Requirements gathering and analysis is a critical phase in the **systems development life cycle (SDLC)**. It ensures the final product meets stakeholder needs. This process involves two main stages: **gathering (elicitation)** and **analysis**.

**1. Requirements Gathering (Elicitation) (6 marks)**

This is the process of collecting requirements from stakeholders such as users, customers, managers, and regulatory bodies. Key techniques include:

* **Interviews (1 mark):** One-on-one or group discussions with stakeholders to understand their needs, expectations, and current problems.
* **Questionnaires and Surveys (1 mark):** Useful when there are many stakeholders. Helps in gathering standardised data quickly.
* **Workshops (1 mark):** Bring together different stakeholders in collaborative sessions to generate and discuss requirements.
* **Observation (1 mark):** Watching users interact with current systems to understand real-world challenges and workflows.
* **Document Analysis (1 mark):** Reviewing existing documentation, reports, manuals, or software to understand current systems.
* **Prototyping (1 mark):** Creating early versions of a system to help stakeholders visualise features and refine their needs.

**2. Requirements Analysis (7 marks)**

After gathering, the information must be **interpreted, structured, and validated**:

* **Categorising Requirements (1 mark):** Dividing into functional (what the system should do) and non-functional (performance, usability, etc.).
* **Prioritisation (1 mark):** Not all requirements are equally important. Methods like MoSCoW (Must have, Should have, Could have, Won’t have) are used.
* **Feasibility Analysis (1 mark):** Assessing whether requirements are technically, economically, and legally feasible.
* **Conflict Resolution (1 mark):** Stakeholders may have conflicting needs. These are identified and resolved through negotiation or compromise.
* **Modelling (1 mark):** Using tools like **UML diagrams**, **data flow diagrams (DFDs)** or **use case diagrams** to visualise and validate requirements.
* **Validation (1 mark):** Ensuring that requirements are correct, complete, and agreed upon. Techniques include reviews, walkthroughs, and sign-offs.
* **Requirements Specification (1 mark):** Documenting the analysed requirements formally in a Software Requirements Specification (SRS) for use by designers and developers.