B. Tech

BCSE 3101(Old)

Special Examination – 2012

PROGRAMMING IN C

Full Marks – 70

Time : 3 Hours

*Answer Question No. **1** which is compulsory and any **five** from the rest.*
The figures in the right-hand margin indicate marks.

1. Answer the following questions :   2×10

    (a) Does it possible write into read only memory ? Answer with proper justification.

    (b) Write how 109.328 is represented in computers.

    (c) Differentiate between linker and loader.

    (d) Write the syntax and use of a ternary operator.

    (e) Mention the different ways to declare a constant.

    (f) What is the difference between a character array and a string ? Does it possible to use a character array as a string ?

    (g) Define recursion with a suitable example.

    (h) Mention the different situations when it is required for passing parameters as reference.

    (i) Express a two dimensional array as pointers.

    (j) Explain the following function declaration :

    int (*f)(char *s[]);

2. (a) Explain basic concepts of computer organizations with a neat sketch. 5

   (b) Answer the followings :

       (i) Multiply 110101 and 1001 2

       (ii) Divide 1001101 by 1101 2

       (iii) Mention the conditions for underflow 1

3. (a) Draw a flow chart to check whether a number is a palindrome or not. 5

   (b) Outline the important characteristics a structured program. 5

4. (a) Write a program in C o generate first 100 prime numbers. 5

   (b) Suppose an array contains n real numbers, where n is an input variable. Write a program to sort this array in descending order. 5

5. (a) Write a program to multiply two input matrices. 5

   (b) Write a program that inputs a multiword string and displays the number of words in it without using any library functions. 5

6. (a) Write a function that inputs an array and find the greatest element stored in it. 5

   (b) Mention the important storage classes in C. Give a suitable example for each. 5

7. (a) Write a program using structure that will read and display the following details of ten books Book Name, Author, Cost 5

   (b) Write a program to reverse a string using pointers. 5

8. Write short notes on any **two** from the following : 5×2

   (a) Dynamic memory allocation

   (b) File management

   (c) Negative number representation