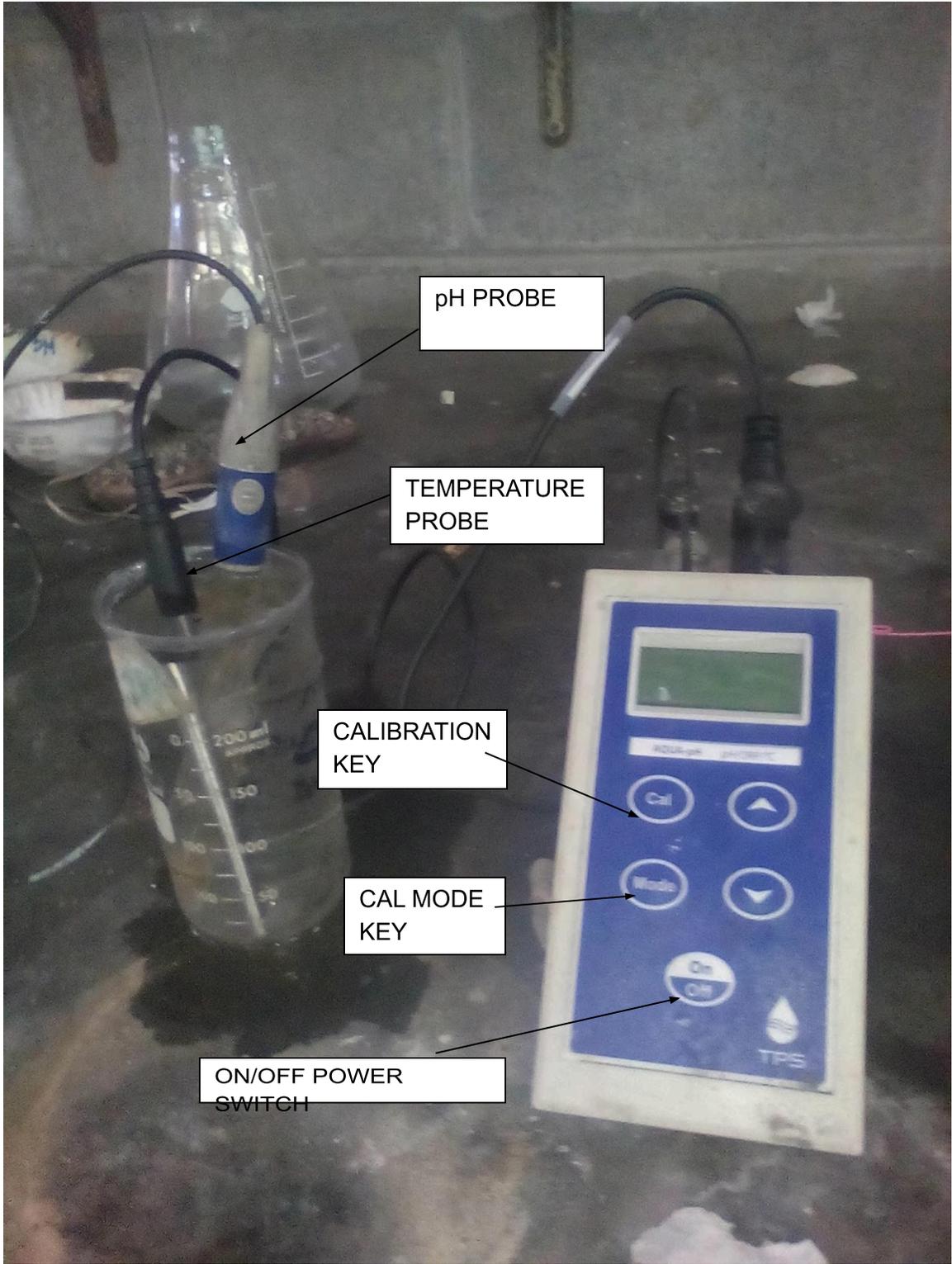


SOP _ AQUA- pH METER CALIBRATION



pH PROBE

TEMPERATURE PROBE

CALIBRATION KEY

CAL MODE KEY

ON/OFF POWER SWITCH

SAFETY

The personnel executing this task should adhere to the basic PPE required to carry out general laboratory tasks in the laboratory. The PPE that should be required of the operator in performing this task are, clear safety glass, latex gloves, and safety boots.

