Printed Pages: 02   **Sub Code: NCS101**

Paper Id: | 110104 | Roll No. | | | | | | | | | | |

B.TECH.
(SEM I) THEORY EXAMINATION 2018-19
COMPUTER SYSTEM & PROGRAMMING IN C

Time: 3 Hours   *Total Marks: 100*

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1.   **Attempt** *all* **questions in brief.**   2 x10 = 20

    a. Write differences between Compiler and Interpreter.

    b. Explain the basic structure of a C program.

    c. Differentiate between ROM and RAM.

    d. Distinguish between actual arguments and formal arguments with the help
        of example.

    e. Draw a flow chart to find the greatest number among three numbers

    f. Draw the memory hierarchical structure of a computer system

    g. What do you mean by recursion?

    h. What is string in C programming language?

    i. Explain any five string manipulation functions.

    j. Differentiate between syntax error and logical error.

SECTION B

2.   **Attempt any** *three* **of the following:**   10 x 3 = 30

    a. What are Application software? What are the differences between Application and
        System Software? Justify your answer with suitable example.

    b. What is meant by storage classes of a variable? Define all types of storage classes
        with example.

    c. Differentiate call by value and call by reference with suitable example.

    d. Explain the difference between Structure and Union. Create a structure to specify data
        of customers in a bank. The data to be stored is: Account no. , Name, Balance in
        account. Assuming maximum of 200 customers in the bank. Write a program to print
        the Account number & Name of the customers with balance below Rs. 100.

    e. What are Macros? How is it substituted? Also explain macro act as a variable and
        macro act as a function with the help of example.

SECTION C

3. **Attempt any** *one* **part of the following:**   10 x 1 = 10

  (a)   What is digital computer? Draw block diagram of digital computer and explain each component of it.

  (b)   Define operating system. What are the various functions performed by an operating system?

4. **Attempt any** *one* **part of the following:**   10 x 1 = 10

  (a)   What is the role of SWITCH statement in c programming language? Explain with example.

  (b)   What are the different types of operators in c language and also write down the difference between the associativity and precedence of operators?

5. **Attempt any** *one* **part of the following:**   10 x 1 = 10

  (a)   Describe about the types of looping statements in C with necessary syntax.

  (b)   What are the type of functions? Write a C program to find a factorial of a given number using recursion.

6. **Attempt any** *one* **part of the following:**   10 x 1 = 10

  (a)   What is an array? Give the classification of arrays with suitable example. Also write a program to find the largest element in an array of size 10.

  (b)   Write a program to multiply two matrices (read size and number of element of matrices from the keyboard).

7. **Attempt any** *one* **part of the following:**   10 x 1 = 10

  (a)   What do you mean by pointers? How pointer variables are initialized? Write a program to sort given numbers using pointers.

  (b)   What do you mean by File Handling? What are the different file opening modes in C. Write a program to copy the contents of one file into another file?