Q1: Algorithmic Bias

Definition: Algorithmic bias occurs when an AI system produces systematically prejudiced results due to flawed assumptions in its design, training data, or implementation.

Examples:

- **Facial recognition:** Systems may misidentify people of color due to underrepresentation in training datasets.
- **Recruitment tools:** AI trained on historical hiring data might favor male applicants if past trends showed gender bias.

Q2: Transparency vs. Explainability in AI

Concept	Description
Transparency	Refers to how openly the design, data sources, and logic of an AI model are disclosed.
Explainability	Refers to how well an AI system's decisions can be understood and interpreted by humans.

Importance:

- **Transparency** builds trust and accountability, especially for regulators and developers.
- **Explainability** ensures stakeholders can interpret and challenge AI decisions—crucial for fairness, legal compliance, and ethical deployment.

Q3: GDPR's Impact on AI in the EU

The **General Data Protection Regulation (GDPR)** enforces strict rules on data privacy and user rights in the EU, impacting AI development by:

- Requiring **explicit consent** for data usage, limiting how datasets are collected and processed.
- Enabling the **"right to explanation"**, obligating developers to justify automated decisions affecting individuals.
- Promoting **data minimization and anonymization**, encouraging more privacy-conscious AI architectures.