MCA–03/PGDCA–03/M.Sc.IT–03

Computer Programming Using C

Master of Computer Applications/P. G. Diploma in Computer Applications/Master of Science in Information Technology
(MCA/PGDCA/MSc.IT–11/12/16/17)

First Semester, Examination, 2017

Time : 3 Hours **Max. Marks : 80**

Note : This paper is of **eighty (80)** marks containing **three (03)** Sections A, B and C. Learners are required to attempt the questions contained in these Sections according to the detailed instructions given therein.

Section–A

(Long Answer Type Questions)

Note : Section 'A' contains four (04) long answer type questions of nineteen (19) marks each. Learners are required to answer *two* (02) questions only.

1. Answer the following :
   (a) What are the different operators used in 'C' ? Also explain operator precedence and associativity.
   (b) What is the difference between call by value and call by reference ? Explain each with a suitable example.

2. Answer the following :

   (a) What is function in C ? Write a function to find out the aggregate marks and percentage marks obtained by the student, if the marks obtained by a student in five different subjects are input through the keyboard. Assume that the maximum mark that can be obtained by a student in each subject is 100.

   (b) Write a program in 'C' to check whether the given number is prime or not.

3. Answer the following :

   (a) What is recursion ? Write a program for generating the Fibonacci series using recursion.

   (b) What do you mean by the different function prototype ? Write a user defined function to find out the greatest of three numbers.

4. Answer the following :

   (a) Write a C program to compute the sum of first n terms (where n > = 1) of the following series using for loop and while loop.

   $$1 - 3 + 5 - 7 + 9 \ldots\ldots\ldots\ldots$$

   (b) Compare the following pair of statement with respect to their syntax and function :

      (i) break and continue

      (ii) goto and break

Section–B

(Short Answer Type Questions)

Note : Section 'B' contains eight (08) short answer type questions of eight (08) marks each. Learners are required to answer *four* (04) questions only.

1. What do you mean by the elementary data types in C language ? Write some elementary data types in C with their size.
2. What is the difference between logical and relational operator ? Give an example.
3. What is the difference between algorithm and flowchart ?
4. What is the difference between "switch" and "if else" statement ? Give an example.
5. What are unary operators ? How many operands are associated with a unary operator ?
6. What is an array of characters in C ? Explain with the help of a program.
7. What is the difference between pre increment operator and post increment operator (++A and A++) ?
8. How will you perform reading and writing of files ?

Section–C

(Objective Type Questions)

Note : Section 'C' contains ten (10) objective type questions of one (01) mark each. All the questions of this Section are compulsory.

1. Which of the following is not a valid variable name declaration ?
   (a) int_A3;
   (b) int a_3;
   (c) int $3_a;
   (d) int_3a

2. A type cast is used to :
   (a) Define a new data type
   (b) Force a value to be converted into a particular variable type
   (c) Rename an old type
   (d) None of these

3. The expression, int = 30 * l0 + 27; evaluated as :
   (a) 327
   (b) – 327
   (c) 810
   (d) 0

4. If i = 6 and j = ++i, then the value of j and i will be :
   (a) i = 6 and j = 6
   (b) i = 7 and j = 6
   (c) i = 6 and j = 7
   (d) i = 7 and j = 7

5. What will be the value of count after the following program is executed :

```
main( )
{in count = 1, digit = 0;
while(digit<=9){
printf("%d\n", ++count); ++digit;}
}
```

   (a) 10
   (b) 9
   (c) 12
   (d) 11

6. 'C' programming language is a/an :
   (a) Procedure Oriented Programming
   (b) Object Oriented Programming
   (c) Internet Oriented Programming
   (d) None of the above
7. Which of the following function is used to start a C program ?
   (a) sub()
   (b) Procedure()
   (c) main()
   (d) Header()
8. && || ! are :
   (a) Logical operator
   (b) Relational operator
   (c) Arithmetic operator
   (d) Bitwise operator
9. Arrays are used to store the element of :
   (a) The same type
   (b) Multiple types
   (c) Different types
   (d) None of these
10. Structures are used to store the element of :
   (a) Multiple types
   (b) The same type
   (c) Different type
   (d) None of these