Vendor:APMG International

Exam Code:ARTIFICIAL-INTELLIGENCE-FOUNDATION

Exam Name: Certification Artificial Intelligence

Version: Demo

QUESTION 1

The Scrum Master is part of which team?

A. Software development team.

B. Data preparation team

C. Agile project team.

D. Management team

Correct Answer: C

https://www.techtarget.com/whatis/definition/scrum-master#:~:text=A%20Scrum%20Master%20is%20a,in%20accordance%20with%20Agile% 20principles.

The Scrum Master is part of the agile project team, and is responsible for ensuring that the team is following the Scrum process. The Scrum Master is the facilitator of the team, ensuring that the team is working together and following the

Scrum principles. They are also responsible for protecting the team from any external influences and helping resolve any issues that may arise.

References:

[1] https://www.bcs.org/upload/pdf/foundation-certificate-ai-syllabus-v1.pdf

[2] https://www.apmg-international.com/en/qualifications-and-certifications/bc-foundation-certificate-in-artificial-intelligence/

[3] https://www.exin.com/en/certifications/bc-foundation-certificate-in-artificial-intelligence/

[4] https://www.scrumguides.org/scrum-guide.html

QUESTION 2

Human-centric trustworthy Al must be...

A. quality assurance certified.

B. continually assessed and monitored.

C. financially sustainable.

D. tested by humans.

Correct Answer: B

Human-centric trustworthy Al must be continually assessed and monitored in order to ensure that it is behaving in a safe and ethical manner. This includes conducting regular tests and audits to ensure that the Al is functioning as intended, and is not taking any actions or decisions that could potentially harm humans or their environment. References: BCS Foundation Certificate In Artificial Intelligence Study Guide, https://bcs.org/ai/certificate/ and APMG International, https://www.apmg-international.com/qualifications/artificial-intelligence-foundation-certificate.

QUESTION 3

What does TRL stand for?

A. Technical Robotic Level.

B. Transform Reinforced Learning

C. Technology Readiness Level.

D. Transport Ready Level.

Correct Answer: C

Technology Readiness Level (TRL) Technology Readiness Levels (TRL) are a method of estimating the technology maturity of Critical Technology Elements (CTE) of a program during the acquisition process.

https://acqnotes.com/acqnote/tasks/technology-readiness- level#:~:text=Technology%20Development,Technology%20Readiness%20Level%20(TRL),program%20during%20the%20acquisition %20process.

TRL stands for Technology Readiness Level and is a measure of how close a technology is to being ready for use in a real-world environment. TRL is used to assess the progress of research and development of a technology, ranging from

basic research (TRL 1) to fully operational (TRL 9). TRL is used to help determine the level of completion of a technology and its potential success in a real-world environment.

References:

[1] https://www.bcs.org/upload/pdf/foundation-certificate-ai-syllabus-v1.pdf

[2] https://www.apmg-international.com/en/qualifications-and-certifications/bc-foundation-certificate-in-artificial-intelligence/

[3] https://www.exin.com/en/certifications/bc-foundation-certificate-in-artificial-intelligence/

[4] https://www.acq.osd.mil/rd/nii/trl.html

QUESTION 4

With a large dataset, limited computational resources or frequent new data to learn from, we can adopt what type of machine learning?

A. Batch learning.

B. Big Data learning.

C. Patchwork learning.

D. Online learning.

Correct Answer: D

Online learning is a type of machine learning that can be used when a large dataset is limited in computational

resources or if the data is frequently changing. It allows the system to learn from new data as it is being presented, rather than having to re-train the entire dataset each time new data is added. This makes it more efficient and effective than batch learning, as it only needs to process the new data and not the entire dataset. Online learning is often used in applications such as fraud detection, where new data is constantly being added and needs to be analyzed quickly. For more information, please refer to the BCS Foundation Certificate In Artificial Intelligence Study Guide (https://www.bcs.org/upload/pdf/bcs-foundation-certificate-in-artificial-intelligence-study-guide.pdf) or the EXIN Artificial Intelligence Foundation Certification (https://www.exin.com/en/exams/artificial-intelligence-foundation).

QUESTION 5

From the Ell\\'s ethics guidelines for AI, what does \\'The Principle of Autonomy,\\' mean?

A. Robots will have freewill.

B. AI agents will behave as humans.

C. AI systems will be human-centric

D. AI systems will preserve human agency.

Correct Answer: D

The Principle of Autonomy from the ELL\\'s ethics guidelines for AI states that AI systems should be designed in a way that preserves human agency and responsibility. This means that AI systems should be designed in a way that allows humans to remain in control of their decisions, and that the AI system should not be able to act without human input or permission. References: BCS Foundation Certificate In Artificial Intelligence Study Guide, https://bcs.org/ai/certificate/ and APMG International, https://www.apmg-international.com/qualifications/artificial-intelligence-foundation-certificate.

QUESTION 6

What are monotonous and repetitive tasks, that require accuracy BEST suited to?

A. Human plus machine.

B. Machine.

C. Human.

D. Artificial General Intelligence.

Correct Answer: B

Monotonous and repetitive tasks that require accuracy are best suited to machines. Machines are able to accurately and quickly perform tasks that require little to no creativity, such as data entry or image recognition. This is because machines are able to process large amounts of data quickly and accurately, and are less likely to make mistakes than humans. Additionally, machines are able to process large amounts of data without becoming bored or distracted, making them ideal for tasks that require consistent accuracy. For more information, please see the BCS Foundation Certificate In Artificial Intelligence Study Guide or the resources listed above. Search results: BCS Foundation Certificate in Artificial Intelligence Study Guide, Chapter 4: Machine Learning: https://www.bcs.org/category/19669

QUESTION 7

An intelligent robot uses Al to do what?

