FUNCTIONAL TEST CASES

1. STUDENT

- ## Login Page

ID	Title	Preconditions	Steps	Test data	Expected result	Priority
TC-001	Successful login — valid credentials	Test user exists in DB; app reachable	1. Open login page. 2. Enter valid email. 3. Enter correct password. 4. Click Login.	Email: bhagya@gmail.com, Password: Bhagya@2002	User is authenticated and redirected to student dashboard/home. UI shows username or dashboard elements. HTTP 200 and session cookie created.	High
TC-002	Login with incorrect password	Test user exists	1. Open login. 2. Enter valid email. 3. Enter wrong password. 4. Click Login.	Email: bhagya@gmail.com, Password: Bhagya@2000	Login rejected. Error message shown (e.g. "Invalid email or password"). No session cookie created.	High
TC-003	Login with non-existent email	—	1. Enter email not in DB. 2. Enter any password. 3. Click Login.	Email: hari@gmail.com, Password: haritha@2000	Error message indicating invalid credentials. No session created.	High
TC-004	Required field validation: email empty	—	1.Leave email empty. 2. Enter password. 3. Click Login.	Email: (blank)	Inline error "Email is required" or server returns validation message. No login attempt.	High
TC-005	Required field validation: password empty	—	1. Enter email. 2. Leave password blank. 3. Click Login.	Password: (blank)	Inline error "Password is required". No authentication request.	High
TC-006	Remember Me checked — persists session	valid user	1. Login with Remember Me checked. 2. Close browser. 3. Reopen and navigate to dashboard	N/A	User remains logged in (persistent cookie) until expiry or logout.	Medium

	(closi ng brows er and reope n)				
TC-00 7	Reme mber Me not check ed — sessio n cleare d after close	Valid user	1. Login without checking Remember Me. 2. Close browser. 3. Reopen and navigate.	N/A	User should be logged out (session cleared).	Medium
TC-00 8	Forgot Passw ord link naviga tion	—	1. Click Forgot Password? Link.	N/A	Page navigates forgot-password flow (reset email or OTP page)	Medium
TC-00 9	Regist er here link naviga tion	—	1. Click Register here.	N/A	Registration page opens. Fields for creating account shown	Low
TC-01 0	Login button disabl ed/en abled behavi or	—	1. Leave both fields blank. 2. Type email then remove. 3. Type password then remove.	N/A	Button disabled or shows validation errors when required fields are empty. If not disabled, submit must produce validation errors.	Medium
TC-01 1	Sessio n timeo ut behavi or	User currently logged in	1. Login successfully. 2. Wait for session timeout period (or simulate). 3. Try to access dashboard.	N/A	User is redirected to login page and asked to re-authenticate.	Medium
TC-01 2	Logou t clears sessio n and "Reme mber	Logged in user (rememb er me on and off)	1. Login. 2. Click Logout. 3. Try to use back button or reopen page	N/A	User is logged out; session cookie deleted; back/forward must not grant access without login.	High

ID	Title	Preconditions	Steps	Test data	Expected result	Priority
TC-013	UI elements presence/responsiveness	Desktop & mobile	1. Load page on desktop/mobile. 2. Check presence: Email, Password, Remember Me, Login button, Forgot Password, Register here, logo.	N/A	All elements visible and aligned. Responsive layout adapts to viewport.	Low
TC-014	Error message consistency and content	—	1. Trigger invalid credentials and missing field errors. 2. Observe messages.	N/A	Error messages are consistent, non-revealing (do not say "email not found"), helpful ("Invalid email or password"), and accessible (screen reader readable).	Medium
TC-015	Accessibility	—	1. Use TAB to navigate through inputs, checkbox, links, buttons. 2. Activate via Enter/Space.	N/A	Focus order is logical; all elements reachable and operable with keyboard.	Medium

- **Register Page**

ID	Title	Preconditions	Steps	Test data	Expected result	Priority
TC-001	Successful registration (happy path)	Staging up; SMTP mock/inspection available	POST /register with valid payload	FullName: "S.Bhagya Sree", Email: "bhagya@gmail.com", Password: "Bhagya@2002", ConfirmPassword: "Bhagya@2002", SecurityQuestion: "Pet Name", SecurityAnswer: "Tommy"	HTTP 201/200. New user row inserted. is_verified=false (if verification required). Verification email queued.	High