APPARATUS REQUIRED

1. 100 ml glass beakers
2. Tissue paper
3. Latex hand gloves
4. Safety glasses

REAGENTS REQUIRED

1. Distilled water
2. pH buffers 6.88 and 4.00 or 10

pH CALIBRATION PROCEDURE

MONTHLY CALIBRATION – 2 POINT CALIBRATION

1. Switch the **Aqua - pH – ORP – Temp** meter on.
2. Select the pH mode.
3. Plug the pH sensor into the BNC socket (metal socket). For automatic temperature compensation, plug the temperature sensor into the temperature socket (6 pin plastic socket). If the temperature sensor is not connected, then the Aqua pH will use manual temperature compensation.
4. Ensure that temperature has already been calibrated or manually set.
5. Remove the wetting cap from the pH sensor.
6. Rinse the temperature and pH probes with distilled water.
7. Soak or wipe them dry with dry tissue paper.
8. Put the temperature and pH probes together into a beaker of pH 6.88 (or pH 7.00) buffer solution. That is buffer number 1. Ensure that the sensors are completely covered.
9. Press and hold the CAL key for 3 seconds and release to calibrate the first buffer.

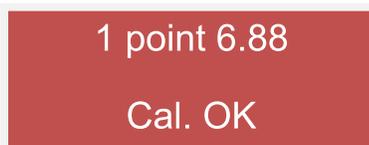
10. Remove from the buffer and thoroughly rinse both probes with distilled water. Wipe them dry with dry tissue paper. Discard the used buffer after calibration.
11. Insert both probes into the second buffer pH 4.00 (or pH 10).
12. Wait until the pH reading is stabilized. Ensure that the pH reading displayed should correspond to the buffer you are using.
13. Press and hold the CAL key for 3 seconds and release to calibrate the second buffer.
14. If the 2 point calibration has been successfully calibrated, the following messages will be displayed. If 2 point calibration has failed, a calibration failure message will be displayed. Please refer to [pH calibration messages](#) section below.

DAILY CALIBRATION – 1 POINT CALIBRATION

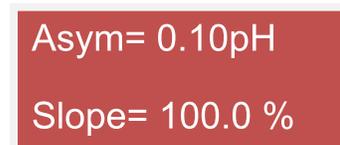
15. Switch the **Aqua – CP** pH meter on if it is not switched on.
16. Select the pH mode.
Ensure that the pH and conductivity sensors are correctly plugged into their respective sockets.
17. Remove the wetting cap from the pH sensor.
18. Rinse the temperature and pH probes with distilled water.
19. Soak or wipe them dry with dry tissue paper.
20. Put the temperature and pH probes together into a beaker of pH 6.88 buffer solution. Ensure that the sensors are completely covered.
21. Wait until the pH reading is stabilized. Ensure that the pH value displayed should correspond to the buffer you are using.
22. Press and hold the CAL key for 3 seconds and release to calibrate one point calibration.
23. If the pH meter has been successfully performed 1 point calibration, the following will be displayed on the screen. **1 Point 6.88, Cal. OK.**

[pH Calibration Messages](#)

24. If a one point calibration has failed, the following will be displayed.

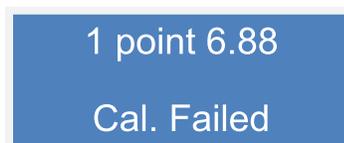


1 point 6.88
Cal. OK

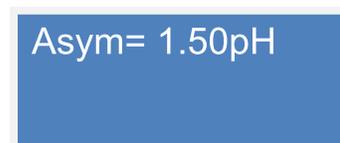


Asym= 0.10pH
Slope= 100.0 %

25. If one calibration has failed, the following will be displayed.



1 point 6.88
Cal. Failed



Asym= 1.50pH

26. If a 2- point calibration has been successful, the following will be displayed.

2 point 4.00

Cal. OK

Asym= 1.0pH

Slope= 99.5 %

27. If 2 – point calibration has failed, the following will be displayed.

2 point 4.00

Cal. Failed

Slope= 70.0 %

***Created by Raymond Korova
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