A. Sense, plan and act

B. Plan, act and speak.

C. Perceive, plan and act.

D. Sense, plan and move.

Correct Answer: C

An intelligent robot uses Artificial Intelligence (AI) to perceive its environment, plan its actions and then act on them. This is sometimes referred to as the "sense, plan, act" cycle, and is at the heart of what makes a robot intelligent. By using

AI, robots can sense their environment, plan their actions accordingly and then act on them in order to complete their tasks.

For more information, please refer to the BCS Foundation Certificate in Artificial Intelligence Study Guide: https://www.bcs.org/category/18076/bcs-foundation-certificate-in-artificial-intelligence-study-guide.

QUESTION 8

In the 1800\\'s the development of statistics led to_____theorem and is used in probabilistic inference. (Select the missing word.)

A. Boltzmann\\'s

B. Kolmogorov\\'s

C. Bayes\\'

D. The central limit

Correct Answer: C

The development of statistics in the 1800s led to the development of the Bayes\\' theorem, named after Reverend Thomas Bayes. This theorem is used in probabilistic inference, which is the process of using data to calculate the likelihood of a

hypothesis or outcome. The theorem is used for determining the probability of an event occurring given its prior probability, as well as its associated conditions. The Bayes\\' theorem is also used in a variety of fields, such as machine learning,

artificial intelligence, economics, and medical research. Sources:

BCS Foundation Certificate In Artificial Intelligence Study Guide: https://www.bcs.org/category/18071

APMG International: https://www.apmg-international.com/en/qualifications/qualification-resources/bcs-foundation-certificate-in-artificial-intelligence/

EXIN: https://www.exin.com/en/certification/bcs-foundation-certificate-in-artificial- intelligence

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QUESTION 9

A vector in vector calculus is a quantity that has magnitude and direction.

What is a vector in computer programming?

A. An array with one dimension.

B. A two-dimensional array of scalars.

C. An array of complex numbers

D. A constant

Correct Answer: A

In computer programming, a vector is a data structure that contains a collection of elements that are all of the same type. Each element in the vector has an associated index, which can be used to access and modify the element at that index.

Vectors are commonly used to store collections of numerical values (e.g., integers or floating-point numbers) or strings, but they can also be used to store any type of data.

References:

[1] BCS Foundation Certificate In Artificial Intelligence Study Guide, Page number 36

[2] APMG International, "What is a Vector in Computer Programming?", https://apmg-international.com/en/blog/what-is-a-vector-in-computer-programming/

[3] EXIN, "What is a Vector in Computer Programming?", https://www.exin.com/blog/what-is-a-vector-in-computer-programming/

QUESTION 10

Which of the following is an advantage of a machine based system?

A. Able to judge ambiguous and unknown situations.

B. Capable of sympathising with humans.

C. Undertakes monotonous tasks reliably and accurately.

D. Can explain the output of an Al system

Correct Answer: C

One of the main advantages of a machine-based system is its ability to reliably and accurately undertake monotonous and repetitive tasks. This is especially useful for tasks that require a high level of accuracy and precision, such as data

entry or analysis. Machine-based systems are also able to process large amounts of data quickly, meaning that they are able to complete tasks more quickly and efficiently than humans. Additionally, machine-based systems can be

programmed to take certain decisions and actions based on the input data, allowing them to automate certain processes without the need for human intervention.

References:

BCS Foundation Certificate In Artificial Intelligence Study Guide (2019), AI Systems, Chapter 8. https://www.apmg-international.com/en/al-adoption/advantages-of-al/

QUESTION 11

What function is used in a Neural Network?

A. Linear.

B. Activation.

C. Statistical.

D. Trigonometric.

Correct Answer: B

Activation Functions An activation function in a neural network defines how the weighted sum of the input is transformed into an output from a node or nodes in a layer of the network. https://machinelearningmastery.com/choose-an-activation-function-for-deeplearning/#:~:text=An%20activation%20function%20in%20a,a%20layer%20of%20the%20ne twork. An activation function is a mathematical function used in a neural network to determine the output of a neuron. Activation functions are used to transform the inputs into an output signal and can range from simple linear functions to complex non-linear functions. Activation functions are an important part of neural networks and help the network learn patterns and generalize data. Types of activation functions include sigmoid, ReLU, tanh, and softmax. References: BCS Foundation Certificate In Artificial Intelligence Study Guide, https://bcs.org/certifications/foundation-certificates/artificial-intelligence/

QUESTION 12

Which of the following is an example of fitting a curve to a set of data?

A. Python.

B. Least squares regression.

C. Bayesian network.

D. Backward propagation.

Correct Answer: B

Least Squares Regression is a statistical technique used for fitting a curve to a set of data. It involves minimizing the sum of the squares of the differences between the observed data and the fitted curve. This is done by finding the line of best

fit, which is the line that minimizes the sum of the squared residuals. The line of best fit is determined by finding the parameters that give the minimum sum of the squared residuals. This technique is often used in data science and machine

learning to create models that can be used to make predictions.

References: BCS Foundation Certificate In Artificial Intelligence Study Guide, https://bcs.org/certifications/foundation-certificates/artificial-intelligence/