

## First Semester Examination – 2006 Programming in C

Full marks – 70

Time : - 3hours

Answer Question No. 1 which is compulsory and any five from the rest.  
The figures in the right-hand margin indicate marks.

1. Find the outputs/error if any (2 x 5)

(a) #include<stdio.h>  
void main()  
{  
    char \*p="hello !";  
    p="Hi hello";  
    \*p='G';  
    printf("%s",p);  
}

(b) #include<stdio.h>  
int a=10;  
void main()  
{  
    int a=20;  
    {  
        int a=30;  
        printf("%d %d", a, ::a);  
    }  
}

(c) #include<stdio.h>  
void main()  
{  
    int a=5, \*p=&a;  
    printf("%d",++(\*p));  
}

(d) #include<stdio.h>  
void main()  
{  
    int const \* p=5;  
    printf("%d",++(\*p));  
}

- (e) void main()  
 {  
     char s[]= "man";  
     int i;  
     for(i=0;s[i];i++)  
         printf("\n%c%c%c%c",s[i],\*(s+i),\*(i+s),i[s]);  
 }
- (f) 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;  
     }  
 }
- (g) void main()  
 {  
     int i=-1,j=-1,k=0,l=2,m;  
     m=i++&&j++&&k++||l++;  
     printf("%d%d%d%d%d",i,j,k,l,m);  
 }
- (h) void main()  
 {  
     int c= - - 2;  
     printf("c=%d",c);  
 }
- (i) #define int char  
 main()  
 {  
     int i=65;  
     printf("sizeof(i)=%d",sizeof(i));  
 }

- ```
(j) void main()
{
    int i=10;
    i=!i > 14
    printf("i=%d",i);
}
```
2. Write programs:
    - (a) To find  $X^n$  using a recursive function for given values of X and integer n. (5)
    - (b) To copy and reverse a given string explicitly. (5)
  3. Write programs : To round a floating point number to an indicated decimal place e.g. 17.457 will be rounded to 17.46 to two decimal places. (10)
  4. Write programs :
    - (a) To accept only N negative integers and arrange them in ascending order using bubble sort. (5)
    - (b) To search a given element in an array and display the number of occurrences, its positions in the array. (5)
  5. Write program : To remove the comment lines i.e. text with // and /\* ....\*/ from an input C program file. Use command line arguments. (10)
  6. Write program : To create data for 50 students (roll, name, mark1, mark2, mark3, termmark) and then find the total marks for each student and average mark of all students. (10)
  7. Write program : To input two compatible matrices and multiply them. Display the input matrices and the resultant matrix. Use functions for input, multiply and display. (10)
  8. Write programs :
    - (a) To find the longest word and its length in a given string. (5)
    - (b) To reverse a given string explicitly i.e. without using the library function. (5)

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