PAPER CODE - 5

(17) (i) Call by Values

```
void swap (int, int)
int main ()
{
   int i, j ;

   printf (" Enter two numbers : ");
   scanf (" %d %d ", &i, &j );

   printf (" \n Before Interchanging : i = %d  j = %d ",
                                          i, j);

   swap (i, j) ;

   printf (" \n After Interchanging : i = %d  j = %d ", i, j);

   return 0;
}

void swap (int a, int b)
{
   a = a + b ;
   b = a - b ;
   a = a - b ;
}
```

(ii) Call by Address

```
void swap (int*, int*)
int main ()
{
  int i, j;

  printf ("Enter 2 numbers : ");
  scanf ("%d %d", &i, &j);

  printf ("\n Before : i = %d, j = %d", i, j);

  swap (&i, &j);

  printf ("\n After : i = %d, j = %d", i, j);

  return 0;
}

void swap (int *a, int *b)
{
  *a = *a + *b;
  *b = *a - *b;
  *a = *a - *b;
}
```

(18)

```
double fact (double);

int main ()
{
   int n;

   printf ("Enter a number: ");
   scanf ("%d", &n);
   printf ("Factorial of %d = %lf", n, fact (n));
   return 0;
}

double fact (double n)
{
   if (n >= 1)
    {
      return n* fact (n-1);
    }
   else
    {
      return 1;
    }
}
```

(19)

```
struct data
{
    int dd;
    int mm;
    int yy;
}

int main ()
{
    int i;
    struct data *d;
    d = (struct data *) malloc (sizeof (struct data)*2);
    for (i=0; i<2; i++)
    {
      printf ("\n Entre Today's Date & Day : ");
      scanf ("%d %d %d", &(d+i)->dd, &(d+i)->mm,
                                    &(d+i)->yy);
    }
    for (i=0; i<2; i++)
    {
    printf ("\n Date - %d : %d - %d - %d ",
                        i+1, (d+i)->dd,
                        (d+i)->mm, (d+i)->yy);
    }
    return 0;
}
```

(20)

```
typedef struct
{
    int roll no;
    char name [20] ;
    float mark ;
} students;

int main ()
{
    students * s ;
    int choice, numbers;
    FILE * Fp
    int loop;

    printf ("\n How many records of student want
             to Add in file : ");
    scanf ("%d", &numbers);

    stu = (students*) malloc (students)* numbers);

    for (loop=0; loop < numbers ; loop ++)
    {
        printf ("\n Enter roll no : ");
        scanf ("%d", &(stu+loop) → roll no);
        printf ("\n Enter name : ");
        scanf ("%s", (stu+loop) → name);
        printf ("\n Enter ICP mark : ");
        scorf ("%f", &(stu+loop) → mark);
    }
```

```
fp = fopen ("students data.txt", "w");
fwrite (stu, sizeof(students), number, fp);
fclose (fp);

free (stu);

printf ("\n which Record you want to print : ");
scanf ("%d", &choice);

stu = (students*) malloc ( size of (students)* 1 );

fp = fopen ("students data.txt", "r");
fseek (fp, size of (students) * (choice -1), SEEK_SET);

fread (stu, size of (students), 1, fp);

printf ("\n %d %s %f ", stu → roll no,
        stu → name , stu → mark );
return 0;

}
```