TC-002	Required-field server validation	Staging up	POST missing required fields (email or password)	{name:"Bob", password:"", ...}	HTTP 400 with validation errors listing missing fields. No DB insert.	High
TC-003	Email format validation	Staging up	POST invalid email format	{email:"invalid-email", ...}	HTTP 400 + message Invalid email format. No DB insert..	High
TC-004	Password / confirm mismatch	Staging up	POST with password != confirm	{password:"Abc123!",confirm:"Abc12!"}	{password:"Abc123!",confirm:"Abc12!"} HTTP 400 + message Passwords do not match. No DB insert.	High
TC-005	Password strength enforcement	Password policy active	POST with weak password	N/A	HTTP 400 + message Password too weak (per policy). No DB insert	High
TC-006	Email uniqueness constraint	User exists@test.com in DB	POST with existing email	POST with existing email	HTTP 409 or 400 + Email already exists. No second DB row.	High
TC-007	CSRF protection on endpoint	CSRF expected by framework	POST without CSRF token (if applicable)	valid payload but no token	HTTP 403 or rejection per CSRF policy; no DB insert.	High
TC-008	Security answer storage protection	Security answer feature enabled	Register with security answer	secA:"Fluffy"	Security answer stored hashed/ encrypted or handled per policy; not in plaintext logs.	Medium
TC-009	Verify all mandatory fields are displayed	Registration page is open	Check presence of all fields (Full Name, Email, Password, Confirm Password, Security Question,	N/A	All mandatory fields and Register button are visible and properly labeled	High

			Security Answer)			
TC-010	Verify password and confirm password mismatch	Application is running	Enter different values for password and confirm password	Password: "Abc123!", Confirm: "Abc12!"	Error message "Passwords do not match" displayed.	High
TC-011	Verify password minimum strength	Password policy enabled	Enter weak password and click Register	Password: "12345"	Validation error shown "Password too weak"	High
TC-012	Verify password stored securely (hashed)	Access to DB (test environment)	Register a new user	N/A	Password stored in hashed format, not in plaintext.	High
TC-013	Verify proper logout and session handling	Verify proper logout and session handling	Register → login → logout	Valid credentials	User session ends properly; cookies deleted after logout.	Medium
TC-014	Verify "Already have an account? Login" link	Registration page open	Click "Login" link	N/A	Redirects to login page successfully.	Low

2. INSTITUTE

- **Login Page**

Test ID	Title	Preconditions	Steps	Test Data	Result	Priority
TC-01	Successful Login	Institute exists and account is active.	Open login page → enter valid Institute Code → enter valid Password → click Login.	valid institute code, valid password.	User is authenticated and redirected to the institute dashboard/home. Session cookie created.	High
TC-02	Password masked	Login page loaded	Enter any password characters in Password field.	Password123	Characters are masked (● or •). Optionally an eye icon toggles visibility if available.	High
TC-03	"Remember Me" persists login (opt-in)	Valid institute credentials. Browser allows cookies.	Enter valid credentials → check Remember Me → click Login → close browser → reopen and revisit portal.	NA	User stays logged in (or login form pre-filled) depending on app design; no re-auth required.	Medium
TC-04	Forgot Password link navigation	Login page loaded.	Click Forgot Password?	NA	Redirect to password recovery/reset page. Page shows instructions to reset.	High
TC-05	Register here navigation	Login page visible.	Click Register here.	NA	Redirect to institute registration/ sign up page.	Medium

TC-06	Empty fields submission	Login page loaded.	Click Login with both Institute Code and Password empty.	NA	Validation messages shown for required fields (e.g., "Enter your Institute Code", "Enter your Password"). No submission.	High
TC-07	Empty Institute Code	Leave Institute Code empty, enter valid password, click Login.	Validation for Institute Code displayed; no login attempt.	NA	Validation messages shown for Institute Code.	High
TC-08	Empty Password	Enter Institute Code, leave Password empty, click Login.	Validation for Password displayed; no login.	NA	Validation messages shown for Password.	High
TC-09	Invalid Institute Code	Institute Code should not be already registered.	Enter non-existent institute code + valid password → click Login.	INVALID_CODE	Error message (e.g., "Institute code not found") No login.	High
TC-10	Wrong password for valid institute	NA	Enter valid institute code + wrong password → click Login.	NA	Clear the Login Page.	High
TC-11	Special characters in inputs	NA	Use special characters, punctuation (!@#$%^&) in Institute Code/Password and submit	Special Characters	Valid credentials containing such chars should authenticate; input is handled safely.	Medium
TC-12	Tab order & keyboard accessibility	Do not use cursor	With keyboard only, press Tab through page controls (Institute Code → Password → Remember Me → Login		Focus order matches visual order and all controls are usable via keyboard	Medium

