**Project Design Phase-II**

**Solution Requirements (Functional & Non-functional)**

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| Date | 31 January 2025 |
| Team ID | LTVIP2025TMID60699 |
| Project Name | Sustainable Smart City Assistant Using IBM  Granite LLM |
| Maximum Marks | 4 Marks |

**Functional Requirements (With Subtasks)**

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| **FR No.** | **Functional Requirement** | **Subtask / Description** |
| **FR-1** | **Dashboard** | **Display real-time AQI, traffic, water, energy per selected city** |
| **FR-2** | **Forecasting** | **Predict upcoming values based on trends (3–5 forecast)** |
| **FR-3** | **Anomaly Detection** | **Identify and highlight sudden spikes or drops in environmental data** |
| **FR-4** | **Chat Assistant** | **Respond to user queries related to eco behavior or current conditions** |
| **FR-5** | **Summarizer** | **Provide weekly overview of environmental trends** |
| **FR-6** | **Eco Tips** | **Give personalized tips based on user’s city and conditions** |
| **FR-7** | **Smart Alerts** | **Notify user only when critical changes or safety issues arise** |
| **FR-8** | **City Selector** | **Allow user to switch between different supported cities** |
| **FR-9** | **Theme Manager** | **Let users switch themes (dark/light) for better readability** |
| **FR-10** | **Localization (Optional)** | **Translate app content to other languages (e.g., Telugu, Hindi)** |

**Non-Functional Requirements**

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| **NFR No.** | **Non-Functional Requirement** | **Description** |
| **NFR-1** | **Usability** | **Interface should be intuitive and easy for all user types** |
| **NFR-2** | **Responsiveness** | **App must work well on different screen sizes and devices** |
| **NFR-3** | **Performance** | **Fast load times and smooth user experience (<3 sec latency)** |
| **NFR-4** | **Reliability** | **Live data must be consistently updated and accurate** |
| **NFR-5** | **Availability** | **System should work in both connected and offline modes** |
| **NFR-6** | **Scalability** | **Support adding more cities and data types in future** |
| **NFR-7** | **Security** | **No sensitive user data stored; API keys securely handled** |