**Strengths**

* **Analytical Problem-Solving** (breaking down complex engineering challenges, attention to detail ensures identify root causes and implement robust fixes)
* **Technical Expertise** (hands-on experience in designing, testing, and optimizing both hardware and software solutions)
* **Collaboration and Communication**
* **Continuous Learning**
* **Project Management**

**Weaknesses**

* **Delegation** (taking too much responsibility to ensure high-quality outcomes cause increase workload)
* **Perfectionism** (precision can occasionally slow down decision-making)

**Working Under Pressure**

* **Break Down the Problem**
* **Prioritize and Organize (**Urgent and important, checklists or project management tools**)**
* **Maintain Clear Communication**
* **Reframe Pressure as Opportunity**
* **STARR Method (Situation, Task, Action, Result, Reflection)**

**Test a Circuit for Functionality**

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| --- | --- |
| **Step** | **Description** |
| Visual Inspection | Identify obvious physical defects |
| Power Verification | Confirm correct supply voltages and no shorts |
| Functional Testing | Apply inputs, measure outputs, check against expectations |
| Component Testing | Verify individual components values and operation (**Continuity and Boundary scan or in-circuit testing JTAG if need)** |
| Continuity Checks | Ensure all connections are correct |
| Load Testing | Assess performance under real-world conditions |
| Documentation and Troubleshooting | Document test results and **Troubleshoot issues** |

* **Design for Manufacturing (DFM) -** Optimizing product design for efficient, cost-effective, and high-quality manufacturing
* **Key Functions of DFM:** Simplifies Manufacturing, Reduces Costs, Improves Quality and Reliability, Accelerates Time-to-Market, Facilitates Automation

**Typical DFM Considerations in Electronics:**

* **Component layout and orientation**
* **PCB trace width and spacing**
* **Material selection**
* **Solderability and assembly process compatibility**
* **Minimizing the number of unique parts**
* **Ease of testing and inspection**
* **Design for Testability (DFT) -** Test electronic products for defects during and after manufacturing. ensuring product quality, reliability, and ease of maintenance.
* **Key Functions of DFT: Enhances Test Coverage, Reduces Testing Costs and Time, Improves Product Quality, Facilitates Automated Testing, Supports Maintenance and Diagnostics**

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| --- | --- | --- |
| **Aspect** | **DFM (Design for Manufacturing)** | **DFT (Design for Testability)** |
| Main Focus | Manufacturability & production efficiency | Testability & defect detection |
| Key Benefits | Lower cost, faster production, higher yield | Improved quality, faster fault isolation, lower test cost |
| Typical Features | Optimized layout, material choice, assembly processes | Test points, scan chains, BIST, JTAG |
| When applied | During design and pre-production | During design, prior to manufacturing |