Printed Pages:3 | 1029 | CS101

| (Following Paper ID and Roll No. to be filled in your Answer Book) |
| Paper ID : 110101   Roll No. [ ][ ][ ][ ][ ][ ][ ][ ][ ] |

B.TECH.

(SEM. I) THEORY EXAMINATION, 2015-16

COMPUTER PROGRAMMING

[Time:3 hours]   [Total Marks:100]

SECTION-A

1. Attempt **all** parts . All parts carry **equal** marks. Write answer of each part in short .   (2×10=20)

    (a)   What do you mean by recursion?

    (b)   List various functions of an operating system.

    (c)   Differentiate between compiler and linker.

    (d)   Why 'C' programming is called structured programming?

    (e)   Explain struct with suitable example.

    (f)   Write a function in C to exchange the content of two integer variables without using a third variable.

    (g)   What is an algorithm? Discuss basic characteristics of an algorithm.

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(h) Differentiate between machine language & high level language.

(i) What do you understand by mixed operands? Explain.

(j) What is the meaning of the prototype of a function?

SECTION-B

Attempt any **five** questions from this section.

(10x5=50)

2. Simulate calculator using switch statement.

3. Write a program in C to print the following

```
A
BA
ABA
BABA
ABABA
```

4. Explain the following with example:

(i) Relational operators.

(ii) Top-down program development

5. Differentiate between while and do-while loop. Write a program in 'C' and draw flow chart to find dwhether a given number is prime or not.

6. How macros are defined & called inc? Explain.

7. What do you mean by sorting? Write a programm to sort the given n positive integers.

8. Wrticf short notes on

(i) Linux and windows

(ii) Pointer arithmetic

9. Explain with example, the syntax and usage of the following in C program.

(i) Operator precedence

(ii) Array of structures

SECTION-C

Attempt **any two** questions from this section. **(15x2=30)**

10. (a) Explain logical and bitwise operators with the help of suitable example.

(b) Write a C program to multiply two matrices. Take the size and elements of matrices from the keyboard.

(c) What are the types of function? Write a C program to find the factorial of a given number using recursion.

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11. (a) Define data types in C. Discuss primitive data types in terms of memory size, format specifier and range.

    (b) Discuss the major components of a digital computer with suitable block diagram. Also discuss the functions of these components.

12. (a) Differentiate call by value and call by reference with suitable example.

    (b) Write a program in C to copy the text of one file to another.

    (c) Writed a programd in C for printing Fibonacci series upto a term given by user using recursion.

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