

Hall Ticket Number:

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

Code No.: 1115 OS

**VASAVI COLLEGE OF ENGINEERING (Autonomous), HYDERABAD**  
**B.E. I Year I-Semester (Old) Examinations, May/June-2016**

**Programming in C and Problem Solving**

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. Describe the major differences between time-sharing and client/server environment.
2. Draw a flowchart to swap two numbers.
3. Write a C program to read three numbers and find the largest of three numbers.
4. List out the advantages of designing structured programs.
5. Declare a two dimensional array of size 5X3 and initialize all locations with 1.
6. What is the output of the following code? Justify your answer.  

```
int main()
{
    int n=5;
    int res;
    res=fun(n);
    printf("%d", res);
}
int fun(int n)
{
    return fun(n-1);
}
```
7. What is the output of the following code?  

```
int main()
{
    int arr[10]= {10,15,20,25,30,35,40,45,50,55};
    int* ptr = &(arr[2]);
    printf("%d", ptr[2]);
}
```
8. Differentiate gets() and scanf() functions.
9. State the differences between structure and union.
10. What is the difference between opening a file in 'write' mode and opening file in 'append' mode?

**Part-B (Marks: 5x10=50)**

**(All bits carry equal marks)**

11. a) Draw the flowchart for finding the roots of a quadratic equation.  
b) How is type conversion performed in C? Illustrate with examples.

Contd ..2.

12. a) Write a C program to read the marks of students in a subject and print their corresponding grades using switch case statements. The marks should be entered by the user and -1 should be entered to stop reading marks. [Assume the maximum marks to be 100].  
b) Write a function to find if a number is prime or not. If the number is Prime the return value should be 1, otherwise 0.
13. a) Consider a list of integers and explain how to sort them using Selection Sort.  
b) Write a program to perform Multiplication of Matrices of given order.
14. a) Demonstrate how to pass an array to a function.  
b) Write a C program that uses a user defined function to find length of a given string.
15. a) Explain typedef and enum with examples.  
b) Write a C program for finding the number of words in the given text file. Assume that the words are separated by blanks or tabs.
16. a) What is a Storage Class? Explain various storage classes in C with examples.  
b) Write a C program to find factorial of a given number using recursion.
17. a) Discuss in detail about Memory Allocation Functions in C.  
b) Write a C program to store complex numbers using structures and add two complex numbers passing structures to function.

\*\*\*\*\*