Define function. Classify function with example.			

Part B

[Answer the questions from the followings]

3.	a)	How to use a pointer to access a variable is explained with an example.	CO3	U, R	4
3.	b)	(i). In C, what are the benefits and drawbacks of using pointers?	CO3	U, R	3
		(ii). What will be the output of the program?	CO2	U,An	3

```
#include <stdio.h>

int main () {

  int  var = 200;
  int  *ip;

  ip = &var;

  printf("Address of var variable: %x\n", &var  );

  printf("Address stored in ip variable: %x\n", ip );

  printf("Value of *ip variable: %d\n", *ip );

  return 0;
}
```

4.	a)	Make a list of the basic file operations that C supports. Write a brief description of the functions fopen(), fclose(), getc(), and putc() ().	CO2	Un,A	5
4.	b)	What's wrong with this call-	CO2	Ap	5

a) FILE *fp = fopen("c:\htyus\exp.dat", 'r');

b) int fclose(FILE **fp);

5.	a)	Create a structure named company which has name, address, phone and no Of Employee as member variables. Read name of company, its address, phone and no Of Employee. Finally display these members' value.	CO1	Ap,U	5
5.	b)	Compare and contrast the terms "array" and "structure." Provide the "Structure" prototype.	CO2	An	5

Or,

5.	a)	Write a program in C to read n number of values in an array and display it in reverse order.	CO2	Ap	4
5.	b)	(i). Determine the output of the following program:	CO2	U	3+3

```
int main(){
  int *y;
  int x;
  y = &x;
 *y = 1;
  printf(" x = %dn", x);
  printf(" *y = %dn", *y);
 *y += 2;
  printf(" x  = %dn", x);
  printf(" *y = %dn", *y);
  return 0;
  }.
```

(ii). How to declare Union? What do you know about call by reference and call by value?