**Project Initialization and Planning Phase**

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| Date | 6 August 2025 |
| Team ID | xxxxxx |
| Project Title | Predicting Plant Growth Stages Using Environmental & Management Data in Power BI |
| Maximum Marks | 3 Marks |

**Project Proposal (Proposed Solution) template**

This project proposal outlines a solution to address a specific problem. With a clear objective, defined scope, and a concise problem statement, the proposed solution details the approach, key features, and resource requirements, including hardware, software, and personnel.

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| **Project Overview** | |
| Objective | Help farmers and greenhouse managers make timely decisions to improve yield and resource efficiency by visualizing and predicting plant growth stages. |
| Scope | The project covers the collection, integration, and visualization of environmental (temperature, humidity, sunlight hours) and management (watering frequency, fertilizer type, soil type) data to predict plant growth stages using Power BI. |
| **Problem Statement** | |
| Description | Integrate multiple datasets into Power BI, clean and process them, and develop predictive visuals for different plant growth stages. |
| Impact | Improve decision-making, reduce waste, and optimize agricultural resources through data-driven insights. |
| **Proposed Solution** | |
| Approach | Collect sample data, clean and transform in Power BI, create relationships between datasets, develop predictive visuals, and design a user-friendly dashboard. |
| Key Features | * Integrates environmental & management data in Power BI. * Cleans and transforms data for accuracy. * Predicts plant growth stages using measures & trends. * Interactive dashboard with filters and visuals. * Provides insights for resource optimization. |

**Resource Requirements**

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| **Resource Type** | **Description** | **Specification/Allocation** |
| **Hardware** | | |
| Computing Resources | CPU/GPU specifications, number of cores | e.g., 2 x NVIDIA V100 GPUs |
| Memory | RAM specifications | e.g., 8 GB |
| Storage | Disk space for data, models, and logs | e.g., 1 TB SSD |
| **Software** | | |
| Frameworks | Python frameworks | e.g., Flask |
| Libraries | Additional libraries | e.g., scikit-learn, pandas, numpy |
| Development Environment | IDE, version control | e.g., Jupyter Notebook, Git |
| **Data** | | |
| Data | Source, size, format | e.g., Kaggle dataset, 10,000 images |