



**EXIN BCS
Artificial Intelligence**

ESSENTIALS

Certified by


Sample Exam

Edition 201905

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Introduction

This is the sample exam EXIN BCS Artificial Intelligence Essentials (AIE.EN). The Rules and Regulations for EXIN's examinations apply to this exam.

This exam consists of 10 multiple-choice questions. Each multiple-choice question has a number of possible answers, of which only one is the correct answer.

The maximum number of points that can be obtained for this exam is 10. Each correct answer is worth one point. If you obtain 7 points or more, you will pass.

The time allowed for this exam is 15 minutes.

This is a specimen paper only. The full exam is 20 multiple choice questions with a pass mark of 13/20. The full exam duration is 30 minutes.

Good luck!

Sample Exam

1 / 10

Who is often quoted as having defined Machine Learning?

- A) Marvin Minsky
- B) Tom Mitchell
- C) Alan Turing
- D) Sir James Lighthill

2 / 10

What is an example of Human Intelligence?

- A) Applying for a job
- B) Watching a movie
- C) Describing the taste of food
- D) Identifying a horse in a foggy field

3 / 10

What is **not** used to define Heuristic?

- A) Child's play
- B) Discovery
- C) Trial and Error
- D) Experimentation

4 / 10

Which of the following is an Artificial Neural Network a form of?

- A) Machine Learning that learns unsupervised from structured and un-structured data
- B) Automation that learns from sensors and the Internet of Things
- C) Scripting that learns randomly from unstructured data
- D) Biological computing that learns from human emotions

5 / 10

What part of the human body is the Artificial Neural Network based on?

- A) Digestive system
- B) Brain
- C) Spinal Cord
- D) Endocrine System

6 / 10

What is a form of Artificial Intelligence?

- A) Deep Learning
- B) Statistics
- C) Linear Algebra
- D) Graph Theory

7 / 10

Optical Character Recognition (OCR) uses machine learning to interpret which of the following?

- A) Images of hand writing and text
- B) Images and hand writing
- C) Technical drawings and text
- D) Road signs and markings

8 / 10

In the specific context of Artificial Intelligence, what does NLP stand for?

- A) Neuro Linguistic Programming
- B) Natural Language Processing
- C) Natural Linear Processing
- D) Non-Linear Programming

9 / 10

Swarm Intelligence and optimization are used in what type of machine learning?

- A) Revision Learning
- B) Repeat Learning
- C) Reinforcement Learning
- D) Reflective Practice Learning

10 / 10

Artificial Intelligence is associated with which industrial revolution?

- A) Fourth
- B) Third
- C) Second
- D) First

Answer Key

1 / 10

Who is often quoted as having defined Machine Learning?

- A) Marvin Minsky
- B) Tom Mitchell
- C) Alan Turing
- D) Sir James Lighthill

A) Incorrect.

B) Correct. Taken from the standard textbook by Tom Mitchell. Public recognition can be seen on sites such as Wikipedia. The other answers are key figures in AI and Machine Learning. (Literature: Syllabus Section 1)

C) Incorrect.

D) Incorrect.

2 / 10

What is an example of Human Intelligence?

- A) Applying for a job
- B) Watching a movie
- C) Describing the taste of food
- D) Identifying a horse in a foggy field

A) Incorrect.

B) Incorrect.

C) Incorrect.

D) Correct. A human can identify a horse in a foggy field with only a few examples. Machine learning on the other hand requires an order of magnitude more examples to learn the same thing. The other answers are actions or subjective actions. (Literature: Syllabus Section 1)

3 / 10

What is **not** used to define Heuristic?

- A) Child's play
- B) Discovery
- C) Trial and Error
- D) Experimentation

- A) Correct. Playing is what children do for fun and often involves learning. Discovery, Trial and Error and Experimentation are what humans do to understand a problem and learn from. In machine learning, a Heuristic can be used to guide an algorithm to the right answer or learn quicker. (Literature: Syllabus Section 1)
- B) Incorrect.
- C) Incorrect.
- D) Incorrect.

4 / 10

Which of the following is an Artificial Neural Network a form of?

- A) Machine Learning that learns unsupervised from structured and un-structured data
- B) Automation that learns from sensors and the Internet of Things
- C) Scripting that learns randomly from unstructured data
- D) Biological computing that learns from human emotions

- A) Correct. From a general description of an ANN, the candidate should recall the definitions of unsupervised, structured and unstructured data and know that the distractors are not examples of machine learning. (Literature: Syllabus Section 2)
- B) Incorrect.
- C) Incorrect.
- D) Incorrect.

5 / 10

What part of the human body is the Artificial Neural Network based on?

- A) Digestive system
- B) Brain
- C) Spinal Cord
- D) Endocrine System

- A) Incorrect.
- B) Correct. The candidate can recall that Machine Learning models can be simple mathematical representations of the human body. (Literature: Syllabus Section 2)
- C) Incorrect.
- D) Incorrect.

6 / 10

What is a form of Artificial Intelligence?

- A) Deep Learning
- B) Statistics
- C) Linear Algebra
- D) Graph Theory

- A) Correct. The candidate can give an example of AI; the other answers are fundamental subjects on which machine learning is based. (Literature: Syllabus Section 2)
- B) Incorrect.
- C) Incorrect.
- D) Incorrect.

7 / 10

Optical Character Recognition (OCR) uses machine learning to interpret which of the following?

- A) Images of hand writing and text
- B) Images and hand writing
- C) Technical drawings and text
- D) Road signs and markings

- A) Correct. The candidate can remember that OCR is now about identifying hand written and type text. The other answers are plausible examples. (Literature: Syllabus Section 3)
- B) Incorrect.
- C) Incorrect.
- D) Incorrect.

8 / 10

In the specific context of Artificial Intelligence, what does NLP stand for?

- A) Neuro Linguistic Programming
- B) Natural Language Processing
- C) Natural Linear Processing
- D) Non-Linear Programming

- A) Incorrect.
- B) Correct. The candidate can recall the definition of NLP in the context of AI. NLP can be used in other fields, so the candidate needs to understand this. (Literature: Syllabus Section 3)
- C) Incorrect.
- D) Incorrect.

9 / 10

Swarm Intelligence and optimization are used in what type of machine learning?

- A) Revision Learning
- B) Repeat Learning
- C) Reinforcement Learning
- D) Reflective Practice Learning

- A) Incorrect.
- B) Incorrect.
- C) Correct. The candidate can remember that reinforcement learning is used in swarm intelligence and optimization. This is an important part of why machine learning has developed into a large industry. Deep Mind's success in beating the World Go champion is a typical example often quoted. The other answers are plausible but not relevant. (Literature: Syllabus Section 3)
- D) Incorrect.

10 / 10

Artificial Intelligence is associated with which industrial revolution?

- A) Fourth
- B) Third
- C) Second
- D) First

- A) Correct. The candidate can recall that the Fourth industrial revolution has embraced AI. (Literature: Syllabus Section 4)
- B) Incorrect.
- C) Incorrect.
- D) Incorrect.

Evaluation

The table below shows the correct answers to the questions in this sample exam.

Question	Answer
1	B
2	D
3	A
4	A
5	B
6	A
7	A
8	B
9	C
10	A

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