1. **What are the relevant concepts to keep in mind about Data Science?**

- [ ] ANALYTICS
- [ ] DATA SCIENCE
- [ ] BUSINESS
- [ ] MATH & PROGRAMMING

Correct: DATA SCIENCE

2. **What are the needed skills in data science?**

- [ ] Computer programming
- [ ] Data visualization
- [ ] Business understanding to well-define the problem
- [ ] Machine learning algorithms

Correct: Business understanding to well-define the problem

3. **What is the difference between Artificial Intelligence and Machine Learning?**

- [ ] Artificial Intelligence is focused on business applications, while Machine Learning focuses on data analysis.
- [ ] Artificial Intelligence is a subset of Machine Learning.
- [ ] Machine Learning is a general concept that consists of the use of machines to perform tasks based on algorithms.
- [ ] Artificial Intelligence is a more general concept that consists of the use of machines to perform tasks based on algorithms, while Machine Learning focuses on the ability of machines to learn from past data and correct themselves.

Correct: Artificial Intelligence is a more general concept that consists of the use of machines to perform tasks based on algorithms, while Machine Learning focuses on the ability of machines to learn from past data and correct themselves.

4. **What is NLP?**

- [ ] Natural Language Protection
- [ ] Neural Language Processing
- [ ] Natural Language processing: Is used to extract valuable information from text
- [ ] Network Logic Programming

Correct: Natural Language processing: Is used to extract valuable information from text

5. **What is Computer Vision?**

- [ ] A field of AI that focuses on the ability of machines to learn from past data and correct themselves.
- [ ] A field of AI that trains machines to identify and classify objects in order to understand the visual world through digital images and they are able to react in function of what they interpret.
- [ ] A set of algorithms that analyze data in order to make predictions or take actions without being explicitly programmed.
- [ ] The process of transforming raw data into useful information for decision-making.

Correct: A field of AI that trains machines to identify and classify objects in order to understand the visual world through digital images and they are able to react in function of what they interpret.

6. **What is Big Data?**

- [ ] A small and specific dataset used for analysis.
- [ ] A combination of Volume, Variety, Velocity, Veracity, and Value.
- [ ] The process of extracting insights from data using statistical methods.
- [ ] The use of machines to learn from past data and correct themselves.

Correct: A combination of Volume, Variety, Velocity, Veracity, and Value.

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7. What does ETL stand for?

- [ ] Extract Transform Load
- [ ] Extract Transform Load
- [ ] Extract Load Transform
- [ ] Enhance Transform Learn

Correct: Extract Transform Load

8. What are the steps of the data science process?

- [ ] Data cleaning, data visualization, data modeling
- [ ] Data acquisition, data cleaning, data analysis
- [ ] Exploratory analysis, data modeling, data visualization
- [ ] Business problem, data acquisition, data preparation, data modeling, data visualization and communication, deploy

Correct: Business problem, data acquisition, data preparation, data modeling, data visualization and communication, deploy

9. What is data privacy?

- [ ] The protection of data from external attackers
- [ ] The process of collecting, storing, and using data in a legal and ethical manner
- [ ] The fact of governing how data will be collected, used, shared, and stored
- [ ] The process of transforming raw data into useful information for decision-making.

Correct: The fact of governing how data will be collected, used, shared, and stored

10. What are the different types of machine learning?

- [ ] Supervised learning, unsupervised learning, semi-supervised learning, reinforcement learning
- [ ] Regression, trees, random forest, KNN
- [ ] Data acquisition, data cleaning, data modeling, data visualization and communication, deploy
- [ ] Neural networks, hierarchical clustering, K-means, Bayesian Networks

Correct: Supervised learning, unsupervised learning, semi-supervised learning, reinforcement learning

11. What are the 5 characteristics of Big Data and how do they contribute to its value?

- [Variation] How do the 5 characteristics of Big Data enhance its value?
- [Variation] In what ways do the 5 characteristics of Big Data contribute to its value?
- [Variation] What are the ways in which the 5 characteristics of Big Data add value to it?
- [Variation] How do the 5 characteristics of Big Data play a role in its value?

12. Explain the differences between artificial intelligence, machine learning, and deep learning.

- [Variation] Can you outline the variances among artificial intelligence, machine learning, and deep learning?
- [Variation] Could you elucidate the disparities between artificial intelligence, machine learning, and deep learning?
- [Variation] In what ways do artificial intelligence, machine learning, and deep learning differ from each other?
- [Variation] Would you mind clarifying the distinctions among artificial intelligence, machine learning, and deep learning?

13. How does natural language processing (NLP) extract valuable information from text? Provide examples of its applications.

- [Variation] In what ways does natural language processing (NLP) retrieve valuable information from text? Can you give some examples of how NLP is applied?
- [Variation] How does NLP extract useful information from text? Can you illustrate this with some real-world applications?

- [Variation] What methods does natural language processing (NLP) employ to extract valuable information from text? Could you provide some instances where NLP has been effectively utilized?
- [Variation] How does text analysis through natural language processing (NLP) help in obtaining relevant information? Can you provide examples of its practical applications?

14. What is ETL and how does it play a role in data science? What is the difference between ETL and ELT?

- [Variation] How does ETL contribute to data science and what is its significance?
- [Variation] How does ETL differ from ELT?
- [Variation] In the context of data science, what role does ETL play and what sets it apart from ELT?
- [Variation] What is the role of ETL in the field of data science? Can you explain the dissimilarity between ETL and ELT?
- [Variation] Could you elaborate on the significance of ETL in data science and shed light on the contrast between ETL and ELT?

15. Discuss the importance and benefits of applying data science in various industries, such as cost reduction, time reduction, innovation, and support for decision-making.

- [Variation] Explore the significance and advantages of implementing data science across diverse industries, including its potential to decrease costs, save time, drive innovation, and enhance decision-making support.
- [Variation] Analyze the value and perks of incorporating data science in different sectors, encompassing the reduction of costs, time, and the facilitation of innovation and decision-making.
- [Variation] Delve into the essentiality and advantages of utilizing data science in various industries, comprising the benefits of cost and time reduction, fostering innovation, and enabling better decision-making support.
- [Variation] Examine the importance and benefits of the application of data science in multiple industries, including its role in reducing costs and time, fostering innovation, and providing decision-making support.