

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 × 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.

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

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

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.