Department of Computer Science & Engineering
East West University
Mid-I: CSE 105
Time: 80 Mins

Answer all the following questions:

1. Anne, Olivia and Jenita are daughters of Mr.Jack, Mr.Brown and Mr.Ran. Four of these people are playing badminton doubles. Mr.Ran's daughter and Mr.Jack are partners. Anne's father and Mr.Brown's daughter are also partners. There are not any father-daughter combinations. Who is Anne's father? 2

2. There are some Syntax Errors, Run-time Errors and Logic Error in the following C code. Find out as much as you can, such that it works correctly. 3

```
#include <studio.h>
 int mian(){
   itn x = 1; total = 0, y;
   while (x=10) {
     y = x*x;
     printf( "%d\n", y );
     if(y>100)
       total += y;
     ++x;
          }
           printf("Total is %d\n", total);
  return 0;
}
```

3. Find the outputs of all the following C codes: 3

(i)
```
main(){
    int i=5,j=10;
    i=i&=j&&10;
    printf("%d %d",i,j);
    }
```

(ii)
```
main(){
    int not;
    not=!2;
    printf("%d",not);
    }
```

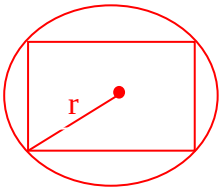
(iii)
```
main(){
    int i=4,j=7;
    j = j || i++ && printf("YOU CAN");
    printf("%d %d", i, j);
}
```

4. Write a program that inputs three different integers from the keyboard, then prints the sum, the average, the product, the smallest and the largest of these numbers. **Use only the single-selection form of the if statement.** The screen dialogue should appear as follows: 4

```
Input three different integers: 13 27 14
Sum is 54
Average is 18
Product is 4914
Smallest is 13
Largest is 27
```

5. The explosive growth of Internet communications and data storage on Internet-connected computers has greatly increased privacy concerns. The field of cryptography is concerned with coding data to make it difficult and hopefully—with the most advanced schemes—impossible for unauthorized users to read. Now, a company that wants to send data over the Internet has asked you to write a program that will encrypt it so that it may be transmitted more securely. All the data is transmitted as four-digit integers. Your Code should read a four-digit integer entered by the user and encrypt it as follows: Replace each digit with the result of adding 7 to the digit and getting the remainder after dividing the new value by 10. Then swap the first digit with the third, and swap the second digit with the fourth. Then print the encrypted integer. Write another C Code that inputs an encrypted four-digit integer and decrypts it (by reversing the encryption scheme) to form the original number. 8

6. Write a C programme to compute the area of a circle, where the radius is the input from your keyboard. If the area of the circle is less than 100 square units then your programme should print "The Circle Is Too Small To Hold A Quadrate", otherwise it should print "Your Circle Is Big Enough To Hold A Quadrate & The Area of the Quadrate is ***X***". Here ***X*** is the actual area of the Quadrate. 5



Sample input	**Sample Output**
Please Enter The Radius : 5.5	The Circle Is Too Small To Hold A Quadrate
Please Enter The Radius : 6.75	Your Circle Is Big Enough To Hold A Quadrate & The Area of The Quadrate is 91.125000