Q No 1: What Is Data Science?

Ans: Data Science is an interdisciplinary field that uses scientific methods, processes, algorithms and systems to extract or extrapolate knowledge and insights from noisy, structured and unstructured data.

Data science is related to data mining, machine learning, big data, computational statistics and analytics.

Q No 2: What is Artificial Intelligence?

Ans: Artificial Intelligence is the theory and development of computer systems able to perform tasks normally requiring human intelligence, such as visual perception, speech recognition, decision making, and translation between languages.

Artificial intelligence is the simulation of human intelligence processes by machines, especially computer systems.

Q No. 3: What is the Machine Learning?

Ans: Machine Learning (ML) is a type of Artificial Intelligence (AI) that allows software applications to become more accurate at predicting outcomes without being explicitly programmed to do so.

So Machine Learning is a discipline of artificial intelligence that provides machine with the ability to automatically learn from data and past experience while identifying patterns to make predictions with minimal human intervention.

Q No. 4: Future of Data Science and Real Life Application.

Ans: Data Science is a buzzword in the technology world right now and for good reason, it represents a major step forward in how computer can learn. The need for data scientist is high in demand and this surge is due to evolving technology and generation of huge amounts of data big data. So let’s discuss the future scope of Data Science.

1. Companies inability to handle data
2. Revised Data privacy Regulations
3. Data Science is constantly evolving
4. An astonishing incline in data growth
5. Virtual Reality will be friendlier
6. Blockchain updating with data science

Real life Applications:

The need for data science expert is thriving in every job space and is not limited to only technology. Since this is a highly in demand career choice and guaranteed high paying salaries, an advanced education coupled with excellent skills is mandatory.

1. Business Intelligence Development Sector.
2. Data Architecture Sector
3. Infrastructural Sector
4. Enterprise Architecture Sector
5. Data Analytical Sector
6. Data Engineering Sector
7. Machine Learning Sector
8. Statistical Sector.

Q No.5: Why python is so popular? Future of Python.

Ans: Python is the most accessible programming language available because it hass simplified syntax and complicated, which gives more emphasis on natural language. Moreover due to ease of learning and usage, python code can be easily written and executed much faster than other programming language. That’s why python is popular.

Future of Python: The future of python is very promising. It will remain in the leading position among the other coding languages. So if you are considering learning it or using it for software development project, this is the fantastic choice.

Q No. 6: Why python for Data Analysis?

Ans: Python is multi-functional, maximally interpreted programming language with several advantages that are often used to streamline massive and complex data sets. Python has a number of distinguishing characteristics that make it the best option for data analysis.

1. Easy to learn
2. Flexibility
3. Huge library’s collection
4. Graphics and Visualization
5. Built in Data analytical tools

Q No.7: Importance of Python in Machine Learning.

Ans: Python has become a staple in data science, allowing data analysts and other professionals to use the language to conduct complex statistical calculations, create data visualizations, build machine learning algorithms, manipulate and analyze data, and complete other data related tasks.

Q. No 8: Importance of Python in Deep learning and NLP.

Ans: Python Library provides base level items, so developers do not have to write code from scratch every time. Machine learning requires continuous data processing and python libraries allow us to access, process and transform data.

Secondly, Deep learning based NLP allows for better sentiment analysis, which means it is more accurate at telling wheather users feel positively or negatively about their keywords.

Q. No 9: Supervised learning with example.

Ans: Supervised learning, also known as supervised machine learning, is a subcategory of machine learning and artificial intelligence. It is defined by its use of labeled data sets to train algorithms that to classify data or predict outcomes accurately.

One practical example of supervised learning problems is Pridicting house prices. How is this achieved? First we need data about the houses; square footage, number of rooms, features,wheather a house has a garden or not and so on.

Q No 10: Unsupervised Learning with example.

Ans: Unsupervised learning is a type of algorithm that learns patterns from untagged data. The hope is that through mimicry, which is an important mode of learning in people, the machine is force to build a concise representation of its world and then generate imaginative content from it. According to IBM Unsupervised learning also known as unsupervised machine learning, uses machine learning algorithms to analyze and cluster unlabeled data set.

Some examples of unsupervised learning algorithms include K-Means Clustering, Principle Component Analysis, and Hierarchical Clustering.

Jobs:

11. Role and Responsibilities of Database engineer.

Ans: A database administrator is responsible for working directly with engineering, Data and platform teams to design, implement and maintain the data system. Some key responsibilities of Database engineer are:

1. Administer and Maintain Database security, integrity and optim ization.

2. Develop and run periodic and requested reports.

3. Develop new databases and applications.

4. Identify and resolve performance and capacity issues.

5. Maintain associated non referential data.

12. Role and Responsibilities of Data Analyst.

Ans: Data analyst are responsible for analyzing data using statistical Techniques, implementing and maintaining database, gathering data from primary and secondary sources. A data analyst has following role and responsibilities.

1. Using automated tools to extract data from primary and secondary data.
2. Removing corrupted data and fixing coding.
3. Data mining.
4. Maintaining Database.
5. Data preparation.
6. Quality Assurance.

13. Role and Responsibilities of Data Engineer.

A data engineer is responsible for collecting, managing, and converting raw data into information that can be interpreted by data scientist and business analysts. Data

1. Data engineering is a part of Data Science, a broad term that encompasses many field of knowledge relate to working with data.
2. Extracting Data.
3. Data storing and transition.
4. Transformation of Raw Data to End users.
5. Development of data related instruments/instances.
6. Data pipeline maintenance/Testing.
7. Machine learning algorithm development.

14. Role and responsibilities of Data Scientist.

Ans: A data scientist’s job is to gather a large amount of data, analyze it, separate out the essential information, and then utilize tools like SAS, R programming, Python, etc. to extract insights that may be used to increase the productivity and efficiency of the business/project.