Microbiology Laboratory Apparatus

Experiment 1 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

Aim

To identify apparatus, its function and the records needed to show correct use.

Principle

Equipment selection depends on the purpose of the measurement or containment task. A biosafety cabinet, chemical fume hood and clean-air workstation have different protection functions.

Requirements

- Instructor-prepared fixed slides, labelled images, demonstration records or coded teaching data for this practical.
- Activity form, microscope for prepared slides where applicable and calculator.

Procedure

1. Identify the teaching material

Record the slide, image or data code, method name and the assigned comparison. Use prepared material and supplied results for this exercise.

2. Identify devices

Label the microscope, steriliser, incubator, balance, colony counter and containment equipment in the assigned photographs or demonstration.

3. Match purpose and limitation

For each device, state its measurement or process role. Distinguish worker/environment protection from product protection.

4. Review performance records

Examine a supplied calibration, maintenance or process-check record. Identify date, acceptance criterion and responsibility for release.

5. Assess controls and limitations

Confirm the meaning of the positive, negative, blank or process controls supplied. State which conclusions the results support and which require additional evidence.

6. Complete the record

Enter observations separately from interpretations. Record units, method conditions given with the data and the instructor-reviewed conclusion.

Observations and Record

Record component	Entry
Device / identifier	_____
Purpose	_____
Protection or measurement limitation	_____
Calibration / check status	_____

Result

Material / data code: ____. Observed result: ____. Control assessment: ____. Interpretation and limitation: ____.

Precautions

- This activity uses prepared material and data interpretation; it is not a live microbial culture or pathogen-handling procedure.
- Keep morphological, quantitative and clinical interpretations separate.
- Use the method-specific assigned quality controls and current interpretive criteria where relevant.

Viva Questions and Answers

1. Why is a clean-air workstation not a substitute for a biosafety cabinet?

Its protection purpose differs; equipment must match the risk assessment.

2. Why keep an equipment record?

It links a result to a device whose performance and maintenance status can be checked.

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