17/MHS06/024

MLS 304

LABORATORY INSTRUMENTATION AND TECHNIQUES

THEORY OF AUTOMATION

***QUESTION***

Describe how you will maintain the automatic analysers and keep them in good condition.

An automatic analyser is a medical laboratory equipment designed to measure different chemicals and other characteristics in a number of biological samples ( serum, whole blood, plasma, cerebrospinal fluid) quickly, with minimal human assistance.

**MAINTENACE OF AUTOMATIC ANALYZERS IN ABUAD MULTI SYSTEM HOSPITAL**

1. CLEANING

Regular cleaning of lab equipment ensures that it is ready for use when needed, that stubborn stains/substances do not get a firm hold, and that experiments are not contaminated by impurities carried over from previous experiments.

* Carry out daily wipe on the exterior of the machines.
* Consult the machine manual on any specific processes for cleaning the equipment.
* Carry out a weekly deep clean of all equipments.
* Make sure the equipment is cleaned before and after carrying out experiments.
1. CALIBRATION

Calibration involves comparing the measurements of an equipment against the standard unit of measure, for the purpose of verifying its accuracy and making necessary adjustments.

* Regularly calibrate the equipment for ongoing preventive maintenance.
* Calibration should be done when results obtained are questionable,when the equipment is hit by force or dropped on the ground and when the machine makes unusual sounds while it’s working.
1. REPAIRS
* Replace worn out or faulty parts to increase the life span of the equipment.
1. REFURBISHMENT

Refurbishment is the process of repairing and cleaning done to make an equipment look brand new. The process is as follows;

* Take the entire piece of equipment apart
* Fully clean each component
* Where necessary polish components
* Re-lubricate any moving parts
* If parts are showing signs of wear and tear, consider replacing them at this preventative stage
* Put the equipment back together

Other ways of maintaining the automatic analysers are;

1. Developing standard operating procedures for all lab equipment.
2. Preparing documentation on each specific equipment, outlining the repairs and maintenance undertaken.
3. Outlining a preventive maintenance program for each equipment.
4. Training both technical and managerial staff on proper use and care of lab equipment.