

Automation in Clinical Laboratories + Revision

A Lead-In

- 1 Can you describe the usual day in your laboratory?
- 2 What are the instruments you usually work with? Are they difficult to run?
- 3 What do you think is the most difficult part of a laboratory technician's workday?

B Vocabulary Warm-up. Match the words on the left with those on the right.

- | | |
|--------------------|-----------------|
| 1 fully-automated | a biohazards |
| 2 state-of-the-art | b a test |
| 3 process | c the barcode |
| 4 improve | d laboratory |
| 5 transport via | e a tube system |
| 6 to be exposed to | f efficiency |
| 7 to read | g control |
| 8 turn-around | h instruments |
| 9 quality | i samples |
| 10 perform | k time |

C Listening

Listen and decide what the following numbers refer to:

- 6 million
- 3
- 5th
- 4200
- 1200
- 5 million

Quality Control in the Laboratory Worksheet

A Vocabulary Warm-up Word Formation

Make nouns using these suffixes: -acy; -ing; -ence; -ness; -ion; -ity; -ison

- | | |
|---------------|-----------------|
| 1 precise → | 7 appropriate → |
| 2 accurate → | 8 conclude → |
| 3 subdivide → | 9 valid → |
| 4 refer → | 10 stable → |
| 5 compare → | 11 time → |
| 6 repeat → | 12 probable → |

B Match the collocations

- | | |
|-----------|-------------------------|
| 1 repeat | a) measurements |
| 2 provide | b) information |
| 3 report | c) results on a patient |
| 4 perform | d) QC procedures |
| 5 affect | e) results |

C Westgard' Rules

The Westgard rules can be applied ___ (1) see if the results from the samples can be released, or if they need to ___ (2) rerun. The formulation of Westgard rules was based ___ (3) statistical methods. Westgard rules are commonly ___ (4) to analyse data in Shewhart control charts. Westgard rules are used to define specific performance limits for a particular assay and can be used to detect ___ (5) random and systematic errors. Westgard rules ___ (6) programmed into automated analysers to determine when an analytical run should be rejected. ___ (7) rules need to be applied carefully ___ (8) that true errors are detected and false rejections ___ (9) minimized. The rules applied ___ (10) high volume chemistry and haematology instruments should produce low false rejection rates.

(http://en.wikipedia.org/wiki/Laboratory_quality_control)

E Grammar Point

A Numerals

Read out in full the correct forms of numerals:

1. There are 11 students on the list, so you are 12th.
2. We have 5 samples of frozen material available for analysis; could you get another 6?
3. The temperature first rose to 5 °C and then suddenly dropped to -10 °C.
4. You first dial 7050 and then ask for extension 92.
5. Mice were administered tap water at 3h intervals.
6. Today is 6 November 2006.
7. The early 70s saw the boom of the Beatles.
8. The population of Brno is now 367 729 inhabitants, of which 174 520 are men, 193 209 women.
9. Hippocrates, known as the Father of Medicine, lived in the years 460 – 377 B.C.
10. Please wake me at 05:45 a.m.

(*Dastych, M. – English for Lab.techs.*)

E Grammar Point – Revision

Tenses – Use your own ideas to complete the sentences.

- 1 A: How did the accident happen? B: I _____ too fast and couldn't stop in time.
- 2 A: Is that a new microscope? B: No, we _____ it a long time.
- 3 A: Is that a new computer? B: Yes, I _____ a few weeks ago.
- 4 A: This is a nice restaurant. Do you come here often? B: No, it's the first time _____ here.
- 5 A: I can't talk to you right now. You can see I'm very busy. B: OK. I _____ back in 20 minutes.

Relative clauses

- 1 The microscope is broken. I was using it yesterday. – The microscope _____ is broken.
- 2 I work in a lab. The lab is going to close. – The lab _____ is going to close.
- 3 The doctor showed me the results. I didn't understand the results. – I didn't understand the results _____ me.
- 4 You were talking to a person. The person seemed nervous. – You talked to a person _____ nervous.

Clauses (if and temporal)

- 1 Before you _____ the lab, can you switch off all electrical appliances?
- 2 I _____ (do) the Gram stain as soon as she _____ (give) me the counterstain.
- 3 You've burnt yourself! If you _____ (follow) the rules, you _____ (get injured).
- 4 If you _____ (pass) the written test, you _____ (be able) to sit the oral exam.

Articles

- 1 When ___ unemployment is high, it's difficult for ___ people to find ___ work. It's ___ big problem.
- 2 There was ___ accident in ___ lab yesterday. Joe tripped over ___ cable, fell down and broke ___ microscope.
- 3 In ___ microbiology, ___ researchers come with ___ new discoveries every ___ week.
- 4 ___ human immune system is ___ very complicated structure. For example, for ___ B-cells to work, they have to...
- 5 ___ job of ___ lab technicians is dangerous – that's why they have to wear ___ protective clothing, such as ___ glasses.