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Printed Pages: 3

**NCS201** 

PAPER ID : 199225

Roll No.

B. Tech.

(Following Paper ID and Roll No. to be filled in your Answer Book)

(SEM. II) THEORY EXAMINATION, 2014-15 COMPUTER SYSTEM & PROGRAMMING IN C

Time: 3 Hours [Total Marks: 100

Note: Attempt all questions as per instructions.

- Note: Attempt any FOUR parts. Each part carries equal marks. (5×4=20)
  - (a) Draw the memory hierarchical structure of a computer system. Explain each memory unit in brief.
  - (b) What is an operating system? Describe the functionalities of operating system.
  - (c) Describe Compiler, interpreter, assembler? Write the names of compiler that are used in c programming.
  - (d) What do you mean by Algorithm? Explain the properties of algorithm.
  - (e) Differentiate high level and machine level language.
  - (f) What is pseudo code? Difference between flow chart and algorithm with example.

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Note: Attempt any TWO parts. Each part carries equal marks.

3 Write the difference between Type Conversion and Type Casting. What are the escape sequences characters? and character data type? Justify your answer haracter? data type

Convert following number into:

 $(11010.0110)_2$ (110101011.0110110)2

 $\equiv$ 

(AB4F.C1)<sub>16</sub>  $(54)_{6}$  $(2B6D)_{16}$ 

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**B** Note: Attempt any TWO parts. Each part carries equal marks.  $(10 \times 2 = 20)$ 

Give the loop statement to print the following sequence of integer.

-6-4-20246;

What are the main principles of recursion?

If int a=2, b=3, x=0; Find the value of x=(++a, b+=a)

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**a** What are the different types of Operator in C language associatively and precedence of operators and also write down the difference between the  $(10 \times 2 = 20)$ 

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Ξ What is the role of SWITCH statement in C programming Language? Explain with example.

 $\Xi$ Distinguish between `actual & formal arguments' and 'global and extern variables'

Describe call by value and call by reference with example.

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Note: Attempt any TWO parts. Each part carries equal marks.

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 $(10 \times 2 = 20)$ 

Write a program in C language to generate the Fibonacci

What do you mean by dynamic memory allocation? Explain the following functions in detail:

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**a** 

free.

calloc

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Write a program to add two matrices of dimension 3 \* 3 and store the result in another matrix.

MANN FIRSTRANKO