

1. **What does the AUTOEND bit in the CR2 register do? Why don't you want to use it when you'll be needing a restart condition?**

AUTOEND is a flag that automatically generates a STOP condition when NBYTES are transferred. We don't want to use it when we need a restart condition because it would allow for other master devices to take over since it terminates the connection with a stop condition.

2. **This lab used standard-mode 100 kHz I2C speed. What values would you write in the TIMINGR if we were using 400 kHz fast-mode?**

We would write 0x00B00000 into TIMINGR according to the I2C code examples in the peripheral reference manual. This puts 1011 into SCLDEL.

3. **This lab used blocking code. To implement it completely as non-blocking you would replace all of the wait loops with interrupts. Most flags in the I2C peripheral can trigger an interrupt if the proper enable bit is set. Find the interrupt enable bits that match the following flags: • TC • NACKF • TXIS (transmit interrupt) • ARLO**

TC: TCIE = 1

NACKF: NACKIE = 1

TXIS: TXIE = 1

ARLO: ERRIE = 1

4. **The gyro can operate in three full-scale/measurement ranges, measured in degrees-per-second (dps). What are these three ranges?**

245 dps, 500 dps, and 2000 dps

5. **What is the I2C address of the gyro when the SDO pin is low? The lab has the pin set high, read the I2C section of the gyro datasheet**

The address of the gyro when SDO is low is 1101000.