Question Bank-Principles of Programming using C

Module 1

1. **Give the structure of C program. With the help of suitable example program, illustrate each.**
2. **Define variable. List the rules to be followed to name the identifier/variable. List out valid and invalid identifiers for each rule.**
3. **Define datatype. List and explain the datatypes available in C language.**
4. **What is constant? Demonstrate the different methods of defining constants in C with syntax and example.**
5. **List and explain different types of constants in C.**
6. **Define operator. List and explain different types of operators in C.**
7. **Define operator precedence and associativity. Why it is important? Justify answer with suitable example.**
8. **Illustrate the uses of following operators:**
   i. ++ and -- ii. logical operators iii. bitwise operators
9. **Define type conversion/type casting. Give the output of following code snippets and justify the output.**

   a.
   ```
   int a=5,b=3;
   float c;
   c=a/b;
   printf("%f",c);
   ```

   b.
   ```
   int a=5,b=3;
   float c;
   c=(float)a/b;
   printf("%f",c);
   ```

10. **Example programs discussed in class.**

Module 2

1. **Differentiate linear and nonlinear execution of programs in C. Brief about statements supporting nonlinear execution of programs.**
2. **List and explain different decision making statements available in C with syntax and example programs.**
3. **Compare and contrast while and do-while.**
4. **List and explain looping control statements in C with syntax and example program to compute factorial of number.**
5. **Differentiate between break and continue. Write a program to check whether given number is prime or not.**
6. **With syntax, illustrate working of nested loops. Write program to print the following output by applying the nested loops.**

   1

   1 2

   1 2 3

   1 2 3 4

7. **Other example program discussed in Class.**