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Code No. : 31004 SM

**VASAVI COLLEGE OF ENGINEERING (Autonomous), HYDERABAD**  
**M.C.A. (CBCS) I-Semester Supplementary Examinations, July-2017**

**Problem Solving and Programming in C**

Time: 3 hours

Max. Marks: 70

*Note: Answer ALL questions in Part-A and any FIVE from Part-B*

**Part-A (10 × 2 = 20 Marks)**

1. Compare compiler with interpreter.
2. What are identifiers in C?
3. if (3+5)  
    printf("Hello \n");  
In above if statement, what are chances of printf to be executed?
4. What can be possible range for values of c in the following expression?  
c = (a<b)+(a==b)+(a>b)
5. Give a list of preprocessor commands.
6. If your array is not in sorted order, which search is preferable among linear search and binary search? Why?
7. How to pass command-line arguments in C?
8. Explain strcpy function.
9. Define Structure.
10. Write the syntax of fopen function.

**Part-B (5 × 10 = 50 Marks)**  
**(All bits carry equal marks)**

11. a) Write a flow chart to compute GCD of two numbers.  
    b) Explain about operator precedence in C.
12. a) Explain about break, continue and goto statements.  
    b) Write a C program to compute n! (Factorial of integer n) using while/do-while loop.
13. a) void printd( int n )  
    {  
    /\* n is assumed to be positive \*/  
    if(n/10)  
        printd(n/10);  
    putchar(n%10+'0');  
    }  
    If above function is called with a valid integer value, what is the expected output?  
    b) Rewrite the above function printd avoiding recursion.
14. a) Write the list of String manipulation functions.  
    b) Write a function to check, if given input string is palindrome without using library functions.

15. a) Assuming that student details include student id, name, date of birth and marks, write a program to collect details of n students using array of structures and sort them based on marks in decreasing order.

b) How to delete details of a student with given id from the array in above program.

16. a) What is the output of the following program?

```
#include<stdio.h>
main()
{
int a;
a=3+6*10%7;
printf("%d\n",a);
return 0;
}
```

b) Explain about Scope and Scope rules.

17. Answer any *two* of the following:

a) Write a program to compute Matrix Multiplication.

b) Explain about pointers to functions with example.

c) Write a program to open file 1 and file 2 in suitable modes such that contents of file 1 are copied into file 2 by erasing any existing data of file 2. If file 2 is not existing you have to create a file.

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