

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 challenging 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

I Listen and decide what the following numbers refer to:

- 6 million
- 3 years
- 5th
- 1200
- 5 million

II Complete the gaps:

- 1 The journalists report on the _____ fully-automated laboratory in America.
- 2 The modernisation took place in order to _____ efficiency, provide test _____ more quickly and to improve patient _____ and patient _____.
- 3 A tube system _____ samples coming from every department.
- 4 There's a lot of _____ of the specimens, so that people aren't exposed to biohazards
- 5 Everything is _____ so that computers can read that and then determine which _____ are going to hit for more _____ turn-around time
- 6 There's also a _____ for quality control and maintenance
- 7 The results can be obtained in a _____ of less than hours
- 8 The rate of _____ is increased and the _____ of patient care is improved.

D Use of English

Automated Solution for Pre-analytical Procedures

Tecan, a leading player in the fast-growing Life Sciences ____ (1) industry, announced today that the Genesis FE500 Workcell is proving ____ (2) be a highly attractive option for its customers. Pre-analytic processing is ____ (3) of the most labor-intensive aspects of clinical laboratory testing and some studies say that specimen processing accounts for up ____ (4) 65% of the average total time spent by personnel on clinical laboratory procedures. To address the pre-analytical needs of its customers, Tecan offers the Genesis FE500 Workcell, a totally automated solution to meet the sample ____ (5) requirements of hospitals, research institutes and other clinical laboratories.

Pre-analytical processing includes a range of activities ____ (6) laboratory technicians must do before analytical testing and results reporting. The Genesis FE500 Workcell has many functions to ____ (7) efficiencies and productivity in the laboratory, including: specimen sorting; centrifugation; decapping; secondary tube labelling; serum volume verification; aliquoting; barcode labelling; and placing tubes in sample ____ (8) that come from a wide variety of manufacturers. The Genesis FE500 Workcell brings flexibility to customers and allows them to select analyzers of their ____ (9). This is important to the concept of having a stepwise modular approach to laboratory automation as ____ (10) to providing total solutions that limit the options of clinical diagnostic professionals.

- | | | | |
|---------------|-----------------|-------------|--------------|
| 1 A apply | B supply | C multiply | D play |
| 2 A to | B as | C onto | D into |
| 3 A the | B some | C one | D many |
| 4 A on | B to | C over | D more |
| 5 A labouring | B manufacturing | C proving | D processing |
| 6 A that | B where | C who | D whose |
| 7 A invite | B increase | C intake | D input |
| 8 A stacks | B hacks | C wracks | D racks |
| 9 A choice | B choose | C willing | D decision |
| 10 A opposed | B contrary | C adversely | D contrasted |

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.

Verb Patterns

- 1 I can't make a decision. I keep _____ my mind. (change)
- 2 He had made his decision and refused _____ his mind. (change)
- 3 Why did you change your decision? What made you _____ your mind? (change)
- 4 It was really a good experience. I enjoyed _____ the assays. (run)

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.