Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	08/11/ 2025
Team ID	NM2025TMID02958
Project Name	Garage Management system
Maximum Marks	4 Marks

Garage Management System - Requirement Analysis

4. Requirement Analysis

The Requirement Analysis phase identifies what the system should do (functional requirements) and how well it should perform those tasks (non-functional requirements). This phase ensures clarity of expectations before development begins.

Functional Requirements

These requirements describe the core features the system must support.

1. **Secure User Login System**
2. Only authorized users (admin/staff) should be able to access the system.
3. Different roles may be assigned (e.g., Admin, Mechanic, Reception Staff).
4. **Customer and Vehicle Registration**
5. The system must allow storing customer details (name, contact, address).
6. Each customer can have one or multiple vehicles registered.
7. **Service Job Card Management**
8. Create new job cards whenever a vehicle arrives for servicing.
9. Update job status (In Service, Completed, Delivered).
10. Assign mechanics to job cards based on availability.
11. **Spare Parts Inventory Tracking**
12. Maintain records of available spare parts.
13. Reduce inventory count automatically when used in a service.
14. Notify users when stock is low.

15. **Invoice Generation and Reports**

16. Calculate service charges and spare part costs.
17. Generate printable invoices.
18. Produce service history and inventory usage reports.

Non-Functional Requirements

These requirements define the quality and performance of the system.

1. **User-Friendly Interface**
2. The interface should be simple, clean, and easy for garage staff to learn.
3. **Data Security**
4. Customer records, billing information, and login credentials must be securely stored.
5. Use authentication and access control to prevent unauthorized access.
6. **High Performance**
7. System operations such as billing, job card updates, and inventory tracking should execute quickly.
8. **Reliability and Backup**
9. The system should operate consistently without crashes.
10. Regular backups should be maintained to prevent data loss.

Output of Requirement Analysis

- A clear list of what the system will do
- Performance expectations for smooth and efficient operation • Foundation for system design and development