

Name :

Roll No. :

Invigilator's Signature :

CS/BCA/SEM-1/BCA-103/2011-12

2011

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 any *ten* of the following :
 $10 \times 1 = 10$
- i) Which of the following operators accepts only integer operands ?
- | | |
|------|------|
| a) + | b) * |
| c) / | d) % |
- ii) Do-While loop is called in C language.
- | | |
|--------------------------|-------------------------|
| a) entry controlled loop | b) exit controlled loop |
| c) both (a) and (b) | d) none of these. |
- iii) C supports the statement to branch unconditionally from one point to another in the program.
- | | |
|-------------|------------|
| a) Continue | b) Break |
| c) Goto | d) Switch. |

- iv) An array of string ends with
 - a) NULL
 - b) last character of the string
 - c) 0
 - d) none of these.
- v) 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
- vi) When the pointer is incremented by one, it results the pointer to
 - a) point the next element
 - b) increment its data value by one
 - c) both (a) & (b)
 - d) none of these.
- vii) Call by reference is done with the of the variable.
 - a) contents
 - b) address
 - c) both (a) and (b)
 - d) none of these.
- viii) Static memory allocation means allocation during time.
 - a) compile
 - b) run
 - c) allocation
 - d) de-allocation.

ix) The mode used for creating a text file for read/write is

- (a) r+ (b) w+ (c) a+ (d) w

x) What should be the correct output of the following program ?

```
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.

xi) What is the value of y in the following code ?

```
 $x = 7; y = 0;$   
if (  $x = 6$  )  
     $y = 7;$   
else  
     $y = 1;$ 
```

- a) 7 b) 0
c) 1 d) 6.

xii) Determine the out put :

```
f()
{
static int i = 0;
i++;
if ( i < = 3 )
{
print f( "\n%d", i );
f ( );
}
else
exit ( 0 );
}
main ( ) { f ( ) ; }
```

- a) 1, 2 b) 2, 3
c) 1 2 3 d) None of these.

GROUP – B

(Short Answer Type Questions)

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

2. a) What do you mean by local variable and global variable ?
b) Discuss on various available storage classes in C. 2 + 3
3. What do you mean by recursion ? Write a recursive function called power () to calculate x rise to the power n . 2 + 3

4. Compare array and linked list.
5. a) Distinguish between structure and union.
b) Write down the following program in C :
Input an M -digit number. Print its digit one by one.
(least significant but first) 2 + 3
6. Write a program to print the sum of the following series of n terms :
 $S = 1 + (1 + 2) + (1 + 2 + 3) + \dots$

GROUP - C

(Long Answer Type Questions)

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

7. a) Do you have the facility of multiple way branching in C? If so, how? Explain your answer with an example. 5
b) Write down the differences between 'do-while' and 'while-do' statements in C. 5
c) What is a macro? Write down the advantages of macro over function. 5
8. a) Give example of each of the following :
i) Function returning a pointer to an array of float.
ii) Function returning a pointer to a function returning float.

- iii) Pointer to pointer to integer
- iv) Pointer to an array of integers.
- v) Pointer to an array of pointers to a function
returning character. 5 × 2
- b) Discuss on call by value and call by reference. 5
- 9. a) Explain with examples the meaning of explicit and
implicit type casting. 5
- b) Compare between static memory allocation and
dynamic memory allocation. 5
- c) Write down program in C that will accept a string from
the user and print the frequency of each characters of
the string entered. 5
- 10. a) What do you mean by integer division in C? 3
- b) Write a note on logical operators available in C. 5
- c) Write down a program that will find out the maximum
and the minimum of the given set of n numbers (you
can examine the set of numbers only once). 7

11. Differentiate between any *three* of the following : 3×5

- a) Declaring a variable
 - b) Break and exit
 - c) Union and structure
 - d) auto and extern.
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