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### COURSE TITLE: LABORATORY INSTRUMENTATIONS AND TECHNIQUE

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### ASSIGNMENT QUESTION: Describe how you can maintain the automatic analyzers in ABUAD multi system hospital and keep them in good condition.

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### ANSWER

### First of all, what is an automatic analyzer?

An **automatic analyzer** is a medical laboratory instrument designed to measure different chemicals and other characteristics in a number of biological samples quickly, with minimal human assistance. These measured properties of blood and other fluids may be useful in the diagnosis of disease.

There ae 4 types of automatic analyzers and they are:

1. Continuous flow auto-analyzer
2. Centrifugal auto-analyzer
3. Dry-chemical auto-analyzer
4. Discrete auto-analyzer

To maintain and keep the Automatic analyzer in good condition in ABUAD MULTISYSTEM HOSPITAL, I will:

1. Keep the device and environment clean always: it is important to clean your auto-analyzer before and after use so as to get an accurate and consistent result. In addition to this, I will develop a schedule for in-depth cleaning. The user’s manual usually state the best way of cleaning. I will ensure that the environment should always be kept clean too and free from external interference.
2. Make sure that we make use of an electrical supply source that conforms to host country standards: electrical installations must comply with the current electrical standard of Nigeria so as to prevent any electrical failure or fire.
3. Ensure routine maintenance by a trained and certified technician: I would ensure that routine maintenance should be carried out by certified professionals and also that annual inspection should be carried out which typically include the inspection of the area where the device is installed as well as electrical installation to ensure user safety
4. Routine check on the electrical components to avoid over-heating: I will ensure that I check the plugs, wires and other electrical components of the automatic analyzer for overheating so as to avoid electric shock or fire. I will also ensure that I don’t keep the device working round the clock and leave it for some few hours to rest.
5. Calibrate the device regularly: Calibration brings your device back to its original factory settings. To maintain accuracy, I will calibrate each time I make use of the automatic analyzer, and at least once a day. The longer it goes without calibrating, the harder it will be to bring itself back into a calibrated state.
6. Keep your samples clean and free from impurities: I will ensure that my samples for testing are free from impurities because not only will they interfere with the results but also clog some parts of the automatic analyzer and this will not keep the device in good working condition.
7. Ensure that I make myself available for training and retraining as pertaining to the use and care for the device: Training of both technical and managerial staff is not a one-time activity. It is regular with additional courses given when new equipment or improved models are bought. The initial induction training is always elaborate with an expert-guided discussion and demonstration, while follow-up training is done in-house to refresh the staff technique. I will ensure that I participate actively in all these activities.
8. Regular check on the mechanical components to ensure that they are in good condition
9. Test the general structure of the device-check buttons, control switches.
10. Make sure accessories, cable devices and terminals are clean and intact