Test ID	Title		Steps		Result	Priority
			→ Forgot Password → Register).			
TC-13	Labels and Error Message Clarity	Inspect fields for accurate labels (e.g., "Enter your Institute Code").	Trigger validation errors (empty/invalid input).	Empty input	Error messages are clear, displayed near the field, and focus moves to the first error.	Medium
TC-14	Responsive layout on different screen sizes	NA	Open page on mobile, tablet, desktop, and various resolutions.	NA	Login form remains usable (inputs and buttons visible and not overlapping).	Low
TC-15	Password paste behaviour	NA	Copy password text and paste into Password field.	NA	Paste allowed (unless policy forbids); password masks display.	Low
TC-16	Logout clears session and "Remember Me" (if opted out)	NA	Login → click Logout. Then revisit site.	NA	Session cleared; user sees login screen; if "Remember Me" unchecked, credentials should not persist.	High

- **Register Page**

Test ID	Title	Steps	Result	Priority
TC-01	Page loads	Open the Institute Registration page.	Page loads with all sections visible (Institute Details, Affiliation Details, Principal & Contact Info, Login & Security) and Submit & Reset buttons present.	High
TC-02	Reset clears form	Fill multiple fields, click Reset.	All fields revert to placeholders/defaults and file inputs are cleared.	Medium

TC-03	Submit without filling mandatory fields	Click Submit with empty form.	Validation errors appear for all mandatory fields; form is not submitted.	High
TC-04	Tab order / focus	Use Tab key to move through inputs left-to-right, top-to-bottom.	Logical tab order: required fields announced by screen reader when focused.	Medium
TC-05	Responsive Layout	Open page at desktop, tablet, and mobile widths.	Form elements reflow sensibly; buttons accessible.	Medium
TC-06	Location Type dropdown	Open dropdown, select each option, submit.	Selected value saved and returned in submission payload.	Medium
TC-07	Affiliated University State required	Leave blank / choose state and submit.	If required, blank → error; selection accepted otherwise.	High
TC-08	Institute Establishment Certificate — file type/size	Upload allowed file types (e.g., pdf, jpg) and disallowed (exe, .js); upload > allowed size (e.g., 10MB).	Only allowed types accepted; oversize shows error; disallowed types rejected. File saved in server on successful submission.	High
TC-09	Affiliation Certificate	Try submitting with and without this file.	If required → error when missing; if optional → accepted blank.	Medium
TC-10	Confirm Password Matching	Enter password and different confirm password.	Error "Passwords do not match."; matching proceeds.	High
TC-11	Clear, inline error messages	Trigger validation errors for each field.	Each error displayed near relevant field and accessible (aria-live) for screen readers.	High
TC-12	Success message content	Submit valid form.	Success message includes next steps.	Medium

3. STATE

TC ID	Test Case Description	Precondition	Test Steps	Test Data	Excepted Result
TC01	Verify that the login page loads successfully	Application should be running	1. Open the Ministry Login URL in the browser	N/A	The login page should load properly with Username, Password, Remember Me, and Login button visible
TC02	Verify login with both fields empty	Login page is open	1. Click on "Login" without entering credentials	Username = "", Password = ""	Error message "The username field is required." and "The password field is required." should appear
TC03	Verify login with only username entered	Login page is open	1. Enter valid username, 2. Leave password blank, 3. Click "Login"	Username = "state", Password = ""	Error message "The password field is required." should appear
TC04	Verify login with only password entered	Login page is open	1. Enter valid password, 2. Leave username blank, 3. Click "Login"	Username = "", Password = "state123"	Error message "The username field is required." should appear
TC05	Verify login with invalid credentials	Login page is open	1. Enter incorrect username and password, 2. Click "Login"	Username = "wrongUser", Password = "wrongPass"	Error message "Invalid username or password." should be displayed
TC06	Verify login with valid credentials	Login page is open	1. Enter valid username and password, 2. Click "Login"	Username = "state", Password = "state123"	User should be redirected to the Ministry Dashboard/Home Page
TC07	Verify "Remember Me" functionality	Login page is open	1. Enter valid credentials, 2. Check "Remember Me" 3. Login successfully 4. Logout and return to login page	Username = "state", Password = "state123"	Username should be pre-filled when returning to the login page
TC08	Verify password masking	Login page is open	1. Click in Password field, 2. Type password	Password = "state123"	Password should appear masked (•••••••••)
TC09	Verify "Enter" key works for login submission	Login page is open	1. Enter credentials, 2. Press "Enter" key	Username = "state", Password = "state123"	Login should trigger same as clicking the "Login" button
TC10	Verify case sensitivity of username and password	Login page is open	1. Enter same username/password in different case combinations	Username = "state", Password = "state123"	If credentials are case sensitive, system should reject; otherwise, allow login
TC11	Verify password field does not accept spaces at start or end	Login page is open	1. Enter password with spaces, 2. Click "Login"	Password = "state123"	System should trim spaces or show invalid credentials

