

**CSE3215**

**Quiz 4**

**Time: 30 minutes**

**Marks: 10**

1. Suppose two Arduino boards are programmed to communicate with one another in a 'MasterReceiver/SlaveWriter' configuration via the I<sub>2</sub>C synchronous serial protocol. Draw the schematic diagram and write appropriate code for transmission. [5]
2.
  - a) A sound wave created by an underwater ultrasonic sensor takes 734 milliseconds to hit an object placed 1200 meter away from the sensor. What is the speed of underwater sound? [5]
  - b) If an object is placed 700 meters front of another ultrasonic sensor, what will be the total time the sensor gives a reading in air medium? Consider the speed of the sound in air medium 344 meters per second.