2012
Bachelor of Computer Application
First Semester
BCA-16-104: Problem Solving Through C

Time allowed: 3 Hours

Max. Marks: 65

NOTE: Attempt five questions in all, including Question No. 9 (Unit-5) which is compulsory and selecting one question each from Unit 1 -4.

x-x-x

UNIT 1

1. a. What is the significance of testing and debugging in programming? **(6 marks)**
   b. Discuss in detail different data types of C language. Also discuss the significance of data type in a programming language. **(7 marks)**

2. a. Elaborate the structure of a C program with substantial example. **(6 marks)**
   b. What do you understand by type conversion? How is it useful in C program? **(7 marks)**

UNIT 2

3. Using switch statement write a menu driven C program to
   a. Find factorial of a number **(6 marks)**
   b. Display table of a number **(7 marks)**

4. Is recursion? Clearly list the conditions required for a function to be recursive. Also, write a function to display the Fibonacci series using recursion. **(13 marks)**

UNIT 3

5. Elaborate the memory map of a 2D array (with example) **(13 marks)**

6. What do you understand by dynamic memory allocation? Discuss with example dynamic memory allocation functions in C. **(13 marks)**

UNIT 4

7. a. What is a string? How are strings declared and initialized in C language. **(6 marks)**
   b. What are nested structures? Discuss in detail. **(7 marks)**

8. Discuss with example how files are handled in C language. Write a C program to write some content in the file. **(13 marks)**

UNIT 5

9. Write a short note on:
   a. Structure with pointers (3 marks)
   b. Pointer to an array (3 marks)
   c. Global and local variable (3 marks)
   d. Storage classes in C (2 marks)
   e. **Decision table** (2 marks)

x-x-x