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TC12	Verify session timeout after login	User logged in successfully	1. Stay idle for a defined timeout period	N/A	System should log out automatically after session timeout
TC13	Verify redirection after logout	User is logged in	1. Click "Logout" button	N/A	User should be redirected to the login page
TC14	Verify layout on different devices/resolutions	Browser or device	1. Open login page on desktop, tablet, and mobile	N/A	Page layout should remain responsive and elements aligned
TC15	Verify error messages disappear after correcting input	Login page is open	1. Leave field blank, click login (show error), 2. Enter valid data	N/A	Error messages should disappear automatically once input is valid

4. MINISTRY

TC ID	Test Case Description	Precondition	Test Steps	Test Data	Excepted Result
TC01	Verify that the login page loads successfully	Application should be running	1. Open the Ministry Login URL in the browser	N/A	The login page should load properly with Username, Password, Remember Me, and Login button visible
TC02	Verify login with both fields empty	Login page is open	1. Click on "Login" without entering credentials	Username = "", Password = ""	Error message "The username field is required." and "The password field is required." should appear
TC03	Verify login with only username entered	Login page is open	1. Enter valid username, 2. Leave password blank, 3. Click "Login"	Username = "ministry", Password = ""	Error message "The password field is required." should appear
TC04	Verify login with only password entered	Login page is open	1. Enter valid password, 2. Leave username blank, 3. Click "Login"	Username = "", Password = "ministry123"	Error message "The username field is required." should appear
TC05	Verify login with invalid credentials	Login page is open	1. Enter incorrect username and password, 2. Click "Login"	Username = "wrongUser", Password = "wrongPass"	Error message "Invalid username or password." should be displayed
TC06	Verify login with valid credentials	Login page is open	1. Enter valid username and password, 2. Click "Login"	Username = "ministry", Password = "ministry123"	User should be redirected to the Ministry Dashboard/Home Page
TC07	Verify "Remember Me" functionality	Login page is open	1. Enter valid credentials, 2. Check "Remember Me" 3. Login successfully 4. Logout and return to login page	Username = "ministry", Password = "ministry123"	Username should be pre-filled when returning to the login page

TC08	Verify password masking	Login page is open	1. Click in Password field, 2. Type password	Password = "ministry123"	Password should appear masked (•••••••••)
TC09	Verify "Enter" key works for login submission	Login page is open	1. Enter credentials, 2. Press "Enter" key	Username = "ministry", Password = "ministry123"	Login should trigger same as clicking the "Login" button
TC10	Verify case sensitivity of username and password	Login page is open	1. Enter same username/password in different case combinations	Username = "ministry", Password = "ministry123"	If credentials are case sensitive, system should reject; otherwise, allow login
TC11	Verify password field does not accept spaces at start or end	Login page is open	1. Enter password with spaces, 2. Click "Login"	Password = "ministry123"	System should trim spaces or show invalid credentials
TC12	Verify session timeout after login	User logged in successfully	1. Stay idle for a defined timeout period	N/A	System should log out automatically after session timeout
TC13	Verify redirection after logout	User is logged in	1. Click "Logout" button	N/A	User should be redirected to the login page
TC14	Verify layout on different devices/resolutions	Browser or device	1. Open login page on desktop, tablet, and mobile	N/A	Page layout should remain responsive and elements aligned
TC15	Verify error messages disappear after correcting input	Login page is open	1. Leave field blank, click login (show error), 2. Enter valid data	N/A	Error messages should disappear automatically once input is valid