

Nachname: \_\_\_\_\_

Vorname: \_\_\_\_\_

Matrk. Nr. : \_\_\_\_\_

- The exam lasts 120 minutes. Total of 70 points.
- Write all your answers on the space provided in the exam script
- In your answers, do not repeat material from one answer to another, or from exam questions
- The use of dictionaries or works of reference is not permitted
- The script consists of nine numbered pages

**Section A - Choose two of the following terms and clearly explain what they mean using an example if appropriate. Use the space below for your answers and clearly indicate the terms you've chosen to explain. Approx. 50 words (10 points).**

to mechanize	machine learning	General AI
etc.	etc.	etc.

- A.**     **to mechanize:** This means to use a machine or introduce an automatic process to perform an action or sequence of actions that used to be done by human beings. This machine or automatic system replaces the human involvement in a particular field of endeavour. A simple example of this would be the use of the washing machine to replace the human labour of washing clothes by hand.

**B**

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**Section B: Answer all eight questions below. These questions require short answers ranging from a few words to whole sentences (24 points).**

1. What do you think is meant by the statement that Jacquet-Druz “to mechanize reason and automate the passions”? (3 points)

Like many Enlightenment thinkers, Druz believed that human being could understand everything through the power of reason, and his automaton could be seen as a way of demonstrating that even the human intellect and emotions could be rationally analyzed and reproduced through human ingenuity.

2. **Finish the following sentence meaningfully:** The difference between correlation and causation is...

... correlation deals with two events or phenomena that are connected or related to one another. One of these events may be the cause of the other, i.e. may produce the other event as an effect, but this is not always necessarily the case.

**C: Answer the questions on the text using your own words as much as possible (avoid direct transcription from the text). See glossary for highlighted terms below. (12 points) – **note: question taken from another similar exam paper for a Sustainability class****

## Fancy life in an eco-village? Welcome to the hi-tech off-grid communities

energy guzzler	<i>Energiefresser</i>	a solid track record	<i>eine große Erfolgsgeschichte</i>
intentional	<i>absichtlich</i>	to replicate	<i>wiederholen</i>
break ground	<i>ein Projekt anfangen</i>	pilot project	<i>Versuchsprojekt</i>
self-sufficient	<i>eigenständig/autark</i>	drought-prone	<i>Dürre-anfällig</i>
encircle	<i>einkreisen</i>	template	<i>Vorlage/Schablone/Template</i>
facilities	<i>Einrichtungen</i>	to unveil	<i>bekanntgeben</i>
to raise	<i>aufziehen/züchten</i>	zoning	<i>Bauplanung</i>
to launch	<i>einführen</i>	bold approach	<i>eine innovative Herangehensweise</i>

- I. Valderrama Hurwitz, a former non-profit administrator, and her husband, a retired strategic planner with the Napa County Transportation and Planning Agency, didn't want to replace their house with an oversized **energy guzzler**, isolated from their neighbours. Instead, they began exploring ways to create a so-called **intentional** community: a neighbourhood that could better protect them from climate change-related risks and be a model for how to live with less impact on the planet.
- II. "We want to try to reduce our impacts and prepare for future disasters, and for us that should include a new way to live rather than creating the usual kind of suburban, single-family home with people isolated from each other living in their own places," Valderrama Hurwitz says.
- III. More than 5,000 miles away, in Amsterdam, a California-based development company called ReGen Villages is about **to break ground** on a very similar project. When it's completed next year, an off-grid development of 100 homes will aim to be almost completely **self-sufficient**. Each 25-home cluster will **encircle** several food production **facilities** for growing organic produce and **raising** chicken and fish using advanced agricultural technologies that require less land, like aquaponics and vertical farms. The settlement will generate its own wind, solar and biogas power and manage its wastewater in a closed-loop system that also captures waste to be recycled as energy and fertilizers.
- IV. James Ehrlich, CEO and founder of ReGen Villages, says the company decided to **launch** in northern Europe because the region has a **solid track record** designing housing that reduces ecological impact. ReGen – an abbreviation of regenerative –

has plans to **replicate** its **pilot project** at sites in Sweden, Norway, Germany and Denmark in the next couple of years to further study the model before expanding globally.

- V. “The EU has taken the lead in many ways on rethinking residential development in ways that support lowering carbon footprints,” Ehrlich says.
- VI. Valderrama and Hurwitz wondered if the ReGen Villages project in the leafy, eco-conscious Netherlands could be adapted to their **drought-prone**, rural California county. They are among a growing number of US-based landowners, developers and local governments interested in bringing variations of the **template** to their own communities who have contacted Ehrlich since ReGen Villages was **unveiled** at the Venice Biennale in May.
- VII. But the US is not northern Europe. Replicating the European ReGen Villages model in a country with one of the largest ecological footprints for housing requires changing a political culture that’s more conservative and more sceptical about investing in sustainability. It also means rethinking **zoning** and financing systems that favour conventional single-family developments.
- VIII. Nonetheless, Ehrlich sees opportunities to have several US-based projects in the pipeline during the next five years. ReGen Villages will choose its first American development sites strategically, he says. The company will prioritize communities where local government is already open to **bold approaches** to residential sustainability and where they might partner with local universities and other research institutions to further study the model.

**continued below**

1. In your own words, explain how so-called “intentional communities” (Para I) aim to be both environmentally and socially sustainable. (3 points)

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2. In your own words, explain how ReGen’s project in Amsterdam, seeks to maximize sustainability though achieving complete self-sufficiency. (3 points)

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3. In your own words, explain why it is difficult to establish sustainable eco communities, such as ReGen's Amsterdam project, in the United States. (3 points)

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4. In your own words, explain ReGen Villages' strategy to start setting up eco communities in the USA. (3 points)

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**Section E: Writing - Answer one of the following questions. Write between 350 and 400 words. Do not repeat material from the questions or your answers from other sections of the exam paper. Write your answer on the space provided below (24 points)**

1. What in your view is the best approach to take to developing AI?  
2. Discuss how Bayesian inference.... etc.