[This question paper contains 4 printed pages.]

1884 *Your Roll No.* .....

B.Sc.(G)/I **E**

COMPUTER SCIENCE–Paper I

(Programming Fundamentals and Data Structures)

(Admissions of 1999 and onwards)

Time : 3 Hours *Maximum Marks : 38*

(Write your Roll No. on the top immediately on receipt of this question paper.)

All questions are compulsory.

Parts of a question must be answered together.

1. (a) What is a string constant? How do string constants differ from character constant? (2)

   (b) What is the output of the following statement:
   printf("%d", 8%2) (1)

   (c) find the error
   int a
   scanf("%d",a) (1)

   (d) What is a pointer? (1)

P.T.O.

(e) Differentiate between syntax, logical and run time error. (3)

2. Give outputs of:

(a)
```
main()
{ int a[ ] = {2,4,6,8,10};
 int i
 changes(a,5);
for(i=0; i<=4;i++)
printf("\n%d",a[i]);
}

change(int*b,int n)
{ int i;
  for(i=0;i<n; i++)
    *(b+i)=*(b+i) +5;
}
```
(3)

(b)
```
main()
{ char s[ ]=" COMPUTER"
  int i = 0
```

```
while (s[i] !=0)
{
Print "\n %c %c", s[i], *(s+i);
i++;
}
}
```
(3)

3. (a) Write a C program to print the following series

0 1 1 2 3 5 8 13 . . (3)

(b) Write a recursive C function to multiply two integers. (3)

4. (a) How a stack different from a queue. Give on application of each. (3)

(b) What is a Binary Tree? What is maximum number of nodes in a Binary tree of height h. (3)

5. (a) Explain break and continue statements with suitable example. (4)

(b) Evaluate the following expression:

AB–C/D* (2)

P.T.O.

6. (a) What is a linked list. What are the advantages of a linked list over array? (4)

(b) Give structure of a node in doubly linked list. (2)