**In the context of Data Science Big Data, generate 13 relatively straightforward random multiple-choice questions on KAFKA that would suit a university student in the first year of a Data Science Masters degree.**

**Put the answers at the end.**

1. What is Kafka?

A) A messaging system

B) A database

C) A programming language

D) An operating system

2. Which of the following is not a component of Kafka?

A) Broker

B) Zookeeper

C) Producer

D) Consumer

3. In Kafka, what is a producer?

A) A component that reads messages from Kafka

B) A component that writes messages to Kafka

C) A component that manages Kafka

D) A component that stores messages in Kafka

4. Which of the following is a feature of Kafka?

A) Real-time data processing

B) Batch processing only

C) Limited storage capacity

D) High latency

5. What is a Kafka topic?

A) A category or feed name to which messages are published

B) A type of message in Kafka

C) A programming language in Kafka

D) A component that stores messages in Kafka

6. Which of the following is not a Kafka protocol?

A) HTTP

B) TCP

C) AMQP

D) STOMP

7. Which of the following is not a use case for Kafka?

A) Real-time data streaming

B) Log aggregation

C) Message queuing

D) Image processing

8. What is a Kafka consumer group?

A) A group of consumers that read messages from a single topic

B) A group of producers that write messages to a single topic

C) A group of Kafka brokers

D) A group of Zookeeper nodes

9. In Kafka, what is a partition?

A) A piece of data in a Kafka topic

B) A component that stores messages in Kafka

C) A group of Kafka brokers

D) A group of Zookeeper nodes

10. What is the role of Zookeeper in Kafka?

A) To manage Kafka brokers and maintain metadata

B) To store data in Kafka

C) To process messages in Kafka

D) To create Kafka topics

11. Which of the following is a Kafka client library?

A) Kafka Streams

B) Apache Flink

C) Apache Spark

D) Apache Cassandra

12. What is a Kafka cluster?

A) A group of Kafka brokers that work together

B) A group of Kafka producers

C) A group of Zookeeper nodes

D) A group of Kafka consumers

13. Which of the following is a disadvantage of using Kafka?

A) High latency

B) Limited storage capacity

C) Complex architecture

D) Inability to handle large data volumes

Answers:

1. A

2. D

3. B

4. A

5. A

6. A

7. D

8. A

9. A

10. A

11. A

12. A

13. B

1. What is Apache Kafka?

A. A web server

B. A distributed streaming platform

C. A database management system

D. An operating system

2. What is the purpose of Kafka?

A. To store and manage data

B. To process and analyze data

C. To transport and distribute data

D. To visualize and present data

3. What is a Kafka topic?

A. A group of Kafka brokers

B. A collection of Kafka messages

C. A type of Kafka consumer

D. A configuration file for Kafka producers

4. Which of the following is not a key component of Kafka?

A. Producer

B. Consumer

C. Connector

D. Controller

5. What is a Kafka broker?

A. A Kafka message

B. A Kafka producer

C. A Kafka consumer

D. A Kafka server

6. What is a Kafka partition?

A. A subset of a Kafka topic

B. A type of Kafka producer

C. A configuration file for Kafka consumers

D. A group of Kafka brokers

7. What is a Kafka offset?

A. The unique identifier of a Kafka message

B. The timestamp of a Kafka message

C. The size of a Kafka message

D. The type of Kafka message

8. What is a Kafka producer?

A. A component that sends data to Kafka brokers

B. A component that consumes data from Kafka brokers

C. A component that manages Kafka topics

D. A component that controls Kafka clusters

9. What is a Kafka consumer?

A. A component that sends data to Kafka brokers

B. A component that consumes data from Kafka brokers

C. A component that manages Kafka topics

D. A component that controls Kafka clusters

10. What is a Kafka connector?

A. A component that connects Kafka brokers to a database

B. A component that connects Kafka brokers to a network

C. A component that connects Kafka brokers to a web server

D. A component that connects Kafka brokers to a cloud platform

11. What is Kafka Streams?

A. A Kafka connector for data streams

B. A Kafka producer for data streams

C. A Kafka consumer for data streams

D. A Kafka client for data streams

12. What is the default messaging format used by Kafka?

A. XML

B. JSON

C. YAML

D. CSV

13. What is the recommended approach for handling Kafka message processing failures?

A. Retrying the processing immediately

B. Ignoring the message and moving to the next one

C. Storing the message in a separate topic for later processing

D. Shutting down the Kafka cluster immediately

Answers:

1. B

2. C

3. B

4. D

5. D

6. A

7. A

8. A

9. B

10. A

11. D

12. B

13. C