

INTERNATIONAL CENTRE FOR APPLIED SCIENCES

(Manipal University)

FIRST SEMESTER B.S. DEGREE EXAMINATION – DEC. 2016 SUBJECT: INTRODUCTION TO COMPUTERS AND PROGRAMMING (CS 111) (BRANCH: COMMON TO ALL)

Time: 3 Hours Monday, 19 Dec. 2016 Max. Marks: 100

- ✓ Answer ANY FIVE full Questions.
- ✓ Missing data, if any, may be suitably assumed
- 1A Write algorithm to find all types of root of a quadratic equation.
- 1B Draw a flowchart to convert binary number into decimal equivalent.

(12+8)

- 2A Explain the built-in data types in C++.
- 2B Differentiate between machine level and high level computer languages.
- 2C. What is a symbolic constant? Explain with the help of complete C++ program.

(10+5+5)

- 3A Explain following:
 - i) Enum
- ii) typedef
- iii) Reference Variable iv) Conditional Operator
- 3B Write a complete C++ program to generate Fibonacci series up to the given terms.

(10+10)

- 4A What is a string? Write a complete C++ program to sort N names in alphabetic order.
- 4B What is a recursive function? Write a complete C++ program to find sum of N natural number with the help of a recursive function.

(10+10)

- 5A Write a complete C++ program to find frequency of each digit in the given number.
- 5B Explain the working of *break and continue* statement with syntax and example code.

```
5C int s = 0;
for (int i = 0; i < 5; i++)
{
s = 2 * s + i;
}
```

- i) What is the final value of s?
- ii) If the expression i++ was replaced with i+=2 what would be the final value of s?

(8+8+4)

- 6A. Write a complete C++ program to find row sum and column sum of a matrix of order $M\ X\ N$.
- 6B. Write a complete C++ program to delete duplicate elements in a 1-D integer array.

(10+10)

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- 7A Explain the following with suitable examples.
 - i) Default argument Function
 - ii) Constant argument Function
- 7B. Write complete C++ program with a function palindrome() which takes a parameter an integer and returns palindrome or not in terms of TRUE or FALSE. Define Boolean datatype with value TRUE and FALSE.

(10+10)

- 8A. List and explain any five benefits of Object Oriented Programming.
- 8B. What is a C++ class? With the general syntax, explain declaration of a C++ class.
- 8C. Demonstrate the use of pointer to display 1-D array elements through a complete C++ program. (10+5+5)

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