



Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/BCA/SEM-1/BCA-103/2012-13  
2012**

**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) C is a
  - a) middle level language
  - b) high-level language
  - c) low-level language
  - d) none of these.
  
- ii) A do-while loop is useful when we want that the statements within the loop must be executed
  - a) only once
  - b) at least once
  - c) more than once
  - d) none of these.



- iii) Every C function
  - a) by default return an integer value
  - b) by default return more than one integer value
  - c) by default return an floating costant
  - d) none of these.
  
- iv) An array is a collection of
  - a) different data types scattered through memory
  - b) the same data type scattered throughout the memory
  - c) the same data type placed next to each other in memory
  - d) different data types placed next to each other in memory.
  
- v) When you pass an array as an argument to a function, what actually gets passed
  - a) address of the array
  - b) value of the elements of the array
  - c) address of the first element of the array
  - d) number of elements of the array.



- vi) What is a preprocessor directive ?
- a) A message from compiler to the programmer
  - b) A message from compiler to the linker
  - c) A message from programmer to the preprocessor
  - d) A Message from programmer to the microprocessor.
- vii) A header file is
- a) a file that contains standard library functions
  - b) a file that contains definitions & macros
  - c) a file that contains user defined functions
  - d) a file that is present in current working directory.
- viii) The break statement is used to exit from
- a) an if statement
  - b) a for loop
  - c) a program
  - d) the main () function.



ix) Which function would you use if a single key is to be received through the keyboard ?

- a) scanf()
- b) gets()
- c) getcha()
- d) getchar().

x) If  $*p$  &  $*q$  are two pointer variables, then which of the following statements are true

- a)  $*p + *q$
- b)  $*p/*q$
- c)  $*p + 10$
- d) none of these.

xi) What is the output of the following programs ?

```
main()
{
    int i = 1
    printf("%d%d%", i, ++i, i++ );
}
```

- a) 1 3 3
- b) 3 2 2
- c) 3 1 1
- d) 3 3 1.



**GROUP - B**

**( Short Answer Type Questions )**

Answer any *three* of the following.  $3 \times 5 = 15$

2. Describe the different symbols used in a flowchart with a suitable example. What do you mean by debugging of a program ? 4 + 1

3. Briefly describe the different loop control structures in 'C' with syntax, example and explanation.

4. What are the advantages of using functions in 'C' programming ? What is the difference between users defined functions & library functions ? What is recursion in programming ? What advantage is there in its use ?

2 + 1 + 1 + 1

5. What is dynamic memory allocation ? Why a linked list is called a dynamic data structure ? What are the advantages of using linked lists over arrays ? 1 + 2 + 2

6. What is structure ? How is a structure member accessed ? What is an array of structures described with an example ?

1 + 1 + 3



**GROUP - C**  
**( Long Answer Type Questions )**

Answer any *three* of the following.  $3 \times 15 = 45$

7. Explain the difference between 'call by reference' and 'call by value'. What is the difference between global & local variable. Write a recursive function for GCD calculation.

5 + 3 + 7

8. What do you mean by storage classes in 'C' ? Name different storage classes and explain each with examples. Write a 'C' program that implements the matrix multiplication using 2-D array.

2 + 6 + 7

9. What is linked list ? What are the advantages of switch case ? Describe different types of data types. Write a 'C' program to calculate factorial of a number.

2 + 2 + 6 + 5

10. What is union ? How does a union differ from a structure ? How a union member accessed ? Write a 'C' program that implements a structure person that would contain person name, data\_of\_joining & salary.

2 + 3 + 2 + 8



11. Write short notes on any *three* of the following : 3 × 5

- a) Preprocessor directives
  - b) strcpy() and strcmp () function
  - c) Automatic and static variables
  - d) getch() and getchar() function
  - e) Actual & formal arguments.
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