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INTERNATIONAL CENTRE FOR APPLIED SCIENCES
 (Manipal University)
I SEMESTER B.S. DEGREE EXAMINATION – JUNE 2016
SUBJECT: INTRODUCTION TO COMPUTERS & PROGRAMMING (CS 111)
 (COMMON TO ALL BRANCHES)
TUESDAY, 14th JUNE, 2016

Time: 3 Hours

Max. Marks: 100

✓ **Answer ANY FIVE FULL Questions.**

1. A) What is a computer? Briefly describe key characteristics of a Computer.
 B) Explain the following terms:
 i) Data ii) Information iii) Word iv) Program
 C) Differentiate RAM and ROM. (At least six differences)

[(2+4) + (2X4) + 6] M
2. A) Write an algorithm and flowchart to find whether a given number is palindrome or not.
 B) Explain the characteristics of an algorithm.
 C) Write a flowchart to find factorial of a given number.

[6+6+8] M
3. A) What are constants? Briefly explain the basic types of C++ constants.
 B) Explain the following with syntax and example:
 i) Declaration of variables
 ii) User defined type declaration
 iii) Reference variable

[10+10] M
4. A) Give general syntax and flowchart of switch statement and explain with suitable example.
 B) Write a complete C++ program to find all the roots of a quadratic equation using else-if ladder.

[10 + 10] M
5. A) Explain one dimensional array initialization with example.
 B) Show the process of sorting the following numbers using Bubble sort. Show all the intermediate
 Steps. [Algorithm/ Program Not required]
 16, 12, 67, 11
 C) Write a complete C++ program to read a list of integers into an array and reverse the array elements without using another array. It should not be a print effect and the array should actually be reversed. Display the array contents before and after reversing the array.

[4+6+10] M

6. A) Write a complete C++ program to multiply two Matrices and display the result in Matrix format.
B) Write a complete C++ program to change all lowercase letters into uppercase and vice versa in a sentence.
C) Illustrate the usages of following string handling functions with an example for each:
i) strcpy()
ii) strcat()
- [10+6+4] M
7. A) Explain the following with suitable example.
i) Function with no arguments/ parameters but a return value
ii) Function with arguments/ parameters but No return value
B) Explain with an example, the Default Arguments to a function.
C) Write a Rev() which returns the reverse of a given number. In the main() function, call Rev() function to check whether a number is palindrome or not.
- [6+6+8] M
8. A) List and explain any five benefits of Object Oriented Programming.
B) What is a C++ class? With the general syntax, explain declaration of a C++ class.
C) Write a C++ program to copy a file to another file.
- [5+5+10] M

