Chapter # 9

Chapter 9 – Maintenance and Repair of Mouse

✅ Part I: Short Questions

Q1. Write a note of Mechanical Mouse.

- A **mechanical mouse** uses a rubber or metal ball that rolls on a surface.
- The movement of the ball turns rollers inside, which are detected as cursor movement.
- Older technology, now replaced by optical/laser mice.

Q2. What do you know about Optical Mouse?

- Uses an **LED light and optical sensor** to detect movement.
- Provides smoother and more accurate tracking compared to mechanical mice.
- No moving parts → less wear and tear.

Q3. Briefly explain Wired Mouse.

- Connected to the computer through **USB or PS/2 port**.
- Advantages: Faster response, no battery needed, reliable.

Q4. Briefly explain Wireless Mouse.

- Connects using **RF (Radio Frequency), Bluetooth, or Infrared**.
- Requires **batteries or rechargeable power**.
- Advantage: No cable, portable.

Q5. Write a note of USB Mouse.

- Modern standard for wired mice.
- Plug-and-Play → automatically detected by operating system.
- Provides fast data transfer and compatibility with almost all systems.

Q6. Write a note of PS/2 Mouse.

- Uses **6-pin PS/2 connector** (round).
- Was standard before USB.
- Slower and less flexible; now mostly obsolete.

Q7. Write a note on Serial Mouse.

- Early type of mouse using **serial (COM) port**.
- Very slow, requires manual configuration.
- Obsolete in modern computers.

Q8. Write a note of Bluetooth Mouse.

- Connects directly to PC via **Bluetooth technology**.
- Requires no dongle if the system has built-in Bluetooth.
- Portable, commonly used with laptops and tablets.

✅ **Part II: Long Questions**

Q1. Explain the working of Mouse.

- The mouse detects movement (via **mechanical ball, optical sensor, or laser sensor**).
- The controller chip converts movement into electrical signals.
- Signals are sent to the CPU via interface (USB, PS/2, or wireless).
- CPU moves the cursor on screen accordingly.
- Mouse buttons send input signals for clicks, drag, and scroll.

Q2. Write Steps to disassemble mouse.

1. Disconnect mouse from PC (remove USB dongle or cable).
2. Remove screws from bottom panel.
3. Open the casing carefully.
4. Detach PCB, sensor, and scroll wheel.
5. Note alignment of buttons and springs for reassembly.

Q3. Write steps to clean mouse.

- **For optical/wireless mouse:**
    1. Power off or disconnect.
    2. Clean bottom sensor with a cotton swab dipped in alcohol.
    3. Wipe surface with microfiber cloth.
- **For mechanical mouse:**
    1. Remove trackball.
    2. Clean rollers and ball with alcohol.
    3. Reassemble.

Q4. Explain the types of mouse.

1. **Mechanical Mouse** – uses rolling ball.
2. **Optical Mouse** – uses LED sensor.
3. **Laser Mouse** – higher precision optical type.
4. **Wired Mouse** – connects via cable (USB/PS/2).
5. **Wireless Mouse** – uses RF/Bluetooth.

6. **Trackball Mouse** – stationary, ball controlled by fingers.
7. **Touchpad/pen input devices** (for laptops and design).

Q5. Explain different installation methods of mouse.

1. **USB installation:** Plug into USB → auto-detects → drivers load.
2. **PS/2 installation:** Insert into PS/2 port (before system boot).
3. **Wireless installation (RF):** Insert receiver dongle → switch on mouse → drivers install.
4. **Bluetooth installation:** Pair with system Bluetooth settings → ready to use.
5. **Driver/manual installation:** In older systems, drivers had to be installed from CD or downloaded.

🌟 **Extra Important Questions**

Q1. Difference between Optical and Laser mouse?

- Optical: Uses LED light, works on most surfaces except glass.
- Laser: Uses laser light, works on almost any surface, more precise.

Q2. What are DPI settings in a mouse?

- DPI (Dots Per Inch) measures sensitivity. Higher DPI → faster cursor movement.

Q3. What are common mouse faults?

- Cursor not moving, double-clicking issue, scroll wheel not working, wireless battery dead.

Q4. Preventive maintenance of mouse.

- Keep surface clean.
- Avoid dropping mouse.
- Replace batteries in wireless mouse on time.
- Keep sensor lens clean.

Q5. Why is mouse calibration important?

- Ensures pointer speed matches user comfort for accuracy in work and gaming.