M.C.A. DEGREE EXAMINATION, FEBRUARY/MARCH 2015.
First Semester
DMC 1602 — PROBLEM SOLVING AND PROGRAMMING
(Regulation 2007)

Time: Three hours
Maximum: 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define Algorithm.
2. What are the aspects of computer problem solving?
3. Write a note on Factorial Computation.
4. Define Array.
5. Write down the data types in C language.
6. Differentiate between if and nested if
7. What is meant by dynamic array?
8. How to handle the string functions?
9. How to declare a pointer?
10. Define file management.

PART B — (5 × 16 = 80 marks)

11. (a) Discuss briefly about implementation of algorithms. (16)
   Or
   (b) Explain the measures of efficiency of algorithms in detail. (16)
12. (a) Describe briefly about the algorithm and implementation for base conversion steps.  

Or

(b) (i) Write the algorithm and implementation for factoring methods with example.  
(ii) Briefly explain the array techniques.

13. (a) (i) Briefly discuss about the variables with example.  
(ii) Write a short note on expression with example.

Or

(b) (i) Explain the Input/Output operations in C language.  
(ii) Discuss about the branching statement.

14. (a) (i) Distinguish between dynamic and multi dimensional Arrays.  
(ii) Discuss about string handling functions, for an input string analysis.

Or

(b) (i) Define Recursion. Explain with example.  
(ii) Explain the array of structures.

15. (a) (i) Briefly explain the functions and structures.  
(ii) Discuss about the Character Strings in File Management.

Or

(b) (i) Explain the Dynamic Memory Allocation in detail.  
(ii) Discuss about Preprocessors.