**List of Competency Questions:**

Data Science & Machine Learning

* What is Data Science?
* What is the importance of Data Science?
* What are the difference between machine learning and data science?
* What are the applications of Data Science?
* What are the different processes involved in data science?
* What is machine learning?

Modelling

* What is supervised ML model?
* What is unsupervised ML model?
* What is Classification in the context of data science?
* What is Clustering in the context of data science?
* What are the classification models?
* What are the clustering models?

Feature Engineering

* What is Feature Engineering in the context of data science?
* What are the different types of Feature Engineering techniques?
* What is Bag-of-Words?
* What is Tf-idf?
* What is LDA?
* What is word embedding?

Classification

* What is Classification in the context of data science?
* What are the various kinds of classification techniques?
* What kind of data is required for classification ?

Clustering

* What is Cluster in the context of data science?
* What are the various kinds of classification techniques?
* What kind of data is required for classification ?

Evaluation

• What is an Evaluation technique?

• What are the evaluation techniques used in classification?

• What are the evaluation techniques used in clustering?

Question answering

• What is question answering architecture in data science?

• What is a dialog flow?

• What are the components of dialog flow?

• What is ontology?

• What is a recommender system?

• What is sentiment analysis in NLP?

**List of Test Cases for each competency question:**

Competency Question: What is Data Science?

Test Cases:

1. Define Data Science.
2. What is data science in simple words?
3. Describe what’s Data Science?
4. How do you define data science?
5. What is data science for beginners?

Competency Question: What are the applications of Data Science?

Test Cases:

1. Where is data science applied?
2. What is the purpose of data science?
3. What is the importance of Data Science?
4. How do you implement Data Science in real Life?
5. What are the different types of processes in Data Science?

Competency Question: What is the difference between Machine Learning and Data Science?

Test Cases:

i) Distinguish Data Science and Machine Learning?

ii) How is Machine Learning different from Data Science?

Competency Question : What is Feature engineering in the context of Data Science?

Test Cases:

1. What is feature engineering in data science?
2. Define Feature Engineering.
3. What do you mean by Feature Engineering?
4. Explain Feature Engineering.
5. What the hell is Feature Engineering?

Competency Question : What is a Bag of Words?

Test Cases:

i) What do you mean by Bag of words?

ii) Bow

iii) Is bag of words a transformation technique?

iv) What is BOW used for?

v) Define Bag of Words.

Competency Question : What is LDA?

Test Cases:

i) What do you mean by LDA?

ii) Latent Dirichlet Allocation

iii) Define LDA

iv) LDA stands for?

v) Is LDA used for transformation?

Competency Question: What is TF-IDF?

Test Cases:

i) term frequency and inverse document frequency?

ii) tf-idf technique.

iii) What do you mean by Tf-idf?

iv) What is tf-idf used for?

Competency Question: What is word embedding?

Test Cases:

i) what do you mean by word embedding?

ii) use of word embedding.

iii) meaning of word embedding?

Competency Question: What is classification in the context of data science?

Test Cases:

i) What do you mean by Classification in machine learning?

      ii) Why is classification needed?

      iii) What is the motive of classification?

Competency Question: What are the different kinds of classification models ?

Test Cases:

i) Types of classification model

ii) techniques of classification modelling

Competency : What is clustering?

Test Cases:

i) what is the meaning of clustering

ii)give me some clue of clustering

Competency Question: What are the different kinds of clustering model?

Test Cases:

i) types of clustering models

ii) techniques of clustering

Competency Question: What is an evaluation technique?

Test Cases :

i) why we use evaluation techniques

ii) examine models in data science

Competency Question : What are the evaluation techniques used in classification?

Test Cases:

i) how can we test our supervised data model

ii) suggest me evaluation technique of classification model

iii) how do we evaluate a classification model in ML.

iv) evaluation technique for classification.

Competency Question: What are the evaluation techniques used in clustering?

Test Cases:

i) evaluation of unsupervised data.

ii) determine the evaluation score of clustering

iii) define the clustering techniques.

iv) list the clustering techniques used in data science.

Competency Question: What is the question answering architecture in data science?

Test Cases:

i) what do you mean by question answering

ii) Why question answering is used?

 Competency Questions: What is a dialog flow?

Test Cases:

i) Create a dialog flow

ii) the process of making a dialog flow

Competency Question: What are the components of dialog flow?

Test Cases:

i) Definition of parts of dialog flow

ii) Describe components of dialog flow?

Competency Question : What is ontology?

Test Cases:

i) what actually ontology is?

ii) Explain the process of ontology.

iii) Define ontology?

Competency Question: What is a recommender system?

Test Cases:

i) How recommender system works?

ii) What are the basics of recommender system?

iii) How to build a recommender system?

iv) Develop a recommender system?

Competency Question: What is sentiment analysis in NLP?

Test Case:

i) What sentiment analysis stands for?

ii)What we analyze in sentiment analysis?

iii) What is meant by sentiment analysis?

iv) Sentiment analysis in data science.