Microbiologist interview questions

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What to expect

Microbiologist interviews mix technical questions about laboratory method with behavioural questions about accuracy under pressure and safety questions about contamination control. Panels usually include a senior scientist or pathologist who will probe the reasoning behind your test choices, not just whether you know the steps.

- **Technical:** Questions on culturing methods, staining, PCR and sensitivity testing, checking you understand both the procedure and why it's used.
- **Process:** Walk-throughs of how you'd handle a specimen from receipt to reported result.
- **Safety:** Questions on contamination control, PC2/PC3 protocols and what you do when something goes wrong.
- **Behavioural:** Past examples of accuracy, problem solving or communicating results to non-scientists.
- **Scenario:** Judgement calls on ambiguous or conflicting results and how you'd resolve them before reporting.

Most interviews open with background and motivation questions, move into a technical or process segment where you're asked to walk through specific lab methods, then shift to scenario or behavioural questions probing judgement and communication, finishing with your questions for the panel about the laboratory's caseload or accreditation status.

1. Walk me through how you would culture and identify an unknown bacterial isolate from a clinical specimen.

Why they ask

This checks that you know the standard workflow and can explain your reasoning at each stage, not just recite steps.

How to structure your answer

Give a chronological walk-through: specimen receipt and initial handling, plating and media selection, incubation, Gram stain and biochemical testing, and how you'd confirm the result before reporting.

Example answer

"I'd start by logging the specimen in LIMS and checking it against the request form for the right tests. I'd plate it onto appropriate selective and non-selective media based on the specimen source, then incubate under the right conditions for that organism. Once growth appears, I'd do a Gram stain to narrow down the organism group, then run biochemical or automated identification tests to confirm species. If the result was ambiguous I'd repeat the stain or send for molecular confirmation before it goes to the pathologist."

2. Describe how you'd carry out antibiotic sensitivity testing and interpret the results.

Why they ask

Sensitivity testing directly affects patient treatment or food safety decisions, so the panel wants to see you understand both method and clinical consequence.

How to structure your answer

Explain the method step by step, then describe how you interpret zone sizes or MIC values against a recognised standard and what you'd flag for follow-up.

Example answer

“I'd set up disk diffusion or an automated susceptibility panel using a standardised inoculum, then incubate and measure zone diameters or MIC values against CLSI or EUCAST breakpoints, depending on the lab's protocol. Any isolate showing resistance to first-line antibiotics I'd flag clearly on the report and, for anything unusual like suspected multi-drug resistance, I'd notify the supervising pathologist directly rather than just noting it in the file.”

3. Tell me about a time you caught an error or inconsistency in test results before they were reported.

Why they ask

This is a behavioural question testing attention to detail and whether you escalate problems appropriately rather than letting them slide.

How to structure your answer

Use STAR: situation, task, action, result, focusing on how you spotted the issue and what you did about it.

Example answer

“During a batch of specimens, one PCR result for a suspected pathogen didn't match what I was seeing under the microscope. I re-checked the sample labelling first to rule out a mix-up, then re-ran the PCR and repeated the culture in parallel. The repeat confirmed the microscopy finding, so I flagged the original PCR run for review and it turned out a reagent batch was affected. We recalled the other results from that batch before any went out.”

4. What would you do if you suspected contamination in your work area or a batch of samples?

Why they ask

Safety and quality control are core to this role, so the panel wants a clear, methodical response rather than a vague reassurance.

How to structure your answer

Describe immediate containment action, investigation steps, and how you'd document and report the incident.

Example answer

“I'd stop work at that bench immediately, isolate the affected samples, and re-sterilise the equipment and surfaces before continuing anything else. I'd check whether other samples processed around the same time could be affected and quarantine them pending re-testing. Then I'd document exactly what happened and report it to my supervisor so we could review whether it was a technique issue or an equipment fault, and adjust the protocol if needed.”

5. You get a molecular result that contradicts your microscopy finding on the same sample. How do you handle it?

Why they ask

This scenario question tests judgement when two valid methods disagree, which happens regularly in diagnostic microbiology.

How to structure your answer

Talk through the judgement process: what you'd check first, how you'd decide whether to repeat testing, and who you'd involve before finalising a report.

Example answer

“I wouldn't report either result until I understood the discrepancy. First I'd check sample identity and handling to rule out mix-up or degradation, then repeat the microscopy and, if needed, the molecular test. If the discrepancy held after repeating, I'd escalate to the senior scientist or pathologist rather

than picking one result myself, since a wrong call could affect patient treatment or a regulatory outcome."

6. How do you prioritise your workload when you have multiple specimens with different turnaround requirements?

Why they ask

Laboratories often run to service targets, so the panel wants evidence you can manage competing deadlines without cutting corners on accuracy.

How to structure your answer

Explain your prioritisation logic and give a concrete example of applying it.

Example answer

"I generally prioritise by clinical urgency first, so anything flagged as urgent or from an unwell patient goes ahead of routine screening samples. Within that, I batch similar tests together where possible to use incubation and equipment time efficiently. If a routine sample was going to breach its turnaround target, I'd flag it to my supervisor rather than rush the process, since accuracy matters more than hitting every deadline exactly."