

University School of Automation and Robotics

Max Marks: 30

Subject: Programming for Problem Solving

Time: 90 Minutes

Paper Code: ICT101

Question number 1 is compulsory. Attempt any 4 questions from Q2 - Q6.

Q1. Attempt any five from the following:

2*5 = 10 Marks

- List and describe the components of a computer system.
- What are tokens in C? List any 4 tokens.
- What are operator Precedence and Associativity?
- What are loop control statements in C?
- Explain the difference between Break and Continue statements.
- What are storage classes in C?

Q2.

- Draw a flowchart/write pseudocode to check whether a number is even or odd. 3 Marks
- Explain increment and decrement operators in C with examples. 2 Marks

Q3.

- What is implicit and explicit type conversion? Give an example of each. 3 Marks
- Evaluate the expression: $2 * 3 \% 5 - 12 \ || \ 10 + 5$ 2 Marks

Q4.

- Write a code snippet to print a 2D array. 3 Marks
- Explain recursion with the help of an example. 2 Marks

Q5.

- Write a function that swaps 2 numbers. 3 Marks
- Explain the memory size and length of the string: "GGSIPU". 2 Marks

Q6.

- Write a program that prints the greatest of three numbers. 3 Marks
- Predict the output of the following code snippet: 2 Marks

```
void fun ()
{
    for (int i = 5 ; i > 0 ; i--) {
        if ( i == 3)
        {
            goto ABC;
        }
        printf (" %d " , i );
    }
    ABC : printf ( " Somehow, loop has terminated " );
}
```