Unit 3
Question Bank

2016-17

1. What are functions? What is the advantage of using multiple functions in a program?
2. Distinguish between int main() and void main()?
3. What is recursion? Write a program in C to generate Fibonnaci series.
4. Differentiate between:
    a. Actual and formal arguments
    b. Global and extern variables (Unit 2 and Unit 3 both)
5. Write a program to print all prime numbers between 1 to 300
6. What do you mean by parameter passing? Discuss various types of parameters passing mechanism in C with examples.
7. Write a program to print following pattern:
   A
   AB
   ABC
   ABCD
   ABCDE
8. Write a program to check whether a given number is Armstrong or not Like $153=1^3+5^3+3^3$
9. A five digit positive integer is entered through the keyboard. Write a C function to calculate sum of digits of a 5 digit number:
    a. Without using recursion
    b. Using recursion

2015-16

1. Write a program to check whether the given character is in uppercase, lower case or non-alphabetic character.
2. What are the disadvantages of if-else-if ladder?
3. What are the principles of recursion? Explain in detail.
4. Write a program in 'C' that will read a positive number from the keyboard and print it in reverse order.
   E.g., 24578 output: 87542
5. What do you mean by parameter passing mechanism?
6. Write a program in C to print following pattern:

```
A B C D E F G F E D C B A
A B C D E F   F E D C B A
A B C D E       E D C B A
A B C D           D C B A
A B C               C B A
A B                   A B
A                       A
```

7. What are different types of functions? Write a program in C to short list of names of students in an ascending order.

8. Write difference between call by value and call by reference with suitable example.

2014-15

1. Give the loop statement to print the following sequence of integer
   -6 -4 -2 0 2 4 6
2. What are the main principles of recursion
3. What is the role of SWITCH statement in C programming language? Explain with example.
4. Distinguish between actual and formal arguments.
5. Describe call by value and call by reference with example.
6. Write a program in C language to generate the Fibonacci series.
7. Describe about the types of looping statements in 'C' with necessary syntax.
8. Write a C program to find the multiplication of two matrices.
9. What are the types of function? Write a C program to find the factorial of a given number using recursion.
10. What is the difference between break and continue? Describe the structure of switch-case with neat example.

2013-14

1. What are the different types of functions? Write a program in C to short list of names of students in an ascending order.
2. Write a program to print following pattern
   1
   2 3
   4 5 6
   7 8 9 10
3. Define recursive function. Write a program in C to generate Fibnocii series (0 1 1 2 3 5 8 13…) using recursive function.
4. Write a C program to find the sum of individual digits in a five digit number.
5. Write the difference between call by value and call by reference with suitable example.
6. Write a program to find greatest among three numbers using conditional operator.
7. Differentiate between nested-if and switch statements in 'C' with example.
8. Write a program in 'C' to sort list of 10 integers in an ascending order.
9. Write a program to multiply the two matrices of MxN.

2012-13

1. Write the purpose and syntax of at least two iterative statements in C.
2. WAP to generate fabonacci series up to the last term less than 100. Also calculate sum and total count of the fabonacci numbers.
3. What is sorting? Give flowchart and algorithm to sort the integer numbers.
4. Given two matrices of 4x4. Write the functions sum_matrix() and multiply_matix() to add and multiply two matices.
5. Differentiate between call by value and call by reference.
6. Write a program to calculate GCD.
7. WAP to calculate the multiplication of all the digits of a 5 digit number.
8. Write a program which stores the marks of N students in integer array. Calculate average marks obtained and deviation from the average.
9. Explain ternary operator.

10. Define user defined and library functions.
11. What are iterative control statements? Differentiate between while loop and do-while loop.
12. Define recursion. Give its advantage. Which data structure is used to implement recursion? Write a program to calculate factorial of a number using recursion.
13. Write a program to check whether a number is perfect number or not. If the sum of factor is equal to number itself then it is a perfect number. E.g Factor of 6 are 1, 2, 3 whose sum 1+2+3=6.
14. Write a program to find the prime numbers between the given range.

2011-12

1. Write a program to generate following pattern.
   A
   B A
   A B A
   B A B A
   A B A B A
2. Write a program o read five digit number if it is even then add the digits otherwise multiply them.
3. Write a program to generate the given series upto less than 200.
   1 – 4 + 9 – 16 + 25 …….
4. Write a program to read age of 100 persons and count the number of persons in the age group 50 to 60. Use for and continue statements.
5. Write a program to check whether a number is even or odd without else option.