



Name :

Roll No. :

Invigilator's Signature :

CS/BCA/SEM-1/BCA-103/2009-10

2009

INTRODUCTION TO PROGRAMMING

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for the following : $10 \times 1 = 10$
 - i) A filter point is a
 - a) stream pointer
 - b) buffer point
 - c) pointer to FILE data type
 - d) all of these.
 - ii) Which is not a storage class ?
 - a) auto
 - b) struct
 - c) typedef
 - d) static.
 - iii) The declaration of float * a[5]; is
 - a) a normal pointer
 - b) an ordinary array
 - c) an array of pointer
 - d) a pointer to an array.



- iv) How is a variable accessed from another file ?
- a) The global variable referenced via the global specifier
 - b) The global variable is referenced via the auto-specifier
 - c) The global variable is referenced via the extern specifier
 - d) The global variable is referenced via the pointer specifier.

- v)

```
main ( )
{
    int a = 3;
    printf("%d%d%d%d%d",a++, ++a, ++a, a++);
}
```
- a) 3566
 - b) 6653
 - c) 3565
 - d) 6666.

- vi)

```
main ( )
{
    printf("%d%d%d%d",sizeof(3.14f),sizeof(3.14),sizeof(314));
}
```
- a) 422
 - b) 421
 - c) 482
 - d) 442.

- vii) If the array begins at address 6548 ?
- ```
main ()
{
 int a [] = { 12, 14, 15, 23 };
 printf("%u%u",a,&a);
}
```
- a) 6548 6558
  - b) 6548 6548
  - c) 6548 6550
  - d) none of these.



- viii) How many times the message *Hello* will be printed in the following program ?

```
void main ()
{
 int x;
 for(x=-1; x<=10; x++)
 {
 if (x<5)
 continue;
 else
 break;
 printf("Hello");
 }
}
```

- a) 11 times                      b) 10 times  
c) once                              d) 0 times.
- ix) What would be the correct output of the following program ?

```
void main ()
{
 int k, num=30;
 k=(num>5? (num<=10?100:200) : 500);
 printf("%d%d",num,k);
}
```

- a) 200 30                      b) 30 100  
c) 30 200                      d) 30 500.



x) Choose the correct output :

```
void main ()
{
 char str[20]="Hello';
 char * const p=str;
 *p='M';
 printf("%s",str);
}
```

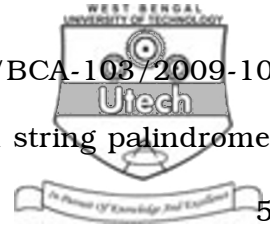
- a) Mello
- b) Hello
- c) HMello
- d) MHello.

**GROUP – B**

**( Short Answer Type Questions )**

Answer any *three* of the following.      3 × 5 = 15

- 2. a) What do you mean by Recursion ? Give example.      3
- b) What are strings ? Explain with example.      2
- 3. a) Explain the difference between structure & union with examples.      4
- b) What is Pointer ?      1
- 4. Using pointer write a program to find out length of the given string without using strlen ( ) function.      5



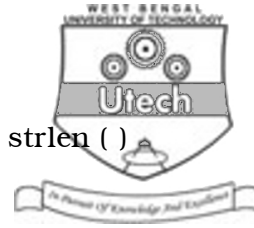
5. Write a program to check whether a given string palindrome or not. 5
6. What do you mean by scope of a variable ? Explain the storage classes available in C. 2 + 3

**GROUP – C**

**( Long Answer Type Questions )**

Answer any *three* of the following. 3 × 15 = 45

7. What is structure ? How does a structure differ from any array ? What do you mean by call by value and call by reference ? Write a C program, which accepts an integer numbers and prints the multiplication of the digits. 2 + 2 + 2 + 2 + 7
8. a) What do you mean by malloc ( ) and calloc ( ) ? Explain their difference. 5
- b) Using pointer write a function that will calculate maximum and minimum of a given set of numbers. 7
- c) Write a recursive function that will calculate HCF of two numbers. 3



9. a) Explain `strcat ( )`, `strcmp ( )`, `strrev ( )`, `strlen ( )`

b) Write C code to print

```
1
2 3
4 5 6
7 8 9 10
11 12 13 14 15
```

c) Write C code to print

```
A B C D E F E D C B A
A B C D E E D C B A
A B C C B A
A B B A
A A
```

2 + 6 + 7

10. a) What is a function ? 2

b) What do you mean by the following : 3

i) Function declaration

ii) Function calling

iii) Function definition.



- c) When is it necessary to declare prototype of a function ? 3
  
- d) Write a program to arrange a group of numbers into positive & negative numbers. 7

11. What is loop ? Discuss the different types of loops with syntax and appropriate examples. Write a program to print the summation of the following series :

$$1 + \frac{1}{2^2} + \frac{1}{3^2} + \frac{1}{4^2} + \dots + \frac{1}{N^2} \qquad 2 + 8 + 5$$

