**1.**

Question 1

True Or False: In the model parallelism, the models are replicated into different devices (GPU) and trained on data batches.

**1 / 1 point**



False



True

**Correct**

That's right! In model parallelism, you segment the model into different subsections, running concurrently in other nodes, and synchronize the shared parameters on the same training data.

**2.**

Question 2

Which of the following terminologies are often used in the world of distributed computing? (Select all that apply)

**1 / 1 point**



Worker

**Correct**

That's right! The term worker is very common and is defined as the accelerator on which some calculations are performed, as in this replica.



Device

**Correct**

That's right! The term device is very commonly used to refer to a CPU or an accelerator like a GPU or TPU on any physical machine which runs machine learning models during different stages of its life cycle.



Copy



Mirrored Variable

**Correct**

That's right! When you copy the same variables in the model to multiple devices, they are called mirrored variables. Training methodologies keep these variables in sync across various devices.

**3.**

Question 3

True or False: The pipeline performance can be optimized through parallelizing data extraction and transformation.

**1 / 1 point**



True



False

**Correct**

That’s right! Parallelizing processes, like data extraction or data transformation or both, is a way to accelerate your pipeline performance.

**4.**

Question 4

True or False: TensorFlow offers techniques to optimize pipeline performance like prefetching, parallelizing data extraction and transformation, caching and reducing memory. These techniques are available through the  **sklearn.decomposition** API.

**1 / 1 point**



True



False

**Correct**

That’s correct! The API incorporating prefetching, parallelizing data extraction and transformation, caching and reducing memory is **tf.data**.

**5.**

Question 5

True Or False: As important developments in both model growth and hardware improvement have been made, parallelism becomes an alternative of greater importance.

**1 / 1 point**



False



True

**Correct**

That’s correct! Even in recent years the size of machine learning models has been increasing, hardware accelerators (like GPUs and TPUs) have also been growing, but at a slower pace.

**6.**

Question 6

 The \_\_\_\_\_\_\_ library uses synchronous mini-batch gradient descent for training in a distributed way.

**1 / 1 point**



Scikit-learn



Scipy



Pandas



 GPipe

**Correct**

That’s right! This distributed machine learning library allows you to make partition models across different accelerators and automatically splits a mini-batch of training examples into smaller micro-batches in a distributed way.