```
import numpy as np
from tensorflow.keras.preprocessing.text import Tokenizer
from tensorflow.keras.preprocessing.sequence import pad_sequences
from tensorflow.keras.models import Sequential
from tensorflow.keras.layers import Embedding, LSTM, Dense
from sklearn.model_selection import train_test_split

# Sample Data
sentences = ["I love pizza", "I hate rain", "You are amazing"]
labels = [1, 0, 1]  # 1 = Positive, 0 = Negative

# 1. Tokenization
tokenizer = Tokenizer()
tokenizer.fit_on_texts(sentences)
sequences = tokenizer.texts_to_sequences(sentences)
word_index = tokenizer.word_index
vocab_size = len(word_index) + 1  # Add 1 for padding index

# 2. Padding sequences
max_len = max(len(seq) for seq in sequences)
padded = pad_sequences(sequences, maxlen=max_len, padding='post')

# 3. Labels to numpy array
labels = np.array(labels)

# 4. Model definition
model = Sequential([
    Embedding(input_dim=vocab_size, output_dim=8, input_length=max_len),
    LSTM(16),
    Dense(1, activation='sigmoid')
])

# 5. Compile model
model.compile(loss='binary_crossentropy', optimizer='adam', metrics=['accuracy'])

# 6. Train model
model.fit(padded, labels, epochs=10, verbose=1)

# 7. Evaluate model
loss, accuracy = model.evaluate(padded, labels, verbose=0)
print(f"Training Accuracy: {accuracy:.2f}")
```

```
Epoch 1/10
/usr/local/lib/python3.11/dist-packages/keras/src/layers/core/embedding.py:90: UserWarning: Argument `input_length` is deprecated. Just
  warnings.warn(
1/1 ━━━━━━━━━━━━━━━━━━━━ 4s 4s/step - accuracy: 1.0000 - loss: 0.6912
Epoch 2/10
1/1 ━━━━━━━━━━━━━━━━━━━━ 0s 222ms/step - accuracy: 1.0000 - loss: 0.6898
Epoch 3/10
1/1 ━━━━━━━━━━━━━━━━━━━━ 0s 88ms/step - accuracy: 0.6667 - loss: 0.6885
Epoch 4/10
1/1 ━━━━━━━━━━━━━━━━━━━━ 0s 149ms/step - accuracy: 0.6667 - loss: 0.6871
Epoch 5/10
1/1 ━━━━━━━━━━━━━━━━━━━━ 0s 122ms/step - accuracy: 0.6667 - loss: 0.6857
Epoch 6/10
1/1 ━━━━━━━━━━━━━━━━━━━━ 0s 156ms/step - accuracy: 0.6667 - loss: 0.6843
Epoch 7/10
1/1 ━━━━━━━━━━━━━━━━━━━━ 0s 103ms/step - accuracy: 0.6667 - loss: 0.6829
Epoch 8/10
1/1 ━━━━━━━━━━━━━━━━━━━━ 0s 122ms/step - accuracy: 0.6667 - loss: 0.6815
Epoch 9/10
1/1 ━━━━━━━━━━━━━━━━━━━━ 0s 175ms/step - accuracy: 0.6667 - loss: 0.6800
Epoch 10/10
1/1 ━━━━━━━━━━━━━━━━━━━━ 0s 90ms/step - accuracy: 0.6667 - loss: 0.6785
Training Accuracy: 0.67
```