

## Copilot, Microsoft 365, Professional Version with TU/e Login

Prompt from 23 October 2025:

"Imagine you are a professor teaching a challenging university course about ethics of AI. You need to write some exam questions. Please develop 12 multiple choice or multiple answer questions based ONLY on the first Six chapters of the attached textbook. The focus should be on argumentation and on main concepts related to rights, fairness, algorithmic bias, sustainability and AI, responsibility, design for values, technical AI, AGI, and the definition of artificial intelligence. Please format the questions with four answer possibilities. Keep the answers separate at the end of the question list."

Here are **12 multiple-choice questions** based on the first six chapters of the textbook, focusing on **rights, fairness, algorithmic bias, sustainability and AI, responsibility, design for values, technical AI, AGI, and the definition of artificial intelligence**. Each question has **four options**, and the correct answers are listed separately at the end.

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### Exam Questions

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**1. Which of the following best captures the operational definition of Artificial Intelligence as proposed in the JRC Technical Report?**

- A. AI is any system that mimics human emotions and creativity
  - B. AI is a system that processes inputs, makes decisions, and achieves specific goals autonomously
  - C. AI is a machine that passes the Turing Test and demonstrates consciousness
  - D. AI is any algorithm that uses big data for predictions
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**2. What is the primary distinction between Technical AI and Artificial General Intelligence (AGI)?**

- A. Technical AI focuses on narrow tasks, while AGI aims for broad, human-like cognitive abilities
  - B. Technical AI requires consciousness, while AGI does not
  - C. AGI is based on symbolic reasoning only, while Technical AI uses neural networks exclusively
  - D. Technical AI is theoretical, while AGI is widely deployed today
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**3. Which of the following is NOT a key principle commonly found in global AI ethics guidelines?**

- A. Transparency
- B. Fairness and non-discrimination

- C. Profit maximization
  - D. Responsibility
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**4. According to Rawls' theory, why is fairness fundamental to justice?**

- A. Fairness ensures that AI systems are technically robust
  - B. Principles of justice can only arise from agreements made under fair conditions
  - C. Fairness guarantees maximum utility for all stakeholders
  - D. Fairness eliminates the need for legal regulation
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**5. Which interpretation of fairness focuses on the absence of arbitrary decision-making?**

- A. Fairness as distributive equality
  - B. Fairness as procedural non-arbitrariness
  - C. Fairness as maximizing overall welfare
  - D. Fairness as technological neutrality
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**6. Why is formalizing fairness “by design” often criticized as techno-solutionism?**

- A. It assumes fairness can be fully captured by technical metrics, ignoring social context
  - B. It eliminates the need for ethical theories in AI development
  - C. It guarantees fairness without requiring stakeholder input
  - D. It prioritizes fairness over sustainability
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**7. Which of the following best describes the concept of “Design for Values” in AI ethics?**

- A. Embedding stakeholder values into AI systems through participatory and normative frameworks
  - B. Designing AI systems exclusively for economic efficiency
  - C. Creating AI systems that avoid all trade-offs between values
  - D. Limiting design considerations to technical robustness
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**8. What does the term “responsibility gap” refer to in the context of autonomous AI systems?**

- A. The inability to assign legal liability to AI developers
  - B. The absence of any ethical principles in AI design
  - C. A situation where no human agent can be clearly held accountable for AI's actions
  - D. The gap between technical and philosophical definitions of responsibility
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**9. Which of the following is a core component of Sustainable AI as defined by Van Wynsberghe?**

- A. Exclusive focus on reducing algorithmic bias
  - B. A movement to foster ecological integrity and social justice across the AI lifecycle
  - C. Designing AI systems that maximize shareholder value
  - D. Limiting AI use to sectors with low energy consumption
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**10. What is the main difference between “AI for sustainability” and “sustainability of AI”?**

- A. AI for sustainability focuses on reducing bias, while sustainability of AI focuses on fairness
  - B. AI for sustainability uses AI to achieve environmental goals, while sustainability of AI addresses AI’s own ecological impact
  - C. AI for sustainability is a technical concept, while sustainability of AI is a legal principle
  - D. AI for sustainability applies only to AGI, while sustainability of AI applies to Technical AI
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**11. Which of the following challenges is most closely associated with algorithmic bias?**

- A. Lack of computational resources for training models
  - B. Discriminatory outcomes caused by skewed or incomplete training data
  - C. Excessive transparency in AI systems
  - D. Over-reliance on symbolic reasoning
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**12. Why is explainability considered an ethical principle in some AI frameworks?**

- A. It ensures that AI systems can autonomously justify their decisions without human oversight
  - B. It promotes trust and accountability by making AI decisions understandable to humans
  - C. It guarantees that AI systems will never make errors
  - D. It eliminates the need for fairness and privacy considerations
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**Answer Key**

1. **B** – AI is defined as processing inputs, making decisions, and achieving goals autonomously.
2. **A** – Technical AI is narrow-task oriented; AGI aims for broad, human-like cognition.
3. **C** – Profit maximization is not a core ethical principle.
4. **B** – Rawls argues justice arises from agreements under fair conditions.
5. **B** – Fairness as procedural non-arbitrariness focuses on avoiding arbitrary decisions.
6. **A** – Techno-solutionism assumes fairness can be fully captured by technical metrics.
7. **A** – Design for Values embeds stakeholder and normative values into AI systems.
8. **C** – Responsibility gap occurs when no human can be clearly held accountable.
9. **B** – Sustainable AI fosters ecological integrity and social justice across the lifecycle.

10. **B** – AI for sustainability = using AI for environmental goals; sustainability of AI = reducing AI's own impact.
  11. **B** – Algorithmic bias stems from skewed or incomplete training data.
  12. **B** – Explainability promotes trust and accountability by making decisions understandable.
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Would you like me to **also provide short rationales for each correct answer** (to help students understand why they are correct), or **create an additional set of scenario-based questions** for deeper application?