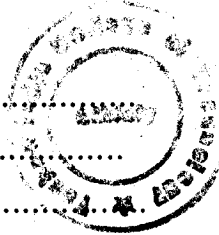


Name :
Roll No. :
Invigilator's Signature :



**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.

11405

[Turn over

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",a++, ++a, ++a, a++);  
}
```

- a) 3566
- b) 6653
- c) 3565
- d) 6666.

vi) main ()

```
{  
    printf("%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 :

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