SARDAR VALLABHBHAI NATIONAL INSTITUTE OF TECHNOLOGY

B.TECH I (Semester I)

End Semester Examination December-2010

Fundamentals of Computer and Programming

Marks: 50 **Duration:** 2 hrs.

Q.1 Answer the following questions: **(10)**

1. struct person
   {
   int a;
   char b;
   float c,d;
   }p1;
   sizeof(p1)
2. The operator cannot be used with real ~~operator.~~
3. The declaration int a[2] = {1,2,3,4} is true or false?
4. Physical components on which the data is stored permanently are called
5. What is scale factor?
6. What is enumeration?
7. analyses and executes each line of source code in succession, without looking at entire program.
8. Printers are also called Page Printers.
9. Touch screens are suitable for input of large amount of data. State true or false.
10. Memory is used to hold control code such as BIOS in pc.

Q2. Answer the following questions. (Any 5) **(10)**

1. Explain storage classes.
2. Explain symbolic constant with example.
3. Give the definition of linker, loader, assembler and compiler.
4. Difference between structure and union.
5. Explain functionality of Cache. Give categories.
6. Difference between impact and non impact printers.

Q3 Answer the following question in detail. (Any 4) **(10)**

1. Explain communication between various units of computer system.
2. Explain program development cycle.
3. Explain major categories of programming languages in brief.
4. Explain types of optical scanner.
5. Explain System Management program.

Q4. Do the following number conversion **(6)**

1. $(41.6875)_{10} = (?)_2$ **2.** $(27.35)_{16} = (?)_2$ **3.** $(632)_8 = (?)_{10}$

Q5. Write a C program for following **(8)**

1. Write a program to sort 4 strings of your choice. **Or**
   Write a program to print following pattern.

```
      *
    *   *
  *   *   *
    *   *
      *
```

2. Write a program Program using function to check whether the given number is Armstrong or not. E.g. 153 is an Armstrong number as $1^3+5^3+3^3 = 153$.

Q6. Write the output for the following: **(6)**

1
```
#include<stdio.h>
void main()
{
 char s[]="man";
 int i;
 for(i=0;s[i];i++)
printf("\n%c %c %c",s[i],*(s+i),*(i+s));
}
```

2
```
#include<stdio.h>
void main()
{
 int c[]={2,8,3,4,4,6,7,5};
  int j,*p=c,*q=c;
  for(j=0;j<5;j++)
    {
     printf("%d",*c);
     ++q;
    }
  for(j=0;j<5;j++)
   {
     printf("%d",*p);
     ++p;
   }
}
```

3
```
#include<stdio.h>
int mystry(int,int);
void main()
{
  int x=5,y=6;
printf("%d",mystry(x,y));
 }
int mystry(int a,int b)
 {
   if(b==1)
      return a;
   else
  return a+mystry(a,b-1);
}
```