Here’s a simple set of test cases for a pen, covering appearance, usability, functionality, and durability:

**1. Appearance and Build Quality**

| **Test Case ID** | **Test Case Description** | **Expected Result** |
| --- | --- | --- |
| TC-01 | Check if the pen has any visible scratches, cracks, or damage. | The pen should have no visible defects and appear new. |
| TC-02 | Verify the cap fits securely on the pen (if applicable). | The cap should fit snugly without being too tight or too loose. |
| TC-03 | Verify the clip (if applicable) can attach securely to papers or pockets. | The clip should be strong and not break or bend. |

**2. Ink Quality and Writing Performance**

| **Test Case ID** | **Test Case Description** | **Expected Result** |
| --- | --- | --- |
| TC-04 | Verify the pen writes smoothly without ink skipping. | The pen should write smoothly without interruptions. |
| TC-05 | Verify that the ink color matches the label (e.g., black ink writes in black). | The ink color should match the pen label. |
| TC-06 | Check if the pen starts writing immediately without excessive shaking or pressing. | The pen should start writing without shaking or applying extra pressure. |
| TC-07 | Test the ink flow consistency with both light and firm pressure. | Ink flow should be consistent regardless of writing pressure. |

**3. Usability and Ergonomics**

| **Test Case ID** | **Test Case Description** | **Expected Result** |
| --- | --- | --- |
| TC-08 | Verify that the pen is comfortable to hold for extended writing. | The pen should be comfortable to hold without causing strain. |
| TC-09 | Test the pen’s grip for slip resistance. | The pen should not slip during use. |
| TC-10 | Verify that the pen’s weight and size are appropriate for typical use. | The pen should feel balanced and easy to control. |

**4. Ink Drying and Smudge Resistance**

| **Test Case ID** | **Test Case Description** | **Expected Result** |
| --- | --- | --- |
| TC-11 | Verify the ink dries quickly on common paper types to avoid smudging. | The ink should dry quickly on paper. |
| TC-12 | Check for smudging if you touch the ink shortly after writing. | The ink should not smudge after a brief drying period. |
| TC-13 | Test the pen’s ink for bleeding through thin paper. | The ink should not bleed through most standard paper. |

**5. Durability**

| **Test Case ID** | **Test Case Description** | **Expected Result** |
| --- | --- | --- |
| TC-14 | Drop the pen from desk height and check for any damage. | The pen should remain intact and fully functional. |
| TC-15 | Verify the pen’s functionality after opening/closing the cap or clicking the mechanism repeatedly. | The pen should function normally without jamming or loosening. |

**6. Ink Leakage**

| **Test Case ID** | **Test Case Description** | **Expected Result** |
| --- | --- | --- |
| TC-16 | Check for ink leakage when the pen is held vertically with the tip down for an extended period. | The pen should not leak ink when held vertically. |
| TC-17 | Check for ink leakage if the pen is stored horizontally for an extended period. | The pen should remain leak-free when stored horizontally. |

**7. Temperature Resistance**

| **Test Case ID** | **Test Case Description** | **Expected Result** |
| --- | --- | --- |
| TC-18 | Verify that the pen writes normally after exposure to room temperature variations. | The pen should function normally. |
| TC-19 | Test if the ink freezes or clogs in colder temperatures (if applicable). | The ink should not freeze or clog under moderate cold conditions. |

**8. Special Features (if applicable)**

| **Test Case ID** | **Test Case Description** | **Expected Result** |
| --- | --- | --- |
| TC-20 | For multi-color pens: Verify each color writes correctly and matches its label. | Each ink color should match the label and write correctly. |
| TC-21 | For erasable pens: Verify the ink erases cleanly with minimal trace. | Ink should erase clearly without significant residue. |

**9. Shelf Life and Storage**

| **Test Case ID** | **Test Case Description** | **Expected Result** |
| --- | --- | --- |
| TC-22 | Verify that the pen writes immediately after being stored for several months. | The pen should write smoothly without issues after storage. |

**10. Safety**

| **Test Case ID** | **Test Case Description** | **Expected Result** |
| --- | --- | --- |
| TC-23 | Verify all edges and parts are smooth and free of sharp edges. | The pen should be safe to handle. |
| TC-24 | Check that the materials used (e.g., ink) are non-toxic and safe. | The pen’s materials should meet safety standards and be non-toxic. |

These test cases can be adapted to different types of pens (e.g., ballpoint, fountain, gel) by adjusting for specific features or functionality. This comprehensive approach helps ensure that the pen performs reliably in various common conditions.

E-COMMERCE WEBSITE:

Testing an e-commerce website involves covering a wide range of features, including the homepage, product pages, shopping cart, checkout process, user accounts, and payment functionality. Here is a comprehensive set of test cases for an e-commerce website:

**1. Homepage**

* Verify that the homepage loads correctly with all banners, images, and links displayed.
* Verify that the search bar is present and functional.
* Verify that featured products, deals, or promotions display correctly.
* Verify that categories, sub-categories, and their navigation links are working correctly.

