Daffodil International University

Department of Computer Science and Engineering
Faculty of Science & Information Technology
Final Examination   **Semester: Spring 2018**
Course Code: CSE 112
Course Title: Computer Fundamentals
Course Teacher: ALL

Time: 2 hours   Full Marks: 40

Answer any **four** of the following **five** questions. Figures in the right-hand margin indicate full marks.

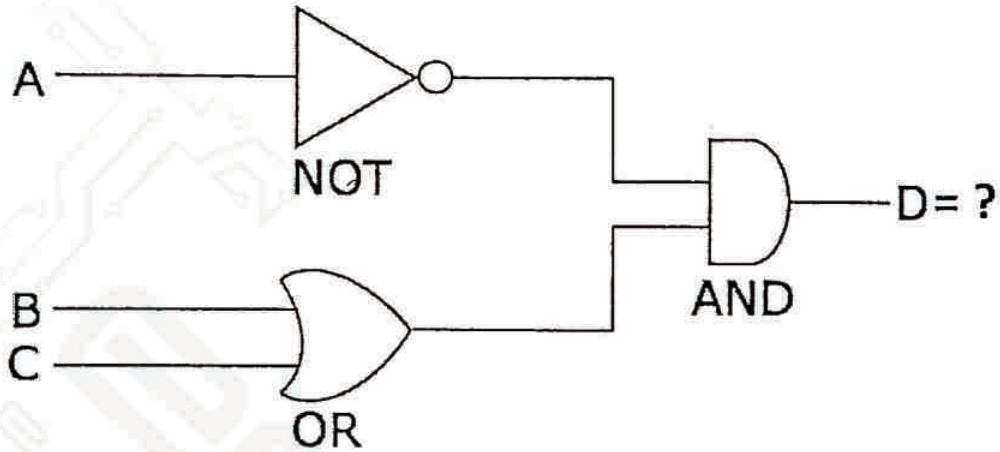1. a) Define network topology. Write the names of major network topologies along with diagrams.   5

    b) What do you understand by the OSI model? Describe the OSI model along with relevant diagram.   5

2. a) Draw the basic processor and memory architecture of a computer system.   4

    b) Describe CISC and RISC architecture in detail.   4

    c) Calculate 1 gigabyte equals how many bytes, nibbles, and bits.   2

3. a) What are variables in C? Write the rules and conventions for naming variables in C. Give examples of declaring variables.   5

    b) Write a program in C that takes three integer numbers as input and show their sum as output.   5

4. a) What do you understand by hardware, firmware and software? Discuss the relationship among them.   5

    b) Write the ways of acquiring software. Describe advantages and limitations of any two of them.   5

5. **a)** Draw a logic circuit diagram using NAND and NOR only to implement the   5
following Boolean function.

$$W = X.Y + \bar{X}.\bar{Y}.$$

b) Find a Boolean expression from each of the following logic circuits.   5

   i)

   ii)