Here is the **most comprehensive, sentence-by-sentence study note breakdown** of the document titled **“75. Device Manager”**, structured for mastery of **CompTIA A+ 1102 Objective 1.4**, which focuses on using built-in Windows tools for **hardware management and troubleshooting**.

**📘 STUDY NOTES – Device Manager (Windows)**

**🔹 Overview & Purpose**

* **Device Manager** is a built-in Windows utility for: is used to investigate and troubleshoot all sorts of systems hardware components and peripherals.
  + Investigating and troubleshooting **hardware components** and **peripherals**
  + Viewing and editing the **properties** of all installed hardware
  + Performing tasks such as:
    - **Driver updates**
    - **Rollbacks**
    - **Disabling or uninstalling** devices

**🧭 How to Access Device Manager**

* Steps:
  1. Click the **Windows Start Button**
  2. Type **Device Manager**
  3. Select the top match

✅ This launches the Device Manager interface showing **all system hardware categories**.

**🖨️ Device Manager in Action: Printer Example**

**🔍 Viewing Printers:**

* Expand the categories **Print Queue** and **Printers**
  + **Printers** → Microsoft IPP Class Driver (Internet Printing Protocol)
  + **Print Queue** → Canon MF741C printer (network-connected office printer)
* Right-clicking a device → **Properties** opens driver and device information.

**🔄 Generic vs. Manufacturer Driver:**

* **Microsoft IPP Driver** is generic (default driver)
* For best performance:
  + Download the **official Canon driver** from the **Canon website**
  + This ensures compatibility, advanced features, and updates

**🌐 Manual Driver Installation – Canon Example**

1. Open browser (e.g., Microsoft Edge)
2. Search: Canon MF741C driver
3. Locate Canon’s **official support site**
4. Choose correct OS (e.g., **Windows 10 x64**)
5. Download the correct **multifunction driver package**

**⚙️ Installation Steps:**

* Run downloaded driver setup (.exe)
* If Windows warns it’s not Microsoft-verified:
  + Proceed if **downloaded from trusted manufacturer**
* Installer performs:
  + File extraction
  + Setup wizard launches
  + Prompts for:
    - Accepting license
    - Printer connection method (e.g., **network-based**)
    - Firewall exceptions

**🌐 Network Printer Setup:**

* If printer isn't found automatically:
  + Search manually via **IP address** (e.g., 192.168.1.140)
  + Select printer and continue
* Install both **printer and scanner** drivers
* Assign default printer name (e.g., **Canon MF741C**)
* Optionally:
  + Set as **default printer**
  + **Print test page** (optional)

**📁 Post-Installation:**

* Confirm Canon driver is active:
  + Right-click printer → **Properties**
  + Manufacturer now shows as **Canon** (vs. generic Microsoft)
* Location shows: **Root Print Queue**

**🔍 Driver Properties and Tabs**

Each device contains key tabs:

**1. General**

* Overview of device name and type

**2. Driver**

* Actions available:
  + **Update Driver**
  + **Roll Back Driver**
  + **Disable Device**
  + **Uninstall Device**

✅ Most-used tab for resolving hardware issues

**3. Details**

* Offers **technical identifiers**:
  + Driver description
  + Registry key
  + Device instance path
  + Hardware IDs

🧠 Valuable during manual troubleshooting or driver conflicts

**4. Events**

* Shows a **timestamped event log** for that device:
  + Installations
  + Configurations
  + Failures
* Option: **View All Events** → Opens **Windows Event Viewer**
  + Gives detailed history (beyond 5–10 listed in Device Manager)

**🧪 Real Example: Viewing Canon Driver Events**

* Device Manager shows limited events
* **Event Viewer** shows all event logs tied to the **Driver Manager** for the device
* Each entry gives:
  + Timestamp
  + Event type
  + Additional device metadata

**📷 Other Device Examples**

**🖼️ Microsoft IPP Class Driver**

* Installed by default with Windows
* Still provides full Properties tabs:
  + General, Settings, Details, Events

**🎥 USB Video Device (Webcam)**

* Properties → **Driver tab** lets you:
  + **Update driver**
  + **Roll back to previous version**
  + **Disable device**
  + **Uninstall device**

**🔄 Roll Back Driver Use Case**

* **Purpose**:
  + Undo problems caused by a **buggy new driver**
* Use when:
  + New update causes performance, compatibility, or stability issues
* Solution:
  + Roll back to previous version and wait for a fixed release from the vendor

✅ This is a **critical troubleshooting skill** on the CompTIA A+ 1102 exam

**🧠 Summary of Device Manager Functions**

| **Function** | **Purpose** |
| --- | --- |
| Update Driver | Install latest version |
| Roll Back Driver | Revert to previous working version |
| Disable Device | Temporarily turn off hardware functionality |
| Uninstall Device | Remove driver and hardware configuration from Windows |
| View Device Details | See registry, device instance ID, etc. |
| Access Event History | View recent and full history of device events |

**✅ CompTIA A+ 1102 Exam Inclusion Notification**

**Yes – Fully included in Objective 1.4**

Expect exam scenarios like:

* “A device fails after a driver update—what do you do?”
* “Where do you find a printer’s driver version and vendor?”
* “How do you manually install a manufacturer driver?”

You must be able to:

* Open Device Manager
* Navigate device properties
* Perform driver updates, rollbacks, disables, and removals
* Use Device Manager + Event Viewer in tandem

**🧠 Memory Hook – “U.R.D.E.”**

| **Letter** | **Task** | **Tab in Device Manager** |
| --- | --- | --- |
| **U** | **Update Driver** | Driver Tab |
| **R** | **Roll Back Driver** | Driver Tab |
| **D** | **Disable/Uninstall** | Driver Tab |
| **E** | **Events/Errors** | Events Tab & Event Viewer |