UNITED INTERNATIONAL UNIVERSITY

Department of Computer Science and Engineering

Exam: Final Year: 2020 Trimester: Fall Course: CSE 1111/CSI 121
Title: Structured Programming Language Marks: 25 Time: 1 hour 15 min

Answer all of the Questions given in the **Section-A** and **Section-B**. At first complete all the Questions in **Section-A** and the **Section-B**. Numerical figures in the right margin indicate full marks.

Section-A

Show the manual tracing for each of the programs given below. In the programs, LAST_THREE_DIGIT_OF_YOUR_STUDENT_ID is used. For example, your STUDENT ID is 011202029 and therefore, the value of LAST_THREE_DIGIT_OF_YOUR_STUDENT_ID is 029. Below, use your own student ID.

1. **3.5**

```
#include<stdio.h>
int a, b;
int func1(float x);
void func2(int x, float y);
int main(){
        a=LAST_THREE_DIGIT_OF_YOUR_STUDENT_ID%5;
        b=LAST_THREE_DIGIT_OF_YOUR_STUDENT_ID/5;
        printf("%d %d\n", b, a);
        a=func1(b+5.5);
        func2(12, 15.0);
        printf("%d %d\n", a, b);
        return 0;
      }
int func1(float x) {
        b=b*a;
        printf("%f\n", x);
        func2(5, 4.5);
        return b-1;
}
void func2(int x, float y){
        printf("%d   %f\n", x, y);
        return;
}
```

2. **3.5**

```
#include<stdio.h>
void change (int *x, int *y, int z) {
        *x=*x+10;
        *y=*y+3;
         z=z+5;
        return;
}
int main(){
        int a=LAST_THREE_DIGIT_OF_YOUR_STUDENT_ID%5;
        int b=LAST_THREE_DIGIT_OF_YOUR_STUDENT_ID/5;
```

```
    int c= LAST_THREE_DIGIT_OF_YOUR_STUDENT_ID;
    printf("%d  %d %d\n", a, b, c);
    change(&a, &b, c);
    printf("%d   %d %d\n", a, b, c);
    return 0;
}
```

3. **3.5**

```
#include<stdio.h>
int main(){
    FILE *fp1;
    int i, sum;
    int num[5]={0};
    num[3]= LAST_THREE_DIGIT_OF_YOUR_STUDENT_ID%10;
    num[0]= LAST_THREE_DIGIT_OF_YOUR_STUDENT_ID%100;
    num[4]= LAST_THREE_DIGIT_OF_YOUR_STUDENT_ID%1000;
    num[1]=num[0]+num[3];
    num[2]=num[1]+num[4];
    fp1= fopen("D:\\students\\dest.txt", "w");
    sum=0;
    for(i=4; i>=0; i--){
        if(A[i]%2==0){
            sum=sum+num[i];
            fprintf(fp1, "%d\n", num[i]);
        }
    }
    fprintf(fp1, "%d", sum);
    fclose(fp1);
    return 0;
}
```

Section-B

4. Write a program using a user defined function to perform the following operations **4.5**
   - i) main() will pass LAST_THREE_DIGIT_OF_YOUR_STUDENT_ID to the user defined function**, int digitMult(int id)** as parameter.
   - ii) main() calls **int digitMult(int id)** to find the product of all the digits of the id and returns the product to the main().
   - iii) main() prints the return value from **int digitMult(int id)** on monitor.

5. Write a program having the structure **record(name, id, phone, birthdate)** to perform the following operations. **6.5**
   - a) Assign the structure variable **myself** by your own name, id, phone and birthdate.
   - b) Find your birth year from the birthdate using **myself**
   - c) Display your information using **myself** on the monitor like the following way

     My name is: Shakib Al Hasan
     My student id: 011202018
     My phone: 01673476412
     My Birthdate: 20-05-2003
     My Birthyear: 2003

6. Write a program to concatenate your own nickname and id by a gap, and to show the resultant string on the monitor. For example, name= "Roni" and id= "011202018". After concatenation, result=" Roni 011202018" and output will be "Roni 011202018" on monitor **3.5**