



I Semester M.C.A. Examination, January 2016  
(CBCS)  
COMPUTER SCIENCE  
MCA 101T : Problem Solving Techniques Using C

Time : 3 Hours

Max. Marks : 70

*Instruction : Answer any five questions from Section – A and any four from Section – B.*

SECTION – A

Answer any five questions. Each question carries six marks : (5×6=30)

1. Write a flowchart for finding biggest among N-numbers.
2. Write an explanatory note on fundamental data types in C.
3. Write the output of the following :

```
main ()
{
int x = 5, m, k = 1, n;
float y = 2.5;
m = x * 1000 + y * 10;
k = m / 1000 + x;
n = (x == y) ? k : m;
printf ("%d \n %d \n %d", m, k, n);
}
```
4. Write program to convert the given decimal integer number into binary number.
5. What do you mean by random access of file ? Explain ftell() and fseek().
6. Explain the different storage clauses available in C ?
7. Write a program to demonstrate symbolic constants and declaring a variable as constant.
8. Write a program to display the numbers in increasing and decreasing order using infinite loop.

P.T.O.



## SECTION – B

Answer **any four** questions. **Each** question carries **ten** marks : **(10×4=40)**

9. a) Write a program in C to read N integers ( $N < = 100$ ), find the average of these numbers. 5
  - b) What is goto statement ? Explain the difference between break and continue statement. 5
  10. a) With suitable examples illustrate 'call by value" and "call by reference" techniques of passing parameters in C. 5
  - b) What do you mean by dynamic memory allocation ? Explain different dynamic memory allocation function available in C. 5
  11. a) Explain the difference between structure and union with examples. 5
  - b) Explain with syntax any three library function which deals with strings. 5
  12. Explain the different forms of if statements. What are the advantages of switch statements over nested if statement. Exemplify all the forms of if statements. 10
  13. a) Explain different types of macro substitutions. 5
  - b) Write a program to find the memory size of pointer variables of all data types using size of () operator. 5
  14. a) What is chain of pointers ? Write a program to demonstrate it. 5
  - b) Write a C program to find the sum of its individual digits repeatedly till the result in a single digit. 5
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