**FUNCTIONAL AND NON-FUNCTIONAL REQUIREMENTS**

**1. Functional Requirements**

**1.1 User Management**

* FR1: The system shall allow users to register with personal details and credentials.
* FR2: The system shall authenticate users during login based on role (Customer, Loan Officer, Insurance Officer, Admin).
* FR3: The system shall allow password reset via email/OTP.
* FR4: The system shall enforce role-based access controls.

**1.2 Customer Management**

* FR5: Customers shall be able to view and edit their profile.
* FR6: Admins, Loan Officers, and Insurance Officers shall be able to view all customer records.
* FR7: The system shall allow searching, filtering, and sorting of customer profiles.

**1.3 Loan Application and Processing**

* FR8: Customers shall be able to apply for a loan by filling out an online form.
* FR9: The system shall allow upload of documents (e.g., ID proof, income proof).
* FR10: Loan Officers shall be able to review, approve, reject, or request more information.
* FR11: Upon approval, the system shall calculate EMI and disbursement schedule**.**

**1.4 Insurance Policy Management**

* FR22: Customers shall be able to apply for an insurance policy (e.g., life, health, property) via a form.
* FR23: The system shall allow upload of required documents for insurance verification.
* FR24: Insurance Officers shall be able to review, approve, reject, or request more information for insurance applications.
* FR25: Upon approval, the system shall issue an insurance policy document with premium and tenure details.
* FR26: Customers shall be able to view, renew, or cancel their policies.
* FR27: The system shall track insurance premium payment schedules.
* FR28: The system shall send renewal alerts before the policy expiry date.

**1.5 Transaction and Payment Tracking**

* FR12: The system shall display a payment schedule for approved loans and insurance policies.
* FR13: Customers shall be able to make EMI and premium payments via an integrated payment gateway.
* FR14: The system shall update balances and generate receipts after each transaction.
* FR15: All transactions shall be logged and viewable by admins and customers.

**1.6 Notifications and Alerts**

* FR16: The system shall send alerts via email/SMS for due EMIs and insurance premiums.
* FR17: Notifications shall be sent for changes in loan and insurance application status.
* FR18: Admins shall receive alerts for failed transactions or suspicious activity.
* FR29: Customers shall receive reminders for upcoming policy renewals and missed payments.

**1.7 Dashboard and Reporting**

* FR19: Admins shall have access to analytics dashboard (e.g., total disbursed loans, active insurance policies, payments received).
* FR20: The system shall allow export of reports (CSV/PDF).
* FR21: Admin dashboard shall display recent transactions, customer activities, and policy summaries.

**2. Non-Functional Requirements**

**2.1 Performance**

* NFR1: The system shall support a large number of concurrent users without significant performance degradation.
* NFR2: All API responses shall have an average response time of < 5 seconds.

**2.2 Security**

* NFR3: All sensitive data (passwords, transaction details) shall be encrypted in transit (HTTPS).
* NFR4: Users must be automatically logged out after 10 minutes of inactivity.
* NFR5: Role-based access control must be strictly enforced.

**2.3 Usability**

* NFR6: The platform shall be intuitive and easy to navigate for users of all technical backgrounds.
* NFR7: All major actions shall be accessible within 3 clicks from the dashboard.

**2.4 Availability**

* NFR8: The system shall have 99.5% uptime during working hours (9 AM – 6 PM).
* NFR9: The system shall gracefully handle server crashes with backup/recovery.

**2.5 Scalability**

* NFR10: The application shall be scalable to add more financial services (e.g., mutual funds, credit cards) in the future.
* NFR11: The backend shall support deployment in cloud environments (e.g., AWS, Azure).

**2.6 Maintainability**

* NFR12: The codebase shall follow modular design for easier debugging and updates.
* NFR13: Logs shall be maintained for all critical user activities for troubleshooting.