

## Model Development Phase Template

Date	1 June 2025
Student Name	Aditya Anilkumar Bhole
Project Title	Restaurant Recommendation System
Maximum Marks	10 Marks

### Initial Model Training Code, Model Validation and Evaluation Report

#### Initial Model Training Code (5 marks):

```
from sklearn.feature_extraction.text import CountVectorizer
from sklearn.feature_extraction.text import TfidfVectorizer
df_percent.set_index('name', inplace=True)
indices = pd.Series(df_percent.index)

# Creating tf-idf matrix
tfidf = TfidfVectorizer(analyzer='word', ngram_range=(1, 2), min_df=0, stop_words='english')
tfidf_matrix = tfidf.fit_transform(df_percent['reviews_list'])

cosine_similarities = linear_kernel(tfidf_matrix, tfidf_matrix)
```

#### Model Validation and Evaluation Report (5 marks):

Model	Summary	Training and Validation Performance Metrics
Model 1	Content-based Recommendation	<p><b>Training Metrics</b> -None (unsupervised, no explicit training phase)</p> <p><b>Validation Metrics</b> - None (recommendations are inspected manually)</p>