



Seksjon 1

Question	Marks	Question type
1	5	Multiple Response
2	5	Multiple Response
3	5	Multiple Response
4	5	Multiple Response
5	5	Multiple Response
6	5	Multiple Response
7	5	Multiple Response
8	5	Multiple Response
9	10	Essay
10	10	Essay
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- 1 What are the two primary types of machine learning? (**Most** correct among the following pairs of options)

(3 points for exactly 1 correct answer, 5 points for 2 correct answers, 0 points otherwise)

Select the 2 most correct alternatives:

- ☐ Algorithmic and Manual learning
- ☐ Supervised and Unsupervised learning 
- ☐ Linear and Non-linear modeling
- ☐ Deterministic and Stochastic learning
- ☐ Classification and Regression 

Maximum marks: 5

- 2 Choose the two most relevant options that explain the significance of multimodal data in medical research.

(3 points for exactly 1 correct answer, 5 points for 2 correct answers, 0 points otherwise)

Select the 2 most correct alternatives:



- ☐ Reduces the need for manual data collection
- ☐ Improves diagnostic accuracy ✓
- ☐ Provides a more comprehensive understanding of the patient's condition ✓
- ☐ Simplifies medical procedures
- ☐ Increases the speed of data access

Maximum marks: 5

- 3 Choose the two most relevant options that describe the significance of "open science" in medical research.

(3 points for exactly 1 correct answer, 5 points for 2 correct answers, 0 points otherwise)

Select the 2 most relevant alternatives:

- ☐ Reproducibility of research results 
- ☐ Collaboration across disciplines 
- ☐ Increased number of publications
- ☐ Protection of intellectual property
- ☐ Increased research funding

Maximum marks: 5

4 Choose the two correct statements about MRI technology.

(3 points for exactly 1 correct answer, 5 points for 2 correct answers, 0 points otherwise)

Select the 2 correct alternatives:

- ☐ MRI can provide detailed cross-sectional images of the body ✓
- ☐ MRI uses ionizing radiation to create images
- ☐ MRI is used only for research purposes
- ☐ MRI is especially useful for visualizing soft tissue ✓
- ☐ MRI is limited to imaging only the brain

Maximum marks: 5

- 5 Which two statements are most correct regarding the application of "large language models" in medicine?

(3 points for exactly 1 correct answer, 5 points for 2 correct answers, 0 points otherwise)

Select the 2 most correct alternatives:

- ☐ They replace the need for clinical studies
- ☐ They can assist in interpreting clinical guidelines ✓
- ☐ They can be used to automate "all" medical documentation
- ☐ They are immune to errors and misunderstandings
- ☐ They are useful for generating hypotheses based on medical literature ✓

Maximum marks: 5

6 Which two statements are most correct regarding a 'biomarker' in a medical context?

(3 points for exactly 1 correct answer, 5 points for 2 correct answers, 0 points otherwise)

Select the 2 most correct alternatives:

- ☐ A medical instrument
- ☐ A patient's subjective symptoms
- ☐ A characteristic that can be measured objectively ✓
- ☐ Can be derived from image data ✓
- ☐ A type of medicine

Maximum marks: 5

7 What are two main strategies to prevent overfitting in deep learning models?

(3 points for exactly 1 correct answer, 5 points for 2 correct answers, 0 points otherwise)

Select the 2 most correct alternatives:

- ☐ Increase the amount of training data ✓
- ☐ Ignore the model's performance on validation sets
- ☐ Only use data from one specific source
- ☐ Use regularization techniques ✓
- ☐ Reduce the size of the neural network

Maximum marks: 5

8 Which two elements are crucial for defining the structure of a patient similarity network?

(3 points for exactly 1 correct answer, 5 points for 2 correct answers, 0 points otherwise)

Select the 2 most correct alternatives:

- ☐ The network's color, design, and layout
- ☐ The connections between the nodes based on similarity ✓
- ☐ The time period the network covers
- ☐ The type the nodes represent (e.g., patients, symptoms) ✓
- ☐ The frequency of data updates

Maximum marks: 5

- Write your answer here (a particularly good answer is given 10 points, a particularly bad answer or no answer is given 0 points; the assignment counts for 1/6 of the exam):**

Maximum marks: 10

- Write your answer here (a particularly good answer is given 10 points, a particularly bad answer or no answer is given 0 points; the assignment counts for 1/6 of the exam):**

Maximum marks: 10

- ☒ **The exam allows the use of AI to understand and explain AI. All means of assistance are permitted, but please specify exactly which means you have been utilizing (searches, prompts, sources, etc.).**