Preparation for the Tuning Exam

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TuneLab is free shareware and has a mock version of the tuning exam in it. Every half hour or so the program will stop for a couple minutes, and then restart; this is to give you a chance to decide to buy I, for about $340 or so. It extrapolates a stretch curve, takes inharmonicity into account and saves tunings. It tells how to do a master tuning, how to de-tune the piano, and then how to go back to score it. Down-loading TuneLab takes about a minute.

The way we used to do the exam was to run two separate tunings: one for aural tuners and one for electronic tuners. Machine tuners had to go back after tuning the piano and then tune the middle section aurally. What would happen was that people would get really high scores with the machine, but then would do terribly on the aural part. Now we have the students tune the mid-range first before going on to anything else.

Why take the tuning exam? The more we are involved in tuning, the more demanding we get with our requirements and expectations. So why don't people want to take the exam? The biggest reason is fear, not the cost of the exam. There are different kinds of fear. The worst would be that if you are already out there making a living tuning and you fail the tuning exam, then your self-confidence would be dashed. Being not quite sure what is going to happen or what the tolerances are make it scary to be tested as well. Now, with TuneLab, it is clear what is going to happen. In addition, Ryan made a hand-out clarifying the entire process.

The A pitches are the foundation that directly effects the entire tuning. The framing notes relate directly to the foundation: F,C<D<E<F. The structure – G & B – relates directly to the framing. This keeps in mind which were tuned first and which relate directly to them, so that an awareness of the framework is maintained.

The first order of business is to create a master tuning. There is a stock tuning that is 95% close enough to a master tuning, which is a great way to practice. Exam mode tells the machine to listen at a particular octave level. The next step is to take some inharmonicity measurements. Go to C1. Hit the note and it will say "wait for trigger," which means it is waiting for the next note. Save the first note and play the next C up to C5. Now we have an estimated inharmonicity factor, and we have enough measurements to create a curve. Save the file, such as "Mason Master Tuning."

Go to the screen that shows the curve from the inharmonicity samples. Under Edit, use RPT tuning offsets. De-tune the piano 8.3 cents, making every other note flat and sharp, using the de-tune readings: stop the boxes from moving. Now we are ready for the exam. Shut down the program.

Tips for taking the tuning exam

1. Practice your speed. Get your temperament down to no more than ten minutes. This leaves time for refinement.
2. Make sure you pitch source is accurate. Tuning forks should be calibrated at a temperature you can recreate.
3. Have a good attitude. Don't worry, be happy. Some great tuners have had to take the test multiple times.
4. Give precedence to the 5ths and 4ths or the 3rds & 6ths. If there is an error we usually can verify it in the 4ths & 5ths.
5. Get your stability down. Use a stiff tuning lever, good hammer technique, firm test blows, & recheck your work.
6. Don't get hung up. Like the SAT test, if you get stuck, move on and come back to the note later.
7. Offer to buy drinks for the exam team at a really cool upscale lounge. Include appetizers.

Ryan uses a Fugen piano hammer. The shaft torque deflection is 100,000 deflection, whereas the Fugen is about 20. The more flex in the wrench, the less feel there is for what is going on with the pin. The stiffer the lever, the more movement there is in the pin. You can feel the tuning pin better with a stiff lever. Charles Vaults's new light-weight carbon fiber lever is also supposed to be very stiff.

Rather than tuning the A to the fork, leave two strings open and tune one string to the beat of the other; then move the other up and check it again. We have only five minutes in the exam to set the A. Compare the tenth to the lower tenth and the fork; make an educated guess to start. If you get done setting pitch in less than five minutes, that extra time can be applied to the next part.

Open the machine and go to A4. Partials can be adjusted. In TuneLab you can tune two ways: period and locking mode. Use the "U" and the "I" buttons. "U" goes up by 1 cent intervals. The "I" goes up in tenths, up or down. Write your score under rpitch.

There is a built-in pitch averaging system built into the program, so if everything is a little sharp or flat consistently, it averages those out. Tune the temperament and the two main octaves. When done tuning (the exam allows forty minutes for the mid-range tuning), record each note into TuneLab.

Now it's time to score yourself. Go to "U": exam scoring. Go to temperament, and select the master tuning. Come up with a name for the exam store sheet. A chart will come up with all the numbers in columns and rows. Minus numbers mean that those notes were tuned flat from the master tuning, and plus numbers mean those were tuned sharp from the master tuning. Add up the "1's" and subtract them from 100 for the score. Now go back and aurally verify the scores: listen to hear if those notes really do sound too sharp or flat.

There is only one major flaw in the tuning exam. The stability and the unison sections are separated. Banging on the note to see if the unisons stick is the real test. In the exam, a thumper is used to give an equally forceful strike to each note. Separating unisons from stability does give feedback as to which aspect is the problem.