

University of Information Technology & Sciences (UITs)

Faculty of Science and Engineering

Department of CSE

Program: B.Sc. in CSE

Mid Term Examination, Autumn 2023

Course Title: Structured Programming Language

Course Code: CSE 111

Marks: 20

Time: 1(One) Hour

(Answer all questions)

1. a) Find the output of the following program and Explain the unary operators. [04]

```
{
int x, a;    //Here a =the last digit of your ID.
x= a-- + a++ + --a;
printf("%d",a);
printf("%d",x);
}
```

Handwritten calculations for question 1a: $3+2+2=7$ and $0-1-1=-2$. The final output is 7 and -2.

- b) Is there any difference between the following two statements? If any, explain. [02]

Statement 1: $a = a + b$

Statement 2: $a += b$

Handwritten: $-1 \ 0$

Handwritten: $-1+ -1$

Handwritten: $= -2$

- c) Develop a C program that takes two inputs (x and n) from the user, calculates x^n and stores the result in variable P. [04]

2. a) Suppose $X=4$ and $Y=7$, describe the working procedures of the operators '&&' and '&' used in the following statements and find the result of the operations. [04]

$A = X \&\& Y$

$B = X \& Y$

Handwritten: 0100

- b) Analyze the following program and find the errors with correction. [04]

```
#include <stdio.h>
```

```
int main
```

```
{
```

```
Int num;
```

```
printf("Enter a number: ")
```

```
scanf("%d",num);
```

```
if (num%2 = 0)
```

```
{
```

```
printf("%d is even number.\n",number);
```

```
}
```

```
else {
```

```
printf(odd number);
```

```
return 0;
```

```
}
```

- c) With an example briefly describe the ternary operator. [02]

Handwritten: $exp?exp:exp;$

Handwritten: 4

Operand