

Printed Pages : 3



NCS201

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

PAPER ID : 199225

Roll No.

--	--	--	--	--	--	--	--	--	--

B. Tech.

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

Time : 3 Hours]

[Total Marks : 100

Note: Attempt all questions as per instructions.

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

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

(10×2=20)

- (a) What do you understand by ASCII value of a character? Can we use expressions including both integer data type and character data type? Justify your answer.
- (b) Write the difference between Type Conversion and Type Casting. What are the escape sequences characters?
- (c) Convert following number into:
- (i) $(11010.0110)_2 = (\dots)_{10}$
- (ii) $(110101011.0110110)_2 = (\dots)_8$
- (iii) $(2B6D)_{16} = (\dots)_2$
- (iv) $(AB4F.C1)_{16} = (\dots)_{10}$
- (v) $(54)_6 = (\dots)_4$

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

(10×2=20)

- (a) Give the loop statement to print the following sequence of integer.
-6 - 4 - 2 0 2 4 6;
- (b) What are the main principles of recursion?
- (c) If int a=2, b=3, x=0; Find the value of x= (++a, b+=a)

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

(10×2=20)

- (a) What are the different types of Operator in C language and also write down the difference between the associatively and precedence of operators.

- (b) (i) What is the role of SWITCH statement in C programming Language? Explain with example.
- (ii) Distinguish between 'actual & formal arguments' and 'global and extern variables'.
- (c) Describe call by value and call by reference with example.
5. Note: Attempt any TWO parts. Each part carries equal marks.
(10×2=20)
- (a) Write a program in C language to generate the Fibonacci series.
- (b) What do you mean by dynamic memory allocation? Explain the following functions in detail:
- (i) free.
- (ii) calloc
- (c) Write a program to add two matrices of dimension 3 * 3 and store the result in another matrix.
-