An **Inventory Management System (IMS)** is a software system used by businesses to manage the flow of goods in and out of inventory. It typically includes various modules that help track stock levels, orders, sales, and purchases. The modules and procedures will vary depending on the complexity and scope of the system, but below is an outline of common modules along with their procedures:

**1. Product Module**

**Purpose:** To manage the products in inventory, including details like name, description, quantity, pricing, and suppliers.

**Procedure:**

* **Add Product:** Input product details (name, SKU, category, price, supplier).
* **Edit Product:** Modify existing product details (e.g., change price, name, description).
* **Remove Product:** Delete product when no longer needed.
* **View Products:** Display a list of all products in the system with filters for categories, quantities, etc.

**2. Stock Management Module**

**Purpose:** To track the current stock levels of products in the inventory.

**Procedure:**

* **Update Stock Levels:** Manually or automatically adjust stock when new products arrive or old ones are sold or discarded.
* **Stock Adjustment:** Make adjustments for stock discrepancies during stock audits (e.g., due to damage, loss, or theft).
* **View Stock Levels:** Display current stock quantity for each product.
* **Set Reorder Points:** Define minimum stock levels for automatic reordering.
* **Stock Transfers:** Move inventory between different warehouses or locations.

**3. Purchase/Procurement Module**

**Purpose:** To manage the purchasing of inventory from suppliers.

**Procedure:**

* **Create Purchase Orders (PO):** Generate a purchase order for products to be ordered from suppliers.
* **Receive Inventory:** Confirm the receipt of products and update stock levels accordingly.
* **Track Order Status:** Monitor the status of purchase orders (pending, shipped, delivered).
* **Supplier Management:** Add or update suppliers, track supplier performance, and manage contracts.

**4. Sales Module**

**Purpose:** To manage product sales and customer orders.

**Procedure:**

* **Create Sales Orders:** Generate sales orders based on customer requests.
* **Invoice Generation:** Generate invoices for completed sales.
* **Track Sales Performance:** Monitor the sales quantity, revenue, and trends.
* **View Order Status:** Check order status (processing, shipped, completed, etc.).
* **Returns and Exchanges:** Manage product returns, exchanges, and related inventory adjustments.

**5. Warehouse Management Module**

**Purpose:** To manage warehouse locations and optimize stock storage.

**Procedure:**

* **Create Warehouse Locations:** Define different warehouses or storage areas within the warehouse.
* **Stock Location:** Assign products to specific storage locations.
* **Inventory Movement:** Track the movement of products within the warehouse.
* **Barcode Scanning:** Use barcodes for easier tracking and managing of stock.
* **Pick and Pack:** Create picking lists for order fulfillment and manage packing operations.

**6. Inventory Tracking and Reporting Module**

**Purpose:** To generate real-time reports on inventory, sales, stock movements, and performance.

**Procedure:**

* **Inventory Valuation:** Calculate the total value of inventory using different methods (e.g., FIFO, LIFO, weighted average).
* **Stock Reports:** Generate reports on stock levels, order status, and low stock items.
* **Sales Reports:** Track product sales performance, including revenue, units sold, and customer data.
* **Audit Trail:** Maintain records of all inventory transactions for transparency and auditing purposes.

**7. Reorder and Stock Alert Module**

**Purpose:** To automate the process of reordering stock when levels are low.

**Procedure:**

* **Set Reorder Points:** Define minimum stock levels for automatic reordering.
* **Generate Purchase Orders:** Automatically create POs when stock falls below reorder point.
* **Stock Alerts:** Set up email or SMS notifications for low stock or when a product reaches a critical level.

**8. Returns and Refunds Module**

**Purpose:** To handle the return of products by customers, updating stock and processing refunds.

**Procedure:**

* **Create Return Orders:** Generate return orders based on customer requests.
* **Process Refunds:** Update financials by issuing refunds for returned goods.
* **Adjust Inventory:** Return items to stock after successful returns and process any damaged goods.

**9. User Management and Access Control Module**

**Purpose:** To manage who can access and modify the inventory system.

**Procedure:**

* **Create Users:** Add users with different roles (admin, manager, warehouse staff, etc.).
* **Set Permissions:** Define roles and control access based on user roles (e.g., who can modify stock, create orders, view reports).
* **Audit Logs:** Track user activity for security and compliance purposes.

**10. Integration Module**

**Purpose:** To integrate the inventory management system with other software or third-party services like e-commerce platforms, accounting software, or ERP systems.

**Procedure:**

* **Integrate with E-commerce:** Sync inventory levels with online stores to reflect real-time stock data.
* **Integration with Accounting Systems:** Sync purchase and sales data with accounting software for financial tracking.
* **Supplier Integration:** Set up automatic order placements with suppliers for replenishment.

**General Flow of the Inventory Management System**

1. **Stock Entry:**
   * Products are received from suppliers and entered into the system (via Purchase Orders).
   * Stock levels are updated in real time, and a record of the transaction is created.
2. **Stock Movement:**
   * Products may be moved between warehouses, sold to customers, or used in operations.
   * Inventory records are updated each time an item is moved.
3. **Sales:**
   * Customers place orders, and inventory is reduced when goods are sold.
   * Invoices are generated, and shipments are processed.
4. **Replenishment:**
   * When stock levels drop below predefined reorder points, the system automatically triggers purchase orders to suppliers to restock items.
   * This ensures the business always has sufficient stock on hand.
5. **Returns:**
   * Customers may return items. These returns are processed in the system, and stock levels are adjusted accordingly.
6. **Reporting and Analysis:**
   * Managers can run reports to evaluate stock levels, sales performance, supplier performance, and other metrics.
   * Reports help in making data-driven decisions for stock management and business growth.

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