**2. Search Functionality**

* Verify that a user can search for products by name, brand, or keyword.
* Verify that relevant products display for specific search terms.
* Verify that a “No Results Found” message appears when a search returns no results.
* Verify search filters (e.g., price, category, rating) work correctly and refine search results accurately.
* Verify that autocomplete suggestions appear when typing in the search bar.

**3. Product Listing Page**

* Verify that the product listing page displays correct product details, such as image, name, price, and ratings.
* Verify that sorting options (e.g., price, popularity, newest) work as expected.
* Verify pagination functionality if there are multiple pages of products.

**4. Product Details Page**

* Verify that each product detail page shows product images, price, description, specifications, and reviews.
* Verify that the “Add to Cart” and “Buy Now” buttons function correctly.
* Verify that the product quantity selector works as expected.
* Verify that product reviews and ratings are displayed correctly.

**5. Shopping Cart**

* Verify that a product is added to the cart when the “Add to Cart” button is clicked.
* Verify that the cart updates correctly when items are added or removed.
* Verify that the total price updates accurately as products are added/removed or quantities are changed.
* Verify that the “Proceed to Checkout” button navigates the user to the checkout page.
* Verify that an error message appears if an out-of-stock item is in the cart.

**6. Checkout Process**

* Verify that a user can proceed to checkout from the shopping cart.
* Verify that the checkout page includes fields for shipping address, billing address, and payment method.
* Verify that the user can edit the shipping address at checkout.
* Verify that the checkout process displays a summary of the order, including item count and total price.
* Verify that discount codes or promo codes can be applied and the total price updates correctly.

**7. Payment Functionality**

* Verify that the website supports different payment methods (e.g., credit card, PayPal, COD).
* Verify that the payment page displays correctly without errors.
* Verify that valid payment details can be entered and processed successfully.
* Verify that an error message is displayed for invalid payment details (e.g., incorrect card number).
* Verify that the payment gateway securely handles transactions and redirects back to the website after successful payment.

**8. Order Confirmation**

* Verify that an order confirmation message appears after completing a purchase.
* Verify that an order confirmation email is sent to the user with the order details.
* Verify that the order summary displays correctly on the order confirmation page.

**9. User Registration**

* Verify that a user can register with valid credentials.
* Verify that an error message displays for invalid or incomplete registration details.
* Verify that a verification email is sent to the user’s email address after registration (if required).
* Verify that password strength requirements are enforced during registration.

**10. User Login and Account Management**

* Verify that a registered user can log in with correct credentials.
* Verify that an error message displays for incorrect login credentials.
* Verify that the user can reset their password if they forgot it.
* Verify that the user can view and edit personal details (e.g., name, address, payment methods) in their account.
* Verify that the user can view past orders and order status.

**11. Order Tracking**

* Verify that a user can track their order status from their account page.
* Verify that the order tracking page displays the correct delivery status (e.g., pending, shipped, delivered).
* Verify that the estimated delivery date is displayed correctly.

**12. Wishlist Functionality**

* Verify that a user can add and remove items from the wish list.
* Verify that items in the Wishlist persist after logging out and logging back in.
* Verify that a user can move items from the wish list to the cart.

**13. Discount and Promo Codes**

* Verify that valid promo codes can be applied at checkout.
* Verify that the discount is calculated correctly when a promo code is applied.
* Verify that expired or invalid promo codes display an error message.

**14. Product Reviews and Ratings**

* Verify that users can submit a review and rating for purchased products.
* Verify that reviews and ratings display correctly on product pages.
* Verify that inappropriate or flagged reviews are not displayed (if moderation is enabled).

**15. Notifications and Alerts**

* Verify that the user receives notifications about order status updates (e.g., order shipped, delivered).
* Verify that low stock or out-of-stock alerts are displayed on product pages.
* Verify that price drop or promotion alerts are sent to subscribed users.

**16. Security and Data Privacy**

* Verify that sensitive user data (e.g., passwords, payment details) is encrypted.
* Verify that the user is logged out after a set period of inactivity.
* Verify that HTTPS is used to secure the website.
* Verify that a user’s session is terminated after logging out.

**17. Performance and Load Testing**

* Verify that the website loads within an acceptable time limit.
* Verify that all pages load correctly even under heavy traffic.
* Verify that the website performs well on different devices and browsers.

**18. Mobile Responsiveness**

* Verify that the website is responsive and displays correctly on mobile and tablet devices.
* Verify that touch functionality works correctly on mobile devices.
* Verify that the mobile menu and cart are accessible and functional.

**19. Multilingual and Currency Support (if applicable)**

* Verify that the website displays correctly in each supported language.
* Verify that the currency changes according to the selected country or region.
* Verify that the product prices are converted correctly to the selected currency.

**20. Error Handling**

* Verify that error messages are displayed if a page fails to load or if an item is unavailable.
* Verify that appropriate error messages display for issues such as payment failure or item out of stock.

These test cases cover essential functionalities for an e-commerce website and ensure that it works correctly and provides a smooth user experience. Additional test cases might be necessary for specific features or integrations unique to the website.

