Thapar Institute of Engineering & Technology, Patiala
Computer Science & Engineering Department
B.E. 1st Year, 1st Semester
End Semester Exam

Course Code: TA 103   Date: 05.12.2006 (09:00)
Course Name: Computer Programming   Time Allowed: 3 Hrs.
Instructor: AV, SGO, RK   Max. Marks: 36

Note: 1. **Attempt any six questions.** 2. **Attempt all sub parts of a question at one place.**
3. **Only First six questions will be evaluated.**
4. **Write your tutorial group number on top right of your answer sheets.**

Q1 : (a) What is difference between 'x' and "x"? Explain in detail.   2
(b) What is difference between user defined function and library functions? Explain with examples.   2
(c) Discuss in detail any two differences between text and binary files.   2

Q2: (a) Explain various types of loop control statements in C with proper examples.   3
(b) Explain the function of strcat(), strrev( ), strcmp() with examples?   3

Q3: (a) What are the function performed by the *fseek()* and *rewind()*? Explain with examples.   2
(b) How are structure elements accessed using pointers? Explain with example.   2
(c) What do you mean by nesting of structures? Discuss with example?   2

Q4:   What is the output of the following programs? Explain. (Ignore any syntax error).   1.5 x 4=6

```
main()
{
        int i, b[] = {1, 2, 3, 4, 5}, *p;
        p=b;
        ++*p;
        printf("%d",*p);
        p +=2;
        printf("%d",*p);
}
```

```
main()
{
        printf("%d",sum(5));
}
int sum(int n)
{
        if( n < 1) return n;
        else  return(n+ sum(n-1));
}
```

```
main()
{
        int i =0;
        for( i=0;i<20;i++)
        {
                switch(i)
                {
                case 0: i+=5;
                case 1: i+=2;
                case 5: i+=5;
                default i+=4;
                break;
                }
                printf("%d",i);
        }
}
```

```
int i=3, a=1, b=1;
void func()
{
        int a=0;
        static int b=0;
        a++; b++;
}
main()
{
        for( i=0;i<20;i++)
        {
                func( );
                a++; b++;
        }
        printf("a= %d , b=%d ",a,b);
}
```

Q5: What is the output of the following programs? Explain. (Ignore any syntax error). 1.5 x 4=6

```
main()
{
        int a=10;
        int sum(int , int , int );
        printf("%d",sum(a++,++a,++a));
}
int sum(int a, int b, int c)
{
        return (a+b+c);
}
```

```
main()
{
        int x[5] = { 0, 1, 2, 3, 4, 5};
        int *p;
        p=x+3;
        printf("%d \n", p-2);
}
```

```
main()
{
char    *s1 = "ABCDE"; char *s2 = "AB";
 while(*s1 = =*s2)
{
if (* s1 = ='\0' || *s2 = = '\0')
break;
s1++ ; s2++;
}
 if(*s2 = = '\0')
printf("0") ;
else printf("-1");
}
```

```
main()
{
        int x[] = {1,2,3};
        int *xpoint;
        unsigned m=0,n=3;
        xpoint =x;
        for (; m < n ; ++m)
printf("%d%d%d%d%d\n" , *x, *(x +m), * (x
+ m) +1,*xpoint, *(xpoint + m));
}
```

Q6: Given a text file containing some text. Write a program to read the text file in reverse, character by character and write it into another file. (for example if text in the file is *he is coming* then contents of another file should be: *gnimoc si eh)* 6

Q7: Write a general purpose function, using pointer, that receive a character string and a character as argument and deletes all occurrences of this character in this string. The function should return the corrected string with no spaces. (for example: if input string is "amit bansal" and input character be deleted is 'a'. then the output will be: mitbnsl) 6

Note: Group **A1-A5** can see their evaluated answer sheets on **09-12-2006** in **Room No.** B208.
Group **B1-B5** can see their evaluated answer sheets on **09-12-2006** in **Room No.** B209.
Group **C1-C5** can see their evaluated answer sheets on **09-12-2006** in **Room No.** CCCT Lab.
Time is **12 – 2 p.m.**