**TASK NO 5**

**ETHICAL CONCERNS ABOUT DATA SCIENCE**

**1. DATA PRIVACY & SECURITY**

* Collecting and processing user data (e.g., browsing history, personal details) raises privacy concerns.
* Unauthorized access or data breaches can expose sensitive information.
* Example: Facebook-Cambridge Analytica scandal (misuse of user data for political influence).

Ethical Practice: Ensure data encryption, secure storage, and GDPR compliance for user data protection.

**2. BIAS & FAIRNESS IN AI MODELS**

* Machine learning models can be biased due to imbalanced training data.
* Example: Facial recognition AI misidentifying people of certain ethnicities.
* Hiring algorithms discriminating against candidates based on gender or race.

Ethical Practice: Use diverse datasets, conduct bias audits, and apply fairness constraints in models.

**3. INFORMED CONSENT & TRANSPARENCY**

* Users should know how their data is being used and give explicit consent.
* Many companies collect data without proper disclosure.
* Example: Apps tracking location data without user awareness.

Ethical Practice: Provide clear privacy policies, opt-in choices, and explainable AI for transparency.

**4. DATA MANIPULATION & MISUSE**

* Data can be misrepresented to support misleading narratives.
* Example: Fake news, deepfakes, or manipulated statistics can influence public opinion.

Ethical Practice: Use fact-checking mechanisms, ensure data integrity, and validate sources.

**5. IMPACT ON JOBS & AUTOMATION RISKS**

* AI and automation may replace human jobs, leading to unemployment.
* Ethical AI should augment human work instead of fully replacing it.

Ethical Practice: Implement reskilling programs and create policies for AI-human collaboration.