Seat No: _____ **Enrollment No: _____**

PARUL UNIVERSITY

FACULTY OF ENGINEERING & TECHNOLOGY

B.Tech., Winter2017 – 18 Examination

Semester: 1/2 **Date: 09/01/2018**
Subject Code: 03108101 **Time: 2:00 PM to 4:30 PM**
Subject Name: Fundamentals of Programming **Total Marks: 60**

Instructions:
1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1 Do as directed: **(15)**

1. The use of break and continue statements in any of the loops is considered unstructured programming. [TRUE/FALSE]

2. A variables name can start with a digit. [TRUE/FALSE]

3. What is the output of the following code:

```
void main ()
  {
     int x=58, y=60, z=60;
     x=y==z;
    printf("%d",x);
   }
```

4. An array can be initialized either at compile time or at _____

5. Which function reallocates memory?
(a) malloc (b) calloc (c) realloc (d) None of these

6. Which of the following operator is used to select a member of a structure variable?
(a) Colon (b) Comma (c) Semicolon (d) Dot

7. What is the output of the following code:

```
 void main ()
{
   int a=30;
   if(a=10)
     printf("TRUE");
  else
     printf("FALSE");
}
```

8. Which special symbols are allowed in a variable name?
(a) ! (b) _(underscore) (c) | (d) *

9. The use of the break statement in a switch statement is compulsory. [TRUE/ FALSE]

10. The keyword used to define a structure is _____.

11. The modulus operator % can be used only with integers. [TRUE/FALSE]

12. What is the output of the following code:

```
 void main ()
 {
    int x=200;
   printf("%d\n",10+x++);
   printf("%d\n",10+ ++x);
  }
```

13. A declaration float a,b; occupies _____of Memory?
(a) 1 bytes (b) 4 bytes (c) 8 bytes (d) 16 bytes.

14. Convert decimal to octal. (153) → ?

15. What is the output of the following code:

```
void main ()
 {
    int a=500, b=600;
    printf("%d",(a>b)? a:b);
 }
```

Q.2 Answer the following questions. (Attempt any three)

A) What is type conversion? Explain types of type conversion with example. **(05)**

B) What do you understand by recursive function? Write a program to find factorial of a number using recursion. **(05)**

C) List out all the operators used in c language and explain any four with example. **(05)**

D) What is pointer? Write a program to do swapping of two elements using function with two pointers as arguments. **(05)**

Q.3 A) List out categories of function and explain with suitable example. **(07)**

B) What is an Array? Explain one-dimension and two-dimension array? Write a program to add two 5x5 matrices. **(08)**

OR

B) Explain different data type used in c language. Write a Program to generate Fibonacci series of numbers. i.e. 1,1,2,3,5,8……etc. **(08)**

Q.4 A) What do you understand by looping? Explain different types of loops in C with example and compare them. **(07)**

OR

A) What is string? How string is stored in C? Explain any four built-in function with their use for storing processing. **(07)**

B) (i) (a) Give a difference between structure and union. **(04)**
(b) Compare break and continue statement. **(04)**
(ii) Explain file management functions and various file mode.