OrangeHRM application :

Below is a table format with test cases for an **OrangeHRM application**. These test cases cover key functional areas such as login, employee management, leave management, time tracking, and more.

| **Test Case ID** | **Test Scenario** | **Test Case Description** | **Preconditions** | **Test Steps** | **Expected Result** |
| --- | --- | --- | --- | --- | --- |
| TC-001 | Login Functionality | Verify login with valid credentials. | OrangeHRM login page is displayed. | 1. Enter valid username and password.  2. Click on "Login" button. | User should be redirected to the dashboard page. |
| TC-002 | Login Functionality | Verify login with invalid credentials. | OrangeHRM login page is displayed. | 1. Enter invalid username and/or password.  2. Click on "Login" button. | Error message should be displayed: "Invalid credentials." |
| TC-003 | Forgot Password | Verify forgot password link redirects to password recovery page. | OrangeHRM login page is displayed. | 1. Click on "Forgot your password?" link. | User should be redirected to the password recovery page. |
| TC-004 | Dashboard Navigation | Verify user can access "My Info" page from dashboard. | User is logged in. | 1. From the dashboard, click on "My Info" in the menu. | User should be redirected to the "My Info" page. |
| TC-005 | Employee Management | Verify adding a new employee with valid details. | User has "Admin" role. | 1. Navigate to "PIM" > "Add Employee".  2. Enter valid employee details.  3. Click "Save". | New employee should be created, and details should display correctly on the "Employee List" page. |
| TC-006 | Employee Management | Verify error message for adding an employee with missing required fields. | User has "Admin" role. | 1. Navigate to "PIM" > "Add Employee".  2. Leave required fields blank.  3. Click "Save". | Error messages should appear for required fields. |
| TC-007 | Leave Management | Verify user can apply for leave. | User is logged in. | 1. Go to "Leave" > "Apply".  2. Select leave type, dates, and enter comments.  3. Click "Apply". | Leave request should be submitted, and a confirmation message should appear. |
| TC-008 | Leave Management | Verify user cannot apply for leave without selecting leave type. | User is logged in. | 1. Go to "Leave" > "Apply".  2. Leave type blank.  3. Click "Apply". | Error message should appear indicating that leave type is required. |
| TC-009 | Leave List | Verify that approved leave requests are visible on the leave list. | User has approved leave requests. | 1. Go to "Leave" > "Leave List".  2. Filter by approved status. | Approved leave requests should be displayed in the leave list. |
| TC-010 | Time Tracking | Verify user can punch in and out. | User is logged in. | 1. Go to "Time" > "Attendance" > "Punch In".  2. Punch in.  3. Punch out. | Punch in and punch out times should be recorded accurately. |
| TC-011 | Recruitment | Verify adding a candidate with all required fields. | User has "Admin" role. | 1. Go to "Recruitment" > "Add Candidate".  2. Enter candidate details.  3. Click "Save". | Candidate should be added, and details should appear in the "Candidates" list. |
| TC-012 | Directory Search | Verify user can search for an employee in the directory. | User is logged in. | 1. Go to "Directory".  2. Enter employee name in the search field.  3. Click "Search". | Search results should display the employee details. |
| TC-013 | Performance Module | Verify that user can add performance goals. | User has access to "Performance" tab. | 1. Go to "Performance" > "My Goals".  2. Click "Add" and enter goal details.  3. Click "Save". | Performance goal should be added, and it should appear in the goals list. |
| TC-014 | Admin - User Management | Verify that admin can add a new user to the system. | User has "Admin" role. | 1. Go to "Admin" > "User Management".  2. Click "Add" and enter user details.  3. Click "Save". | New user should be added, and they should appear in the user list. |
| TC-015 | Admin - Roles and Permissions | Verify that admin can assign different roles to users. | User has "Admin" role. | 1. Go to "Admin" > "User Management".  2. Select user and assign a different role.  3. Save changes. | Role should be updated, and the user should have access only to assigned functionalities. |
| TC-016 | Notifications | Verify that notification appears for pending leave approval (for managers). | Manager role with pending leave. | 1. Log in as manager.  2. Check notifications. | Pending leave approval notifications should be visible for the manager. |
| TC-017 | Reports | Verify user can generate attendance reports for a specific period. | User has access to "Reports" module. | 1. Go to "Reports" > "Attendance Reports".  2. Select date range.  3. Click "Generate". | Attendance report should be generated and available for download or viewing. |
| TC-018 | Logout Functionality | Verify that user can log out successfully. | User is logged in. | 1. Click on the profile icon.  2. Select "Logout". | User should be logged out, and the login page should be displayed. |
| TC-019 | Session Timeout | Verify that session times out after inactivity period. | User is logged in. | 1. Log in and remain inactive for the session timeout duration. | User should be logged out automatically after the timeout, and the login page should appear. |
| TC-020 | Password Change | Verify that user can change password successfully. | User is logged in. | 1. Go to "My Info" > "Change Password".  2. Enter current password, new password, confirm password.  3. Click "Save". | Password should be changed, and user should receive a confirmation message. |

These test cases cover basic functionalities of OrangeHRM in a simplified table format, which can be expanded based on additional modules or specific features used within the system.